Impact

Summer 1999

Competing with the Best

Rachel Dubbert, WISE intern, is sponsored by the National Science Foundation.

K-State sends two to WISE internships in Washington

continued from cover

Rachel Dubbert, junior in industrial engineering from Downs, received one of two internships made possible by a grant from the National Science Foundation. She is the daughter of Randy and Kathryn Dubbert and a 1996 graduate of Downs High School.

Stephen Nicholls, senior in industrial and manufacturing systems engineering, Manhattan, will be sponsored by the Society of Automotive Engineers. He is a 1995 graduate of Manhattan High School and the son of Peter and Trudy Nicholls.

"The WISE program is a prestigious program that allows engineering students the opportunity to help formulate public policy," King said.

Interns work under the guidance of a nationally prominent engineering professor and receive three hours of transferable academic credit. They receive a stipend of $1,800. Lodging and travel expenses are also covered. Participants are housed in a dormitory on the campus of George Washington University.

Dubbert said, "I think this is a good experience so that we can find out how government works and how engineers affect public policy."

"During the 10-week period spent in Washington, D.C., the interns observe how the government machinery works, and in particular, how government officials make decisions regarding complex and sometimes very controversial technological issues," said Rich Gallagher, associate dean for academics and administration. "The interns will learn how engineers can contribute to legislative and regulatory public policy decisions. They will have the opportunity to meet with representatives from industry, prominent nongovernmental agencies, congressional committees, and corporate government affairs offices on a daily basis. The interns will each conduct research, complete a paper, and present their findings on a current and topical engineering-related public policy issue. The WISE program provides a very rich and rewarding experience for the engineering student, and in many cases has had a major influence on career goals."

K-State hosts Mini-Baja West competition

By Beth Caskey and Mike Dorcey

Brightly colored off-road vehicles speckled the lawn of Durland and Rathbone halls April 15 thanks to the efforts of the members of the K-State chapter of the Society of Automotive Engineers (SAE).

During that day and over the following two days, the teams and the vehicles they brought would compete in design, sales presentation and cost analysis competitions; undergo intense scrutiny for safety; and compete at Milford Lake in hill climb, maneuverability, acceleration trials and, on the last day, a four-hour endurance race.

These activities were all part of the Mini Baja West competition, held April 15-17 on the K-State campus and at Milford Lake. The K-State student chapter of SAE hosted the three-day event for the first time. The Mini-Baja competition is part of SAE's Collegiate Design Competitions.

More than 61 teams from 58 colleges and universities, consisting of about 500 students from across the continent, competed in the event, including 14 from Mexico.

K-State's SAE chapter had been working intensely for months to insure a smooth-running event.

"We were confirmed as the race hosts in early November. Since then, we had weekly coordination meetings until spring break, when we started having meetings three times a week," said Jerry Jordan, chapter president. "We (the committee members) all definitely put a lot of time and work into this event."

David Pacey, faculty advisor for SAE, saw a lot of positive outcomes for the chapter's project.

"This was our first year to host the competition. It is a community service project for us," Pacey said. "We bring people to K-State who have never heard of us, and we get to show off our facility."

The event consisted of three days of activities—the first included cost analysis, safety inspection and design and sales presentations on the K-State campus, the second a maneuverability test, acceleration test and a hill climb at a Milford Lake off-road vehicle area.

The endurance race on the third day, April 17, was the grand finale. The chapter selected the four-hour course after considering a number of locations.

"Milford Lake offered everything that we desired: accessibility, physical space and timely permission," Jordan said. "The site was a bit far (from campus), but not the farthest that teams have ever had to drive."

The four-hour course was designed to test the cars' endurance and their ability to stand up to pressure.

Officials judging the competition liked the course. "This is a tough course," a judge at the finish line commented, then added with a smile, "but that's good. We want this to be a test of these vehicles."

The same finish-line judge said it all when he quipped, "This is an engineering event," meaning that is was not a test of who could log the most laps in the four-hour endurance race by using the best driver. Rather, it was a test of how well students could apply their engineering knowledge to the problem of designing a car that could withstand the rigors of the rugged course but still be a marketable product.

In the static events on April 15, the K-State team scored 74 of 100 possible points for safety and design, 85 points for sales presentation, and 46 points for cost analysis.

But track events took their toll on the car. After moderate performances in the acceleration, manueverability and hill climb events, K-State's entry was knocked out of the endurance race by a rock on the car's fourth lap.

"The drive shaft broke when the driver hit a rock," said David Gillespie, senior in mechanical engineering and one of the team members. "The shaft was 3/4-inch steel—it just snapped like a twig."

K-State's performance, however, raised hopes for next year.

"The K-State team made a credible performance in all the events leading to the endurance run," said Terry King, dean of engineering. "I believe they learned so much that we can expect them to set the pace next year."

And what better venue for that to happen than K-State? Rumors were circulating during the event that SAE staffers were making overtures to the K-State chapter to host the event again in 2000.

K-State teams members wait patiently while judges scour the KSU entry.

Joe Nolte, junior in mechanical engineering, wheels out of the pit area after refueling the K-State entry.

Peterie named student of the year by ASAE

Michelle L. Peterie, a senior in biological and agricultural engineering at Kansas State University, was honored with the ASAE Student Engineer of the Year Scholarship during ceremonies at a four-state regional meeting in St. Joseph, Mo., May 1.

