

# IMPACT

Kansas State University College of Engineering

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## Peer review lauds research center

"The Center shines in its ability to attract federal and industry funding, developing new technology applications, and retaining jobs and even companies."

"The Center has a high quality research and development program, with capable applied research faculty and impressive capital equipment."

"The Computer Integrated Manufacturing laboratory is perhaps the best in the country."

"The review team commends the Center for its activities and goals in technology transfer and outreach."

"The Center's technology has strong commercial potential throughout the country."

The above comments represent a cross-section sampling of quotes from the Kansas Technology Enterprise Corporation (KTEC) Centers of Excellence, 1989 Peer Review Panel Assessment Report, on the KSU College of Engineering Center for Research in Computer Controlled Automation (CRCCA).

"This review not only confirms that we are a competitive center in the state," Gale Simons, Assoc. Dean for Research and Director of the Engineering Experiment Station for the College of Engineering, said, "but also one of the best in the country."

Simons, who works with the acting director of CRCCA, John Ulrich, professor of Engineering Technology, to coordinate research between the Center and the rest of the research in the College of Engineering, added, "We are very, very proud of our Center and expect continued increased funding as we start to attract national attention and become very competitive on the national level."

The peer review is an annual assessment required by state law, according to Simons, and organized by KTEC. The KTEC Centers of Excellence Committee decides on the allocation of state funds



(l to r) Mark Niehaus, Fred Michel, Marianne Hudson, Jeff Shick, and Rex Nelson, peer review panel members, go over documents in the dean's conference room, as part of their assessment of the CRCCA.

each fiscal year based on the peer review and their own set of standards.

Simons went on to explain that the Centers for Excellence, with the College of Engineering's CRCCA being one of six now in Kansas, were established in 1983 by the governor and legislature to enhance the Kansas economy through the use of advanced technology and new production developments.

A major premise behind the founding of the CRCCA was that economic development in the state depended primarily on the ability of manufacturing firms to incorporate increasingly sophisticated automation technology into their production processes, keeping them competitive in the world marketplace.

The five-member peer review panel, all out-of-state professionals in either the marketing, technology transfer or automated research manufacturing fields, spent the day of July 19 at the CRCCA in Durland Hall. Simons said along with reviewing a three-year business plan, the group discussed operations of the Center with staff, researchers, business participants and community and university leaders.

Based on the business plan review and site visit, the panel then developed the assessment report for KTEC, which

Simon's office received at the beginning of the fall semester.

Some of the accomplishments of the CRCCA over the past year include:

—Involvement with 36 companies. Of these, 9 had research projects and 17 are in project discussion stages.

—Assisted companies reported 47 new jobs created.

—Assisted companies estimated an additional 144 jobs could be expected in fiscal year 1990-91.

—Four new start-up companies were assisted with space, financial and technical assistance.

—Ten new technologies were under development by Center associates.

—Three new industrial processes were under development.

"The peer review report," Simons said, "agreed with the Center's industrial advisory board that our continued emphasis be that we work with small and medium sized Kansas companies over the entire state, not concentrating on any particular region.

"This focus," he continued, "should lead to further economic development and technology transfer. The key to our success is to continue to work very, very closely with these Kansas companies."



# Research funding reaches all-time high

Research funding for the K-State College of Engineering, including federal, state, and private contracts and grants, totaled a record \$8.6 million dollars for fiscal year 1989, an increase of \$1 million from 1988.

"Since 1985," according to Gale Simons, Assoc. Dean for Research and Director of the Engineering Experiment Station, "research funding has increased approximately \$1 million per year at the College of Engineering."

Simons also pointed out that 1973's total research funding of approximately \$800,000, and 1989's \$8 million dollars, shows a factor of 10 increase in 15 years.

The increased availability of large research grants was one of the reasons cited by Simons in explaining this surge in research dollars. "It is not nearly as uncommon today to capture a \$1 million contract as it was a few years ago," he said.

"There has been a shift away from supporting individual researchers to supporting research centers with research teams," Simons continued. "Right now the two major research activities in the College of Engineering are the Center for Research in Computer Controlled Automation, which contributes approximately \$2.1 million to our research funding total, and the Hazardous Substance Research Center, EPA Regions 7 and 8, which adds another \$1 million."

