

# IMPACT

Kansas State University College of Engineering

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## Oppliger wins Space Congress Achievement Award for 1994



Gerry Oppliger, left, is presented the Space Congress Achievement Award in April by John Hesterman, chairman of the Canaveral Council of Technical Societies.

Gerry Oppliger, a mechanical engineering graduate and College of Engineering Hall of Fame member, was presented the Space Congress Achievement Award in May for having made the most significant management contribution to the aerospace effort at Kennedy Space Center during the previous five years.

Oppliger is president of the Lockheed Space Operations Co. and program manager for NASA's shuttle processing contract at the Kennedy Space Center.

The award, presented by the Canaveral Council of Technical Societies at the annual Space Congress, **continued on page 3**

## Career Fair goes campuswide in '94

The College of Engineering's annual Career Fair will be part of a campuswide effort in 1994.

Kansas State University will hold its first universitywide Career Fair Sept. 29 in the K-State Union. It will be open to all students from the university as well as those from the KSU-Salina College of Technology.

KSU's Career and Employment Services and the colleges of agriculture, architecture and design, arts and sciences, business administration, educa-

tion, engineering, human ecology, and technology are sponsoring the event jointly.

According to the Jim Akin, director of Career and Employment Services, the universitywide career fair should offer both students and prospective employers the advantages of giving employers increased visibility campuswide, providing students an opportunity to learn more about career information from a wide variety of potential employers **continued on page 3**

## Hayter up next at ASHRAE

Richard B. Hayter, associate dean for extension and outreach of the Kansas State University College of Engineering, was installed as president-elect of the American Society of Heating, Refrigerating and Air-Conditioning Engineers **continued on page 2**



**Richard B. Hayter**

# Hayter becomes president-elect of ASHRAE

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(ASHRAE) at its annual meeting June 25-29 in Orlando, Fla.

As president-elect, Hayter will serve on ASHRAE's executive committee and chair the regions council and the president-elect advisory committee.

Hayter has served on ASHRAE's board of directors since 1986, filling positions as treasurer, vice president and director-at-large.

Since joining ASHRAE in 1968, Hayter has been a member of technical committees on physiology and human environment, plant and animal environment, solar energy use, systems energy use and indoor environmental calculations. He also contributed to the development of ASHRAE's comfort standard.

Hayter has been awarded ASHRAE's Ralph G. Nevins Award for outstanding contribution to the study of human environments, the ASHRAE

## Williams receives Dow scholarship

Bryce A. Williams, a Kansas State University junior in chemical engineering from Topeka, received the 1994 Dow Chemical Premier Scholarship.

The award consists of a \$1,000 scholarship and summer employment with Dow Chemical at Freeport, Texas. Premier scholars are selected on the basis of scholastic performance, school and community involvement and high proficiency on standardized college entrance exams.

Students must maintain a 2.7 grade point average while enrolled in a minimum of 12 hours per semester. In addition, the student must accept work offers for at least two summers, including the summer before graduation.

Williams is the 10th K-State chemical engineering student to receive this award in the last 11 years.

Distinguished Service Award. The American Society of Engineering Education has also awarded him the Dow Chemical Outstanding Young Faculty Award. He is the author of nearly 40 technical papers related to physiology and energy.

Hayter earned his bachelor's degree from South Dakota State University

## Glasgow, Gorton receive 1994 teaching excellence awards

The College of Engineering recognized two of its faculty for the quality of their teaching efforts during commencement ceremonies May 13.

Larry A. Glasgow received the James Hollis Award for Excellence in Undergraduate Teaching and Robert L. Gorton received the Conoco Outstanding Undergraduate Teaching Award.

Glasgow is a professor of chemical engineering who teaches fluid mechanics, reaction engineering and process control. His students consider him a demanding and talented instructor who inspires them to excel. They particularly appreciate his creative and challenging homework assignments and his willingness to help them outside regular office hours. He has taught a wide variety of courses ranging from the entry-level sophomore to Ph.D.-level courses. He has also maintained without interruption at least one, and often two, national-level competitive research grants.