"ASAE selects one outstanding engineering undergraduate student in the United States and Canada to receive this prestigious award," said James Koelliker, head of the department of biological and agricultural engineering (BAE) at K-State. "The basis for the judging includes scholarship excellence, outstanding character, personal development, student membership in ASAE and leadership qualities."

The award consists of a $1,000 cash award from the Society for Engineering in Agriculture, Food and Biological Systems (ASAE).

While at K-State, Peterie has been president of the university's ASAE chapter, been her department's representative to the engineering student council and chaired the department's annual open house committee in 1998 when it won the best department award. She also led the teams that won first place for displays at the 1998 open house for curriculum display and in 1996 for the freshman/sophomore display, respectively.

She has been vice president of the Sigma Sigma Sigma sorority, where she also organized and led the first house Bible study, and of the Alpha Epsilon agricultural engineering honorary. She has been a member of Tau Beta Pi, the Engineering Ambassadors and the Golden Key Honorary. She also serves on the Dean of Engineering's Student Advisory Council.

While pursuing her studies, Peterie has worked as a food specialist at the Van Zile Hall Dining Center and as a research assistant. While on spring break in 1997, she traveled to Oshkosh, Wis., to work in a homeless shelter.

During her educational career, she has been honored with 12 scholarships, including the Manhattan Chapter of the Soil and Water Conservation Society Scholarship

Peterie

and the Gamma Sigma Delta Sophomore Honor Certificate. She won second place in ASAE's 1998 National K.K. Barnes Student Paper Competition.

"Michelle is a remarkable person," Koelliker said. "She is a model of what we are trying to produce in our BAE students. She is organized, interested, motivated and committed to both her professional and personal excellence. Her personal integrity, honesty and forthrightness are unmatched."

Work and educational experiences have led Peterie toward a career in research.

"I believe that the heart and future of agriculture depend on the research that is being done today in the universities," she wrote in her ASAE scholarship application. "Along with new technology to sustain the world's population through agriculture also comes the need to maintain clean water, pure air and sustainable soils."

Peterie will receive her bachelor's degree in December. She is planning to pursue at least a master's degree after that.

The department of biological and agricultural engineering also honored Peterie during a reception for all its scholarship awardees in the K-State Union on May 7, Koelliker said.

Message from the Dean

Competing at the highest levels

At K-State College of Engineering, we endeavor to be the best comprehensive engineering college in the United States. It is a simple vision that challenges us to find ways of defining our multifaceted mission for the next century and to develop measures of success. Because of K-State's historic land-grant university designation, we must embrace the three-part mission of education, scholarship through research, and service to society. Indeed, we enthusiastically participate in all aspects of our mandated mission because of the dynamic synergies that result.

Research allows our faculty members to become intimately familiar with the latest in science and technology. Service to society forces us to always be relevant in responding to the needs of our various constituents, and of course, education of our undergraduate and graduate students is a simple focus of our business and the reason we are here. Unlike private institutions of higher education or our sister public institutions which are not of the land-grant heritage, we are comprehensive by design and choice. To be the best comprehensive college of engineering means we provide the optimum balance of education, scholarship, and service with significant elements in each of these three areas that are recognized as world class.

But how will we know when we are the best? As in so many professions and pursuits in our society, the "best" is always determined by peer recognition, most often through direct comparisons or head-to-head competitions. An athlete is known as the best when he or she is successful at the highest levels of competition. A business or industry is the best when its success is recognized by its customers and peers. In a similar way, we will be known as the best comprehensive college of engineering when our many customers and peers say we are.

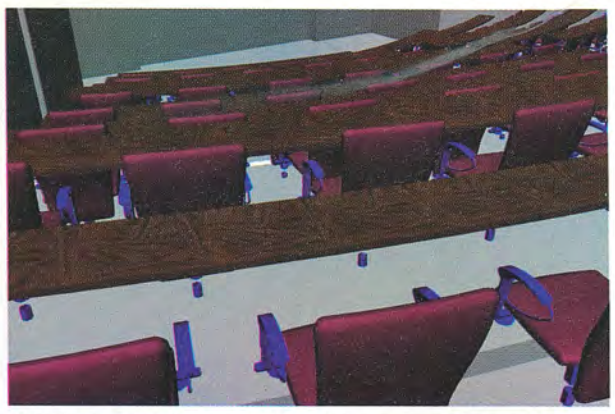
To reach our vision of the best college of engineering in the United States, we must compete at the highest levels in all our endeavors. That is exactly what we are doing. Not only are the students and faculty members competing at the highest levels in a variety of areas, they are winning! Let me give you a few examples:

- K-State students top the list of engineering students from across the nation who are selected to participate in the prestigious Washington Internships for Students of Engineering (WISE) program.
- Michelle Peterie has been named the top agricultural engineering student in the country and joins many students in our college who have similar honors in their various majors.
- Our sleek new solar car, Apollo, will race this summer in the 1999 Sunrayce.
- Last year, our computing and information sciences students placed first in the national artificial intelligence robotics competition.
- This year, two members of our faculty received the prestigious National Science Foundation Career Award.
- Our Advanced Manufacturing Institute has been recognized by the NSF and given a $1.2 million grant to implement systemic changes in engineering education. Only eight such grants were given in the entire United States.

By successfully competing at the highest possible levels in all that we do, whether in education, research or service, we are compelled to continually improve.

One of the best examples of our efforts to improve is rising gradually out of the ground next to our current engineering facilities. As you can see from the photograph above, Fiedler Hall is beginning to take shape. The dream of so many, as depicted in the architect's computer renderings below, is a reality—and is on schedule!