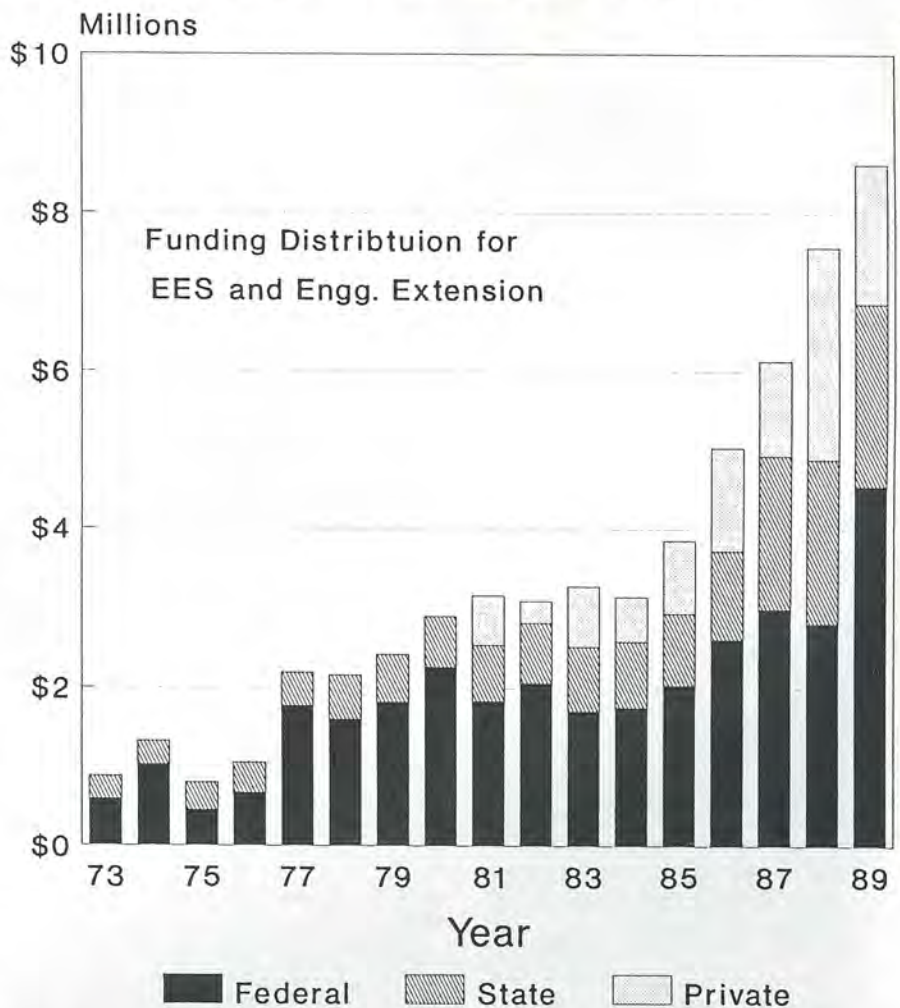
Simons is quick to point out that these research centers in no way discount the individual researcher securing the smaller contracts in the \$10,000 to \$200,000 range.

"We need these to provide diversity and help maintain a base level for our research in the College of Engineering, and right now that base is at \$5 million," he said.

Fiscal year end numbers also show K-State College of Engineering faculty submitting proposals for research funding totaling over \$16 million.

"This is an impressive figure," Simons said, "that shows increased activity by our faculty in writing proposals and seeking funding."

With private industry contributing \$1.8 million of the \$8.6 million, Simons also wanted to draw attention to the, "major effort of small, medium and large private agencies and companies, both in and out of state, supporting research projects in the College of Engineering."



Fiscal year 1989 saw a record \$8.6 million in research funding for the College of Engineering, a \$1 million increase from 1988. As the above chart indicates, the college has experienced a factor of 10 increase in the past 15 years.

## Bussey scholarship established

The Lynn E. Bussey Scholarship, established by a \$20,000 bequest in the donor's will, has been created at Kansas State University, honoring the former engineering professor.