A native of Kansas City, Kan., Glasgow earned his B.S., M.S. and Ph.D. in 1972, 1974 and 1977, respectively, all from the University of Missouri at Columbia. He has been a member of the KSU faculty since 1978. He was promoted to



**Larry A. Glasgow**

and his master's and doctorate degrees from K-State, all in mechanical engineering. He is a registered professional engineer in Kansas and an ASHRAE fellow.

ASHRAE is an international organization with 50,000 members. The organization is celebrating its centennial this year.

the rank of professor in 1988.

Gorton is a professor of mechanical engineering who teaches thermodynamics-fluid-heat transfer, power cycles, environmental engineering and mechanical engineering design.

Gorton has consulted or held industrial positions with Pratt and Whitney, NASA, Oak Ridge National Laboratory, Black and Veatch, Wilson and Co. and Meritek Engineering. His extensive industrial experience enabled Gorton to develop several undergraduate courses with relevant practical content, such as the senior elective course, Thermodynamics of Modern Power Cycles. His students find his courses challenging and particularly like "real world" applications.

After obtaining his B.S. degree in mechanical engineering at Louisiana Technological University in 1953, Gorton served in the Army for two years, then worked three years in the Louisiana offshore oil industry. He earned his M.S. degree in mechanical engineering from Louisiana State University in 1960. He came to KSU that year as an instructor. After receiving his Ph.D. from KSU in 1966 he was promoted to assistant professor. He was promoted to full professor in 1974.



**Robert L. Gorton**

# Three retire from college in '94

Three faculty members with varying years of service retired from the KSU College of Engineering at the close of the 1993-1994 academic year.

Richard Black has been an extension agricultural engineer specializing in irrigation and water quality with KSU since 1982.

Black earned his B.S., M.S. and Ph.D. in agricultural engineering at the University of Illinois. Prior to coming to KSU, Black taught at Cornell University and the University of Illinois.

Black's areas of expertise included agricultural water management and engineering, drainage and irrigation,

erosion control and small watershed hydrology. In recent years he has been heavily involved in water quality issues, as well.



**Richard Black**

Robert L. Gorton retired after 34 years of teaching and research in the electric power generation and environmental heating and air conditioning fields.

Gorton began teaching at KSU as an instructor in 1960. After receiving his doctorate in 1966, he joined the mechanical engineering faculty as an assistant professor. He was promoted to professor in 1974.

Gorton used his industrial experience gained as a consultant to develop several undergraduate courses with relevant, practical content. During his tenure at KSU, Gorton received the James L. Hollis Award for excellence in undergraduate teaching.



**Robert L. Gorton**

Gary L. Johnson retired after 28 years of teaching and research in electric power and alternative energy systems.

Johnson was honored as the outstanding teacher in the college in 1987. His classes generally overflowed.

He also developed teaching and research laboratories in the areas of electric power and power electronics. He was advisor to the Amateur Radio Club and treasurer of the K-State Flying Club.



**Gary L. Johnson**

## Career Fair to attract students from all colleges September 29

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and helping employers contact a larger number of qualified students as prospective, co-op, intern and career employees.

Akin expects about 150 organizations to participate in the fair.

In addition to the fair, there will be a reception and dinner the evening before at the Manhattan Holidome to provide employer representatives an opportunity to visit informally with selected KSU faculty, administrators and students.

The registration fee for each organization is \$80. For an additional \$10,

Career and Employment Services is offering employers a computer printout of targeted students' profiles in majors and degrees an employer specifies.

The deadline for registering for the 1994 KSU Career Fair is Sept. 1.

Early registrations indicate the response has generally cut evenly across all colleges and departments on campus, with corporations indicating an interest in many different majors.

Companies interested in participating in the fair should contact Brenda Schoendaller at Career and Employment Services (913-532-1691) for more information and registration forms.

## Oppliger wins achievement award

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noted that "Oppliger has contributed outstanding managerial, technical and leadership skills at the helm of the 7,000-person shuttle processing team. As a direct result of his personal contributions, his team has racked up outstanding records of mission performance while maintaining the highest standards of safety and quality."

A graduate of Hutchinson Junior College and the master of science program at the University of Southern

Calif., Oppliger has worked in the aerospace industry for more than 30 years. In 1992 he was inducted into the KSU College of Engineering Hall of Fame.