As in all competitions, we are gauged by the level of those we compete with. As you will see in some of the successes highlighted in this issue of Impact, we are doing very, very well. I am so proud of what our students and faculty are accomplishing. Likewise the faculty, students, and staff here at K-State College of Engineering thank you, our generous alumni, for helping us to meet and exceed our goals.



This is the artist's conception of the new Fiedler auditorium.

The new library will offer space for study as well as books.

This lobby will greet guests as they enter the new building.

Telefund results tell all: Students, alumni have the spirit

Students in the college of engineering are certainly demonstrating volunteer spirit.

Their pride and enthusiasm are hallmarks of their participation in the annual Telefund and key ingredients in its success.

During Telefund 1999 in February, 204 students representing the college's eight departments teamed with 3,456 alumni to raise $247,364 for the college.

"With the college's 1999 pledge total $46,456 greater than the 1998 total, I'd say volunteerism is alive and well —even thriving—in the college of engineering," said Dean Terry King.

Telefund 1999 marked the 20th anniversary for one of the oldest annual telephone campaigns anywhere. K-State's Telefund, coordinated by the KSU Foundation, has become the world's largest all-volunteer telephone campaign for higher education. Totals for Telefund 1999 for all nine colleges were $1,126,953 via 21,064 gifts, thanks to the efforts of 1,351 students.

In the college of engineering, Telefund gifts are divided for use into scholarships (80 percent) and student projects (20 percent).

"Our students make it happen," King said. "Their enthusiasm and leadership, combined with the dedication of our alumni, provide multiple benefits to our college."

Telefund participants learn about Telefund's format during a 30-minute orientation prior to each calling session. Calls begin at 6:30 p.m. and continue until 10 p.m. While K-State's Telefund relies on volunteers, most colleges and universities have switched to paid callers and automated telephone systems.

"The energy and enthusiasm of 80 students and the financial support of hundreds of alumni each night create an amazing atmosphere," King said. During an average calling session, pledges topped $56,000 and each student raised more than $1,200.

"Telefund's success is based on exceptional students, dedicated alumni, and an experienced campus network," said Gordon Dowell, the foundation's director of annual giving and Telefund director. "Additionally, more than 125 businesses nationwide provided more than $45,000 in prizes—including a 1999 Dodge Neon—to encourage participation and recognize success."

Included in the stash of prizes was an assortment of weekend get-away packages to Midwestern cities.

Students call from a bank of 80 telephones in the Hollis Telefund Center at the KSU Foundation Center. Telefund runs every February and planning is underway for Telefund 2000. Telefund is one of the many programs coordinated by the KSU Foundation to benefit K-State's academic colleges and their people and programs.

Telefund '99: the numbers

- Number of students 204
- Alumni contributing 3,456
- Amount pledged. $247,364
- Average $ pledged per session. . . . . +$56,000
- Average $ raised per student $1,212

Row after row, table after table of engineering students and faculty call alumni during Telefund. Thanks to the generosity of alumni, they were able to raise $247,364 for the college.

College names Strecker alumni fellow

Strecker

The college of engineering honored one of its alumni as its alumni fellow during activities Feb. 17 and 18.

Larry M. Strecker, a 1980 graduate of industrial engineering, is the college's alumni fellow for 1999.

Strecker is senior vice president of worldwide sourcing for Payless ShoeSource Inc. He is responsible for Payless' worldwide product development, manufacturing and quality assurance function, which includes offices in the United States, Taiwan, China, Brazil, Italy and Indonesia. Strecker and his family recently returned to the U.S. after living in Taipei, Taiwan, for two and a half years.

Prior to joining Payless in 1993, Strecker worked for Frito-Lay, a division of PepsiCo, for 11 years. He also holds a master's degree in business administration from Southern Methodist University, which he earned in 1988.

Payless ShoeSource, whose headquarters is in Topeka, is the largest independent footwear retailer in the United States. Payless owns and operates more than 4,000 stores domestically and sells one of every six pairs of shoes manufactured and sold annually. To accomplish this, Payless draws on 125 factories in 15 countries.

Wyoming governor honored for service

The college of engineering honored one of its graduates, Jim Geringer, with its Distinguished Service Award during commencement ceremonies May 15.