Managed by the KSU Foundation, the scholarship will benefit industrial engineering graduate students. Preference will be given to students from Kansas, Missouri, Arkansas or Oklahoma who hold a bachelor's degree from KSU and who graduated in the top 20% of their class.

Bussey joined the K-State industrial engineering faculty in 1971 as an asso-

ciate professor. He retired in 1977. He was a captain in the U.S. Air Force, a member of the Board of Regents of Southwest Missouri State University from 1960 to 1966, held positions with Lester E. Cox Associated Cos., and was a director and treasurer of Springfield Television, Inc.

Recipients will be selected for the scholarship by KSU's General Scholarship Committee based on recommendations of the tenured faculty in the Dept. of IE.

Bussey died Jan. 28, 1989. He was 68.



## Induction ceremonies honor Hall of Fame class

Induction ceremonies for the Kansas State University College of Engineering Hall of Fame, Class of 1989, were held Sat., Oct. 7, in the main ballroom of the K-State Union.

"This initial class of 51 members," Donald E. Rathbone, dean of the KSU College of Engineering, said, "represents less than one-half of one percent of the total graduates over the past 65 years. The College presently has over 15,000 living graduates."

"These individuals," he continued, "have not only brought honor to themselves, but also to the College and University."

Eligibility for the Hall of Fame is limited to engineering graduates from Kansas State University, with one exception to this criteria permitted each year. Nominations are accepted from peers, alumni and faculty.

Rathbone said a committee, formed from the Engineering Advisory Council and present engineering faculty, made

the selections based on nominees', "national or international recognition; leadership role in industry, government, education, consulting or contracting and unique engineering contributions to society."

A minimum of 20 years professional experience was required, he said, and nominees' involvement with the KSU College of Engineering was taken into consideration.

Those being inducted, and their year of graduation, are: George V. Mueller, 1924; Claude L. Wilson, 1925; Roy A. Bainer and George M. Fiedler (posthumously), 1926; Martin K. Eby, Sr., 1929; Leroy C. Paslay, 1930; Walter R. Mitchell, 1932; Donald Christy, Joel P. Kesler and Eugene J. Peltier, 1933; Virgil F. Lundberg and James C. Richards, 1934; Fred J. Benson, John W. Frazier and Ben A. Sellers, 1935; Alvin J. Mistler, 1936; Alwin H. Rector, 1937; Charles T. Carter, Clifford R. Krabenhof and Loyal M. VanDoren, 1938;

Bruce E. Roberts and Eneas D. Kane, 1939; Gustave E. Fairbanks and Alexander R. Geldhof, 1941; Phillip S. Myers, 1942; Edward J. King, 1943; Charles V. Jakowatz and William R. Kimel, 1944; Gordon D. Goering, 1945; Ray A. Adey, Ernest O. Nelson, Harold L. Siegele and Lloyd T. Smith, 1947; John W. Shupe, 1948; Donald R. Chesnut, 1950; Austin W. Stedham, 1952; Thomas H. Barrett, 1953; David C. Ayers, Kenneth R. Collins, Stuart B. Hartman, Dean O. Morton, Virgil H. Snell and A.R. (Jack) Way, 1954; Gilbert E. Johnson, Donald G. Prigmore and Robert G. Tointon, 1955; Martin K. Eby, Jr., Robert W. Exline and Harold G. Lonsinger, 1956; John B. Slaughter, 1957; Joseph L. Downey and Darrell M. Hosler, 1959; George R. Serpan and John W. Walters, 1960; Karl K. Stevens, 1961; Gary W. Edwards and W. Mike Lackey, 1963 and Richard M. Kerschen, 1964.

A special photo section will be featured in the Winter issue of *Impact*.

## New faculty join college of engineering

The College of Engineering welcomed eight new faculty members to its various departments this fall.

Margaret K. Banks, John C. Tracy and Young Jin Mok will be affiliated with civil engineering as assistant professors. Banks recently completed her doctoral studies in civil and environmental engineering at Duke Univ. in Durham, N.C. She received her M.S. in water resources engineering from the Univ. of N.C. in 1985 and her B.S. in civil/environmental engineering from the Univ. of Florida in 1982.