"Our shuttle program achievements were made possible by the hard work, expertise and professionalism of our entire shuttle team and I am honored to accept this award on their behalf," Oppliger said.

Oppliger and his wife, Arlene, live in Merritt Island, Fla.

# Four get faculty development awards

Forty-nine Kansas State University faculty members were awarded the spring 1994 President's Faculty Development Awards totaling \$34,109.

President Jon Wefald created the awards in 1987 to provide opportunities for K-State faculty to attend international conferences and symposia, with preference being given to participation in meetings outside the U. S.

Wefald said the awards enable faculty to confer with their colleagues throughout the world, and in some instances to bring an international scholar to K-State for collaboration. All

faculty are eligible to apply for awards.

Funding for the awards, given in the fall and spring, is provided by the office of the vice provost for research.

Timothy R. Donoghue, vice provost for research, said the program is one part of the university's research budget and receives its full support from the university's share of the indirect costs recovered on all sponsored programs.

Faculty from the College of Engineering receiving awards this spring, and their projects, were:

M. Kathy Banks, civil engineering, travel to the Second International Sym-

posium and Exhibition on Environmental Contamination in Central and Eastern Europe; Mustaque Hossain, civil engineering, to present a paper at the 17th annual meeting of the Australian Road Research Board, Gold Coast, Queensland, Australia; C.L.D. Huang, mechanical engineering, to present two invited papers and serve as a member of the scientific advisory committee at ICVE '94; Alexander P. Mathews, civil engineering, to participate in the First International Symposium on Bioprocess Engineering and to present a paper.

## Engineering students help KSU rank in Putnam Exam

Students from Kansas State University placed fourth in the Big Eight at this year's William Lowell Putnam Mathematical Competition.

The William Lowell Putnam Mathematical Competition is the premier

math competition for undergraduates. Almost 3,000 contestants and 300 teams from major universities in the United States and Canada participate in the competition.

The K-State team placed 56th in the

country in the 1993 Putnam Exam. That ranking put the team in the top 19 percent of the teams in the competition, the third best ranking K-State has ever had.

Thirteen K-State students scored a total of 143 points. This was the largest total ever for K-State students. The following engineering students helped KSU achieve its 1993 standing:

Brad Marshall, senior in electrical engineering, Augusta; Dean Draper, sophomore in electrical engineering, Kansas City, Kan.; Sarah Moussa, junior in math, Leawood; Jason Ross, freshman in engineering, Lenexa; Eric Farmer, junior in computer science, Salina; Keith Loseke, senior in electrical engineering, Topeka.

The Putnam Exam began in 1938 and is designed to stimulate a healthy rivalry in mathematical studies between the United States and Canada.

The next Putnam Exam will be held Dec. 3.

## Erickson invited to meet with Gore

Larry E. Erickson was invited to meet with Vice President Al Gore and other senior administration officials July 15.

The purpose of the meeting was to further national dialogue on ways to advance the development and diffusion of environmental technologies.

Erickson is a professor of chemical engineering and the director of the Great Plains-Rocky Mountains Hazardous Substance Research Center at Kansas State University.

During the meeting, the vice president released a major interagency report called "Technology for a Sustainable Future."

The report outlines a series of strategic directions, current initiatives

and next steps that could be taken by the federal government, in cooperation with state government and the private sector, to promote the development and commercialization of environmental technologies. The report had just been approved by the National Science and Technology Council.

The Great Plains-Rocky Mountains Hazardous Substance Research Center housed at KSU is one of five such centers across the nation. They were created by the Environmental Protection Agency in 1989 to conduct research on ways to reduce or eliminate hazardous waste. The KSU center is a consortium of 10 universities in the Plains and Mountain states and serves EPA regions 7 and 8.

# Professors to send KC trucks that burn fat

They say a Kansan won't steer you wrong when it comes to beef. In fact, some Kansans are trying to steer a completely new route for the state's prime product—fueling automobiles with beef fat.

The economic potential of developing alternative fuels based on meat packing waste products is an enticing one. That said, it will be some time before developers market this biodiesel product or set up "beefoline" stations and start issuing credit cards.