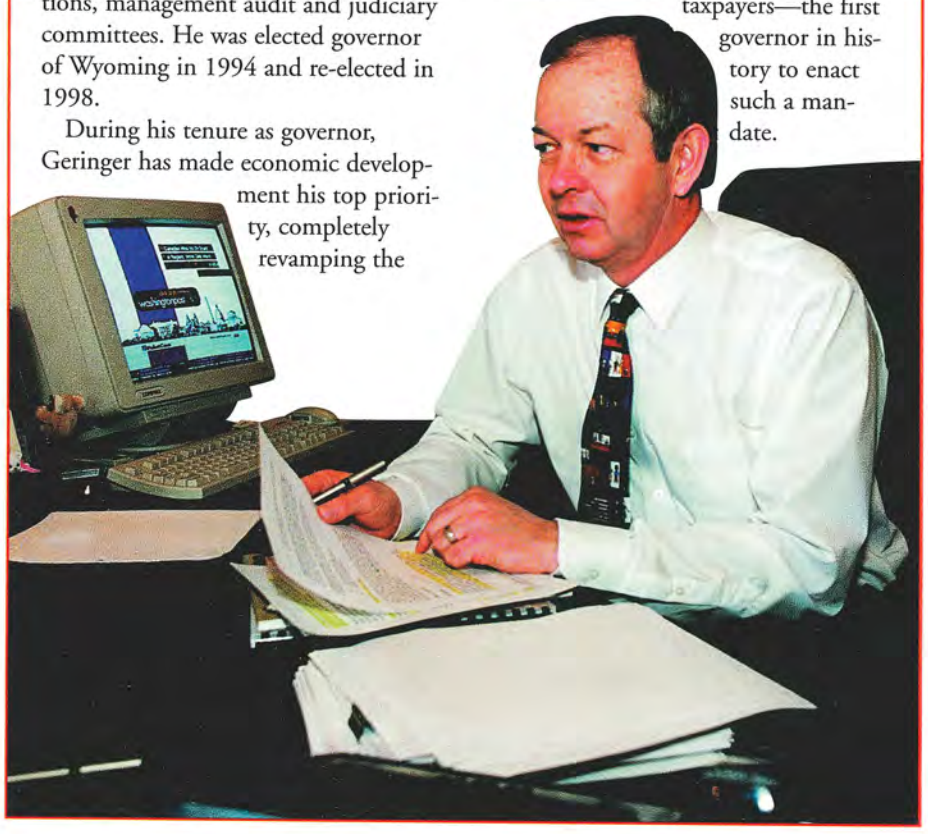
Geringer, now the governor of Wyoming, earned his bachelor of science degree in mechanical engineering in 1967.

After his graduation, Geringer served on active duty with the U.S. Air Force, where he worked extensively with NASA. In 1978 he transferred to the Air Force Reserve where he served until 1991. In 1979 he went into farming and cattle-feeding, buying his own farm in 1987.

Geringer served 12 years in the Wyoming state legislature, during which time he chaired the appropriations, management audit and judiciary committees. He was elected governor of Wyoming in 1994 and re-elected in 1998.

During his tenure as governor, Geringer has made economic development his top priority, completely revamping the state's approach to this issue. He has also made a commitment to education reform, putting tough standards and true accountability in place while preserving local control. State funding for education has increased by $73 million per year, which goes directly to local school boards.

During Geringer's administration, Wyoming's welfare system has been hailed as the most successful in the nation, with a 75 percent drop in caseloads. He has pushed for safer communities in Wyoming with his philosophy of restorative justice that holds offenders accountable to the community. He also imposed an executive order on ethics for all Wyoming state employees to emphasize their accountability to taxpayers—the first governor in history to enact such a mandate.



'Fiedlercam' keeps eye on progress

You can watch the progress of the construction of K-State's new Fiedler Hall, too. Just type the address below into your Web browser and sit back and watch. The camera updates the screen once every minute.

For even more fun, click on the archived movies and watch a collection of one whole day's images flash before you in a matter of seconds. Charlie Chaplin has nothing on Fiedlercam. Watching the movies requires the Quicktime movie player.

http://fiedlercam.engg.ksu.edu/

Toughest tests can be in the lot

By Mike Dorcey

Winning the Mini-Baja West event means more than crossing the finish line in the endurance run.

Before teams headed for the track on April 16, judges carefully scrutinized their cars for design and safety. And team members had to give a sales presentation on their vehicles.

On April 15, judges swarmed over the 61 cars parked on the lawn east of Durland and Rathbone halls, peering into tight places, gently tugging at tubes and wires, and measuring just about everything. They were also asking lots of questions.

Design criteria included aesthetics, mechanics, analysis performed, ability to manufacture, innovation, and quality of build.

The safety inspection included sturdiness and clearance of the roll cage, driver-restraint system, kill switches, fire extinguisher and controls in the cockpit, and spill-protection for the fuel system. Judges also looked at steering and suspensions systems and guards.

Drivers also took their cars for a braking test in front of Ward Hall.

In the sales presentation, judges considered content and organization, as well as ability to answer questions, use of visual aids and quality of the presenter's delivery.

"The whole point of the competition is that the students have to make a car they can sell," said Brenda Klingele (ME '95), of Black and Veatch. "They not only have to build the car, but prove to us that it's marketable because it is safe to operate, cost-effective to build and affordable to own and operate."

Brenda Klingele signals the Wisconsin entry to start the acceleration test.

Four-year awards fund innovative research and teaching

K-State engineers receive NSF Early Career Development Award

by Kay Garrett

The National Science Foundation has chosen two Kansas State University engineering faculty members to receive its prestigious Faculty Early Career Development Award.

The 1999 recipients are Alok Bhandari, assistant professor, department of civil engineering; and William B. Kuhn, assistant professor, department of electrical and computer engineering.

CAREER awards promote the research and teaching potential of faculty in the first four years of a university career. With these latest awards, nine K-State faculty have been recipients since the NSF program began in 1995.

"An NSF CAREER award makes it possible for newer faculty members to establish their research programs, hire graduate students and staff, and in general, to get their programs up and running at a rapid pace," said R.W. Trewyn, K-State's interim vice provost for research.

"Professors Bhandari and Kuhn will be working in areas critical to the nation: environmental cleanup and wireless technology. They will be undertaking innovative research programs that they will then use to form the basis of unique curricula for future K-State students," Trewyn said.

Bhandari

Civil engineer Alok Bhandari is conducting research on new methods for environmental remediation and for waste management. He will design an educational program for high school and college students interested in environmental engineering.