Tracy completed his Ph.D. studies in civil engineering at the Univ. of Calif., Davis, last spring, having received his M.S. from the same institution in 1986. His undergraduate work was done at Colorado St. Univ., where he earned a B.S. in civil engineering in 1980.

Mok comes to Kansas State from the Univ. of Texas at Austin where he was a postdoctoral research engineer. He received his Ph.D. in civil engineering there in 1987, and his master's and bachelor's degrees in civil engineering from the Seoul National University, Seoul, Korea, in 1977 and 1974, respectively.

C-K Chris Wang joins the College of Engineering as an assistant professor in nuclear engineering. He completed

his Ph.D. in nuclear engineering last year from Ohio State Univ., Columbus. He earned his M.S. in 1978 from Tuskegee Institute, Tuskegee, Al., and his B.S. in nuclear engineering from National Tsing-Hua Univ., Taiwan, in 1976.

Carl O. Riblett will be an instructor in architectural engineering. He graduated from K-State in 1984 with a B.S. in construction science and has been an estimator for a private building firm in Leawood, Ks. since 1987.

The new Director of Minority Engineering Programs is Andy Cordero. He had been Asst. Dir. of Minority Programs and Academic Counselor at Purdue Univ. before coming to K-State. He

has a B.S. in biblical literature from Oral Roberts Univ., Tulsa.

Greg Spalding and Jim Schartz will be associated with the Center of Excellence for Research and Computer Controlled Automation.

Spalding will be a senior engineer and instructor. He has both a B.S. and M.A. from KSU in mechanical engineering, 1980 and 1985, respectively; and prior to this position, had been employed in private industry in Austin, Tx.

Schartz will be an assoc. technologist while also pursuing a degree in EET. Formerly director of airline operations for Capital Air Service Inc., Manhattan, he has a B.S. from KSU in agricultural mechanization.

## Engineering enrollment figures reflect campus-wide increase

Fall enrollment figures from the KSU Office of Registrar show the College of Engineering with 2,613 students, a modest increase from last year.

The curriculums with the largest enrollments are electrical engineering, mechanical engineering and architec-

tural engineering, with 589, 452 and 290 students respectively.

Numbers in the College of Engineering reflect the increased enrollment campus wide as total university figures show 20,110 students, an increase of 809 from 1988.





*Durland Hall was a hub of activity as students had opportunity to visit display booths of nearly 50 industry and government representatives at the 6th annual Engineering Career Fair, Sept. 19. The Career Fair, and Industry Recognition Banquet, Sept. 18, were both sponsored by the KSU Minority Engineering Program, for the purpose of exposing engineering students to opportunities available in the job market.*

## Fund raising drive 'heats up'

Interest and action on the Essential Edge Campaign are "heating up," according to Donald E. Rathbone, dean of the College of Engineering, and alumni and friends of the college who are interested in taking part are encouraged to contact him.

Rathbone, who represents the College of Engineering, as well as all deans of the university on the national steering committee of the university-wide fund raising campaign, said the college has already raised \$7 million towards its

minimum goal of \$18 million over a five year period that began July 1, 1988.

"Construction of Engineering, Phase III, may be one of the items for which we will seek funding," he said, while adding that no final project designations have been made.

The Essential Edge Campaign is focused on positioning K-State to take advantage of its many strengths as it moves into the 1990s. The university-wide financial goal has been set at \$100,000,000.

## Graduate courses offered at WSU

Beginning this fall the College of Engineering at K-State established a graduate engineering office in Wichita, offering programs in the following disciplines: agricultural, architectural, chemical, civil and nuclear engineering.

Lance Lewis, Program Coordinator, Academic Outreach, Division of Continuing Education, said the courses "are designed so the practicing engineer can take credit hours towards a master's degree, or take them for professional enhancement."

The three courses offered this semester meet one evening a week for three hours on the Wichita State University campus. Currently 12 people are enrolled but Lewis said, "We expect enrollment to increase as we further publicize the program in the Wichita area."