But within the year, two Kansas State University engineers will be evaluating beef tallow as a possible substi-

tute for diesel fuel. They will outfit two test cars to operate in stop-and-go traffic in Kansas City. One will be run on diesel fuel and the other on a blend of diesel and methyl tallowate.

Richard Nelson, a K-State bioenergy specialist expert with the college's Engineering Extension department, and Mark Schrock, agricultural engineer with the Kansas Agricultural Experiment Station, will do the research.

The two-year project is funded with a grant of \$144,000 from the U.S. Department of Energy. The Kansas Value-Added Center, housed at KSU,

will purchase fuel for the project, and the project has additional support from the Fats and Protein Research Foundation.

The engineers will first remove the engines from two separate vehicles to determine how much wear has already occurred within the engine. Next, they'll operate the cars for 50,000 miles or six months, whichever occurs first. Then, they'll take the engines apart and measure and compare the wear and tear that has occurred on each one.

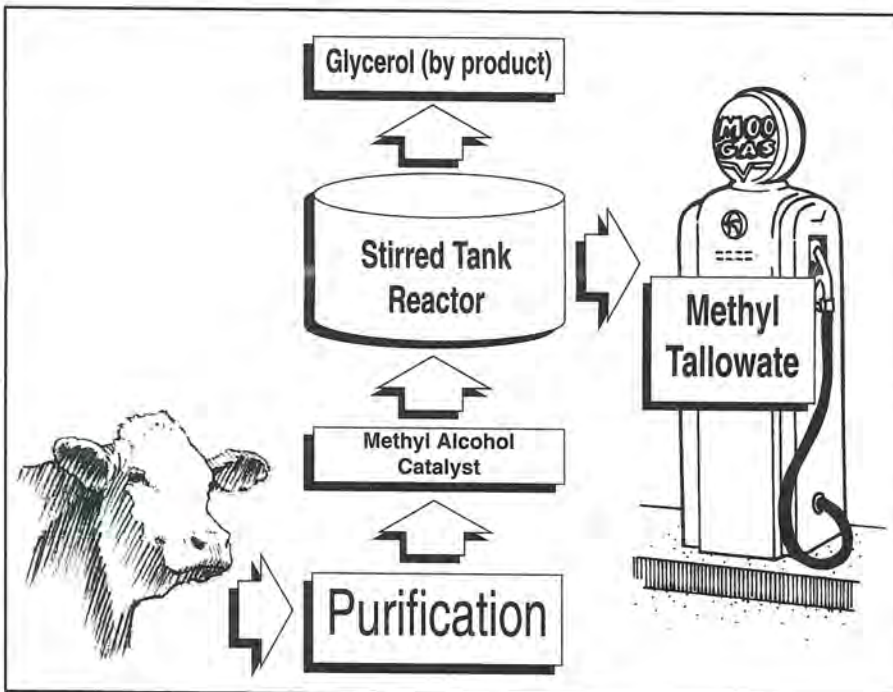
"We'll be checking lube oil samples, checking for metals, wear and deposits," Nelson said.

"A few years ago, there was considerable research and study of other biodiesels, particularly those derived from soybeans," he said. "This project is the first time any research has been done to develop diesel from beef tallow."

"If we can determine the efficiency of operating automobiles on a beef by-product, it could have enormous impact on the beef industry of the state," Nelson said. "Right now most tallow is used for soap, food and lubricants or it is added back into animal feed as a supplement."



**Richard G. Nelson**



## KSU to host '94 North American Power Symposium

The KSU College of Engineering will host the 26th North American Power Symposium Sept. 26-27.

The purpose of the symposium is to stimulate scholarly work in electric power engineering and to provide a forum for university faculty, students and industrial representatives to discuss and exchange research ideas,

and for students to present the results of their research.

The KSU Department of Electrical and Computer Engineering and the IEEE Power Engineering Society will sponsor the symposium.

The meeting is designed to improve communication of progress and results of university-based power system re-

search. Planned for a college campus setting, it provides for the early dissemination and publication of research project progress.

The event usually draws about 100 faculty, graduate students and sponsoring industry IEEE members.