Bhandari will receive $200,000 for the period April 1999 to March 2003.

His project is titled "Engineered Humification Processes: An Innovative Approach to Remediate Hazardous Waste Sites." He received $10,000 as matching funding for equipment.

Humification is the natural process of converting dead animal and plant matter to humus, in other words, the soil organic matter that furnishes nutrition to the plants and increases the soil's capacity to retain moisture.

He will evaluate processes that can immobilize environmental pollutants on soils and sediments by binding them to soil organic matter in a process similar to how humus is formed. Scientists believe that such binding reactions can reduce the toxicity of the pollutants and decrease their potential to contaminate groundwater by leaching from contaminated soils or sediments.

In particular Bhandari's research will focus on the environmental fate in soils and sediments of such pesticides as chlorinated phenols and their partial degradation by-products.

Bhandari joined the K-State faculty in 1998. He earned a bachelor's degree from Jawaharlal Nehru Technological University; and master's and doctoral degrees from Virginia Polytechnic Institute. He held a postdoctoral position at the University of Michigan. His teaching interests focus on designing biological and physicochemical processes in wastewater treatment and bioremediation.

Kuhn

Electrical engineer Bill Kuhn is involved in the development of wireless hardware technologies, in particular, radio frequency integrated circuits.

The NSF CAREER Award provides $200,000 for the project, "Combining Research and Education in Developing Fully Integrated Wireless Transceivers."

The project will focus on integrating all the components of a wireless device, such as a cordless phone or cell phone, onto a single chip, Kuhn explained.

> *"Professors Bhandari and Kuhn will be working in areas critical to the nation: environmental cleanup and wireless technology."*
>
> R.W. Trewyn
> Vice Provost for Research

"If U.S. universities are to meet the growing demand for radio frequency integrated circuit designers in the next 10 years and assist U.S. firms in holding a substantial share of the wireless hardware market, we have to train students in these evolving technologies," said Kuhn.

The wireless industry is projected to reach more than $10 billion by the year 2000.

"We plan to combine research and education so that K-State students learn the fundamentals of today's technologies while they take part in developing new technologies on which future wireless products will depend."

Kuhn has research interests in wireless telecommunications; analog/digital/radio frequency circuit design; mixed-signal analog/digital VLSI; and computer-aided engineering.

Kuhn joined the K-State faculty in 1996. He earned bachelor's and doctoral degrees from Virginia Polytechnic Institute, and a master's degree from Georgia Institute of Technology. Prior to joining the K-State faculty he worked at the Georgia Tech Research Institute, NASA Ames Research Center and Ford Aerospace and Communications Corporation.

KSU scholarship campaign sets aggressive pace

A little more than six months into the public phase of the Kansas State University Scholarship Campaign, the KSU Foundation is three-fourths of the way to its goal of raising $50 million. And the college of engineering, with the largest goal of $10 million among the university's colleges, is over the halfway mark.

Helping set the pace is Bob Davis, an alumnus who has set up two scholarships by contributing $10,000 to each, which his company has matched. Each fund will produce a $1,000 scholarship each year.

Davis, a 1969 graduate in industrial engineering, is now a senior director of corporate safety and risk management for Anheuser-Busch Companies in St. Louis.

Davis named one scholarship for his father. It is specifically for transfer students majoring in industrial engineering. The other scholarship is for members of his fraternity, Lambda Chi Alpha.

"I named the first scholarship to honor my dad because he put four of us through K-State on "Pop" scholarships," Davis said. "He did not demand anything of us. He just pointed us in the right direction. I guess we tried not to disappoint him. He was a very generous man."

Davis said he established the two scholarships simply because "it's pay-back time. There were two factors at K-State that were postive influences in my life: the IE department, because the professors taught us how to think, and my fraternity, because it was my first business experience. Keeping the fraternity going was like running a small business."

Davis, who also serves on the advisory council of KSU's industrial and manufacturing systems engineering department, said the time had come to do something he had once promised himself to do.

"There is a need to do that (establish scholarships), and I'm at a point in my life where I can," he said. "Plus now is a good time when my company is willing to help, too."

The scholarship campaign began in June 1996 and runs through June 30, 2000. Original projections had led foundation officials to set their goal at $40 million, but when the numbers hit $26 million during the "silent" phase of the campaign, they re-evaluated their projections and set the goal at $50 million.

"With the strong support we are recieving from our alumni, we are optomistic that we will meet our $10 million goal," said Terry King, dean of the college of engineering."It has been gratifying to see the support from alumni and friends for our students."

For information on how to contribute, call 1-800-432-1578 or 785-532-7542.

Davis

K-State's solar car team works on strategy for June race

By Angie Rupert and Mike Dorcey

With final qualifications behind them, members of K-State's car team are waiting for the flag to drop at the starting line for Sunrayce '99.

Several Kansas State University engineering students have been designing and building a solar-powered car, Apollo, for the 1999 biannual Sunrayce.

"The students have been working very hard on this car. They started the planning on it before the last race was over," said Norman Dillman, professor of electrical and computer engineering and faculty adviser for the K-State team.

Sunrayce '99 will begin in Washington, D.C., on June 20 and end in Orlando, Fla., on June 30. The cars will race for nine days, averaging 150 miles per day, and will rest for one day in Atlanta.

Expectations are high, but realistic, according to the team's project manager, Jason Northup.