"Continuing Education," he said, "handles registration, fee payment, and on-site logistics at WSU. The College of Engineering handles the course work aspect." John Amos, professor in IE, coordinates the college's activities.

The courses are video-taped on the KSU campus and sent to an on-site coordinator at WSU. The coordinators, Lewis explained, are professional engineers in the Wichita area who monitor the tapes, proctor exams and supervise class discussions and question and answer formats.

## ASCE group wins top award

The K-State chapter of the American Society of Civil Engineers earned the 1989 Robert Ridgway Award, presented annually to the single most outstanding student chapter in the nation. Chapter representatives accepted the award in recognition of their 1988 activities at the society's annual business meeting in October in New Orleans.

Faculty advisor in 1988 was CE professor, Al Lin, and the 1989 advisor is CE professor, Cecil Best.

Civil engineering students Jeri Meyer, Bern, Ks., president of the student chapter, and Jack Messer, Alma, Ks., vice president, attended the award ceremonies.



## Lucas named IEEE president

Mike Lucas, professor of electrical and computer engineering, was elected president of the IEEE Instrumentation and Measurement Society in Philadelphia on Sept. 25. His two-year term of office will begin in Jan. 1990. He has served as vice-president of the organization since Jan. 1988 and has been a member of the advisory committee since 1985.

The Instrumentation and Measurement Society has an international membership of 5,500 and is one of 35 societies that form the Institute of Electrical and Electronics Engineers.

Lucas, a native of Lincolnshire, England, has been at K-State since 1968. He received his M.S. and Ph.D. from Duke Univ., Durham, N.C., in 1962 and 1965, respectively.

He teaches courses in electronics and electronics instrumentation, while also involved in research in the area of computer based instrumentation. He is faculty advisor to the KSU student branch of IEEE.

## Five themes adopted for KSU

Kansas State University has adopted five themes which will guide the strategic planning process of its colleges and departments over the next five years.

The following proposals were compiled by a committee chaired by Provost James P. Coffman, that included all deans and selected other university officials: 1) Strengthen and enhance the quality of graduate and research programs. 2) Ensure that all undergraduate curricula rest upon a common intellectual foundation. 3) Contribute to the state's economic enrichment and environmental health. 4) Respond to the educational needs and special circumstances of diverse groups. 5) Enhance international emphases.

In conjunction with the release of the themes, Donald E. Rathbone, dean of the College of Engineering, commented, "It is the goal of our college to tie in our program improvements, requests, and thrusts to the basic themes of the University."

## Faculty continue to garner awards, recognition

Faculty from the College of Engineering continue to garner awards and recognition. L.T. Fan, professor and head of ChE, has been appointed to the editorial board of *Particle Technology Review*, a yearly publication of Hemisphere Publishing. He has also been named Outstanding Scientist for 1989 by the KSU Chapter of Sigma Xi.

His colleague in ChE, Prof. B.G. Kyle, has been named chairman of the Physical Science Section, Southwest and Rocky Mountain Division, of the American Assoc. for the Advancement of Science.

Stephen Konz, professor in IE, was selected as the recipient of the 1988-89 Phil Carroll Award for outstanding achievement in the field of work mea-

surement and methods engineering. This award is given by the Work Measurement and Methods Engineering Division of the Institute of Industrial Engineers. Konz also received the Certificate of Recognition for Industrial Ergonomics and Safety in the Workplace from the International Foundation for Industrial Ergonomics and Safety Research at their annual meeting in Cincinnati, Oh., in June 1989.

Prof. Robert Gorton, ME, was selected for a Distinguished Service Award by the American Society of Heating, Refrigeration and Air-Conditioning Engineers. He was recognized at ASHRAE's Annual Meeting, held in Vancouver, in June 1989.



Members of the EE Class of '39 enjoyed a private tour of Durland Hall led by Donald Hummels, EE professor, when the group met for a class reunion in Manhattan this past summer. Pictured from left to right are: Hummels, John Harrell, Frank Cowell, Wendell Pfeffer, Edward Hayes, Glenn Long, Clifford Drake, ret. EE professor O.D. Hunt, and Edward Smith.