"I'm not sure about winning, but we've made a quantum leap since 1997. It's a possibility, but I don't know," he said. "We have an experienced team and a good car. We'll definitely be in the top 10."

The K-State team finished in 24th place in the 1997 run from Indianapolis to Colorado Springs, Colo., the second-best finish ever for a rookie team. Northup said the car and strategy will be key factors this time.

"When you get up there (toward the top 10), it's a matter of car reliability and your race plan," he said. "I expect race strategy to be a major factor because we will probably have more rain and cloudy weather than we did going across the Midwest two years ago. And this course will have more hills, I think."

To qualify for the race, teams submitted a proposal to the Sunrayce headquarters in Atlanta. The proposal contained all plans for the car and the projected cost for building and racing it. K-State added some impressive improvements to its 1999 car, according to Northup.

"We used a computer-controlled process to produce the body," he said. "It's more exact, so the chassis fits better. And our solar array is at least 50 percent better because we are tabbing and encapsulating the solar cells ourselves. We have also taken all the cells and characterized them so we can insure that all cells in one section are producing at the same level."

Northup said the K-State car has a better telemetry system this year. Through telemetry, the K-State car collects data on the status of batteries, electricity being collected from the array and being used, vehicle speed and other critical factors, and transmits that information by radio to a "chase" vehicle.

"We'll be able to keep better track of what's going on with the car," Northup said. "We monitor up to 60 variables."

After K-State's proposal was accepted, team members began preparing for qualification in Michigan. The qualification was held in late April. At this event, the solar car underwent brake, electrical and safety tests and had to be able to complete a 100-mile race in four hours.

Fifty-four cars from 58 schools are entered in the 1999 competition. Seven cars are from foreign schools, six from Canada and one from Japan.

More than 70 universities competed at in the 1997 qualification tournament, but only 36 cars went on to the national race.

" I think that working on the solar car is a great opportunity for the students to learn what engineering is all about," Dillman said.

The students do everything from planning an idea to building the parts. They must manage a budget and set up work schedules. The students also get to actually race the car.

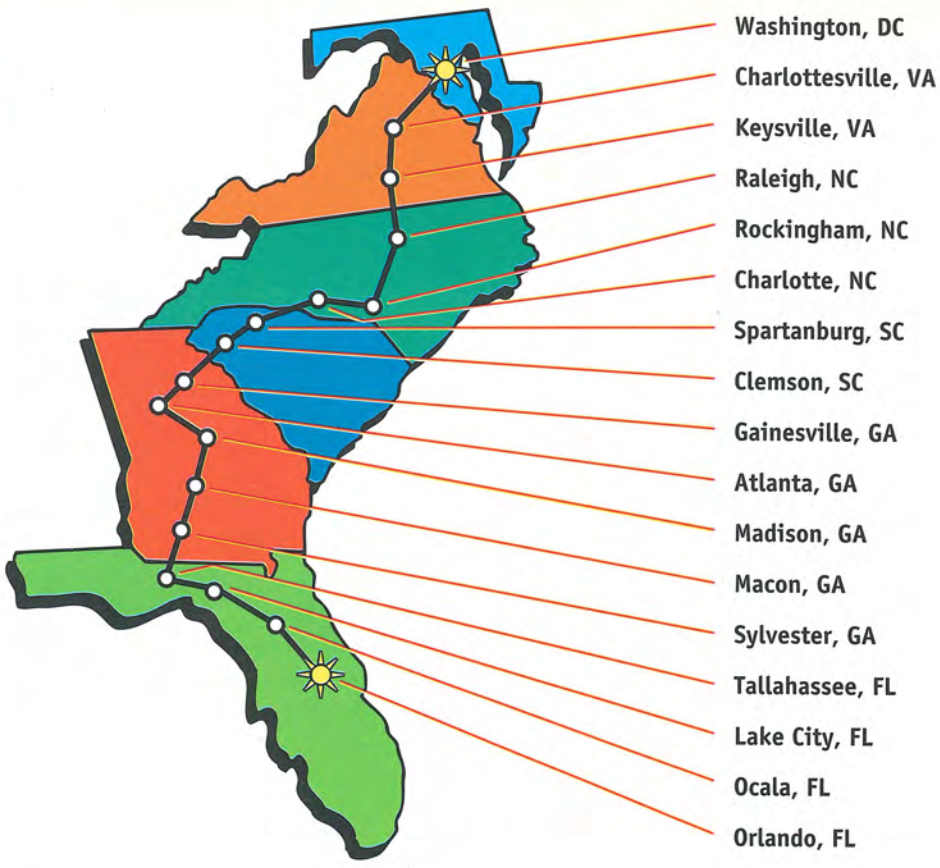
Northup said, "The first race was for the experience. We've received a lot of technological help inside and outside of the college. This year we know what we're doing, and we know what needs to be done. We all plan on doing well. I think everybody feels like we're going to do well."

The car cost about $250,000 to produce and race, but K-State paid for much less than that total.

"We've had a lot of support from different companies," Dillman said. "For instance, TDM, a company that built the mold for the car, donated all of the hardware and labor. That saved us a ton of money. The fabrication process for the mold alone is worth more than $80,000."

Jason Northup, left, and Damian Brandenburg, center, drop a rear wheel assembly into place while Chris Hopkins makes an adjustment to wiring for cockpit controls.

Sunrayce '99 takes an Eastern seaboard route



Sunrayce '99 itinerary

- June 20, 1999–Sunrayce '99 Begins – Washington, DC to Charlottesville, VA
- June 21, 1999–Day Two – Charlottesville, VA to Raleigh, NC
- June 22, 1999–Day Three – Raleigh, NC to Charlotte, NC
- June 23, 1999–Day Four – Charlotte, NC to Clemson, SC
- June 24, 1999–Day Five – Clemson, SC to Atlanta, GA
- June 25, 1999 Rest Day
- June 26, 1999–Day Six – Atlanta, GA to Macon, GA
- June 27, 1999–Day Seven – Macon, GA to Tallahassee, FL
- June 28, 1999–Day Eight – Tallahassee, FL to Ocala, FL
- June 29, 1999–Sunrayce 99 Ends – Ocala, FL to Epcot

If you want to keep track of how the K-State solar car team is doing during Sunrayce '99, check out this address on the World Wide Web:

http://sunrayce.gmr.com/sea/sunrayce/index.html

Alumni News

1948

George H. Weekley, Jr. (ChE) was the chairman of the architectural committee of Cape Conroe. The committee issued home building permits to 107 in 1998. He is a retired engineer.

1949

Darrell W. Landau (ME), Garden Grove, Calif., is keeping busy in retirement as the chairman of the board for the 19th Bomb Group Association, which he served in during World War II. He left KSU in 1943 to enter the Army Air Corps, becoming an engineering officer for B-29s. After the war, he returned to KSU, completing his degree in 1949. He went to work for the Kansas Department of Transportation initially, but joined General Motors to work on the F-84F fighter. He later worked for North American Aviation and Douglas before retiring from Rockwell International. He worked on the Navaho, Minuteman and MX missiles and the B-1B bomber and a revamping of the controls of the C-130H gun ship. In addition to his work with his old Army unit, he has provided computers to museums in Oberlin, Kan., and Pyote, Texas.

1955

Roger B. Wilcox (ME) retired after 37 years with Lockheed Martin. Before Lockheed, he worked on the jet engine afterburner fuel system for the B-70, Mach 3 bomber, and the safe-arm for the Polaris A-1 submarine-launched missile. At Lockheed, he spent 10 years on the Corona program-- the first imaging satellite, worked on the Hubble Space Telescope, and ended on the rotary joints for the Space Station solar arrays and thermal radiators.

1957

Paul K. Turnquist (AgE) retired in September 1998 as professor and department head in agricultural engineering at Auburn University. He held this position since 1977. From 1964 to 1976 he was on the faculty at South Dakota State University.

1958

Alan J. Cervenka (EE) is the general sales manager for DNF Controls of Sunland, Calif. The company manufactures remote control equipment for the broadcast industry worldwide. ajcenter@earthlink.com

Clyde Sprague (ME, MSME '63) was recently named a TAPPI fellow at their annual convention. The award is given to those who have contributed exceptional meritorious service to the association or industry. Sprague is the retired vice president of worldwide research and development for Jefferson Smurfit Corporation.

1959

Daniel Jilka (EE) was elected as senior member of IEEE in 1998. 1708 3rd Ave N., Seattle, WA 98109

1960

Robert W. Shue (EE) retired Aug. 1, 1998, from Lafarge Corporation in Fredonia, Kan., where he worked as an instrument and electrical supervisor. He has one son and four daughters. Three of his daughters and one granddaughter have graduated from K-State and three grandsons are currently attending. Route 1, Box 17, Fredonia, KS 66736.

1961

Larry D. Jefferies (EE) retired after 37 years with Westinghouse/Northrop-Grumman Oceanic Division at Annapolis, Md. He is trading his sloop 'QUEST' for an RV and will be heading west for a little sun and golf at Saddlebrooke, Ariz. Jefferies.L.D@usa.net.

Raymond J. Lobmeyer (AgE) retired on Jan. 1. He has held product engineering positions with Deere & Company, Eaton Corp. and Caterpillar Paving Products. 1422 William St., Sycamore, IL, 60178-3402

Otis Miller (ChE) retired in Sept. 1996 after a 35-year career in the oil and gas industry. He worked as senior project engineer, project manager and superintendent of engineering and maintenance in his career with Union Carbide, Cities Service, Farmland Industries and Saudi Aramco in Dhahran, Saudi Arabia. He lives in Bella Vista, Ark., and maintains a cattle operation at his ranch in Kansas. He spends most of his time golfing, travelling and fishing with his wife. otisgogo@aol.com.

James Stone (NE) retired in Oct. 1997 after 36 years with the government. At the time of his retirement, Jim was the Nuclear Regulatory Commission's project manager for Wolf Creek. jcstone@erols.com.

1962

Thomas A. Holmberg (ME) has initiated a corrosion control company to prevent sub-slab leaks on underground pipes by installing magnesium and zinc anodes. This comes after working 30 years in rocket propulsion with 24 years at McDonnell Douglas and six years at Rockwell. 18642 Santa Isadora St., Fountain Valley, CA, 92708

Vern Raven (IE) is the logistics operations manager for Raytheon Systems Company in Dallas. He and his wife Sheila bought their retirement property north of Durango, Colo. They plan to build their retirement home there and retire in two years.

1963

Chris Fotopoulos (ME) retired as a staff engineer from Allied Signal Aerospace is Kansas City after 31 years of service. 6525 Long, Shawnee, KS 66216.

1964

David S. Dodson (NE) retired from a 30-year career in computer software development, with the last 13 years being at Hewlett-Packard Company. He is now attending Dallas Theological Seminary with the goal of entering the mission field as a math teacher in a high school for children of missionaries. dave_and_darl@juno.com

Michael K. Mahaffey (NE) retired from Duke Engineering and Services Hanford in December after 33 years in nuclear development and engineering activities. He and his wife Judy (Mawdsley) will remain in Richland, Wash., and continue to support nuclear cleanup activities. mandhjo@bigfoot.com

1966

Jay C. Mayberry (EE) recently retired from I/N Tek, a subsidiary of Inland Steel. He is now working for Integrated Process Automation and Control Technology (IPACT) where he is a senior staff engineer. He was recently re-married and has three step-children.

1967

J. Ronald Miner (ChE) taught agricultural engineering at the Bunda College of Agriculture at the University of Malawi in Africa. He was on sabbatical leave from Oregon State University all of 1998.

1968

Michael P. Newcomer (ChE) is the principal engineer for the Bayer Corporation in Kansas City, Mo. He has been engaged in the production of agricultural chemicals for the last 20 years.

1973

John Oswald (CE) became the director of engineering and planning at the Wichita Airport Authority on Jan. 11. 551 S. Crestway, Wichita, KS 67218

1974

Keven Fry (ME) has accepted a position as senior economist at Petroconsultants-MAI in Houston, Texas. Petroconsultants-MAI is the world's leader in international oil and gas consulting. Keven and his wife, Patricia, have two grown children.

Steve McKinnis (EE) and his wife Donna have moved to Tucson, Ariz. Steve will work for Burr-Brown as the EDA director. smackmick@aol.com

1976

Chet Brians (CNSM) has been promoted to senior vice president of Webcom Builders. He joined Webcom upon graduation and has been instrumental in the growth of Webcom to its current listing of #54 in the ENR Top 400. chet@webcom.com

1979

Tom Gates (CE, MSCE '81) has started law school at Seattle University. He has a new address: 2302 151st Street E, Tacoma, WA 98445-3421.

William Dowling (EE), was recently promoted to vice president of Energy Management and Supply at Midwest Energy Inc. where he has been employed since 1981. He is responsible for transmission operations and energy trading, communications and energy management systems, and system protection. He is also involved in corporate development. He and his wife Lynn (Malir) have five children, and the oldest son will attend K-State in the fall of 1999. bdowling@mwenergy.com

Eddy Whitley (CNS) has started his own financial consulting practice in Kansas, Missouri and Texas. His wife Tracie Dittemore (JMC '79) is at the NCAA. They have one daughter, Grace, who is six years old. 6545 Edgevale Rd., Kansas City, MO 64113

1981

Bill Pepoon (CNS) became engaged to Francesa Miller on Nov. 27, 1998. They have set a wedding date for June 5, 1999. bpepoon@ix.netcom.com

1983

Beverly Jaderborg (Che) was married to Michael Bulingame on Aug. 14, 1998. She is currently employed by Lucent Technologies and is working on a SAP implementation project. bjaderborg@lucent.com

Doran Morgan (ME) and Kristina (Herman) Morgan (Off. Admin. '86) are proud to announce the birth of their third child, Klara Rose, on March 15. Klara joins brother Levi (9/93) and sister Adriel (5/96). Doran continues his work in Lexington, Ky., with Lexmark International as assembly/manufacturing engineer for one-piece toner cartridges for the Optra printer line. dmorgan@lexmark.com

1984

Gary Scronce (NE, MSNE '87) and his wife, Wendy, are proud to announce the birth of their first child, Laura Marie, born March 23. She weighed 6 lbs. 12 oz. and was 19 3/4 inches long. Gary is currently a risk analyst/task leader for Innovative Emergency Management in Baton Rouge, La. scronce@ieminc.com.

1986

Clark Atkinson (CE) is a senior project manager for Shaw Construction. The company was recently awarded the First Place National Excellence in Construction Award. This is the second time in three years that Clark, as a project manager for Shaw, has won the award.

Todd M. Postier (IE) has recently accepted the position of senior industrial engineer with the Energizer Battery Co. He, his wife, Janet (Bakery Science & Mgmt, '88), and their two sons, Brandon (4 1/2) and Garrett (8 months) moved to Maryville, Mo., in March.

Vaughn M. Schlegel (EE) recently received an award from the Fort Worth Section of the Institute of Electrical and Electronics Engineers (IEEE) as the 1998 Young Engineer of the Year. He is currently an engineering specialist senior in systems engineering at Lockheed Martin Tactical Aircraft Systems in Fort Worth. He and his wife, Connie (BA Finance, '95 UTA), currently reside in Burleson, Texas. He received his MS in engineering management from SMU in 1995. v.m.schlegel@ieee.org

1987

Thomas J. Ellis (EE) is employed as a project electrical engineer with Kansas City-based Larson Gibbens Inc. He has been involved the past year with the design on Spring World Headquarters campus in Overland Park, Kan. His wife Cheryl gave birth to their second son, Benjamin, on Dec. 23, 1998.

1988

Lisa (Sherwood) Coyan (ARE) and her husband Kris Coyan (Interior Architecture '87) are proud to announce the birth of their daughter, Katrina Arlene. She was born on June 13, 1998. She joins her two brothers, Robert (2) and Nickolas (5).

Paul C. Link (ME) and his wife Joanne announce the birth of their second child, Amanda Jeanne, March 26, 1998, who joins two-year-old Randy. Paul works for Henderson Engineers Inc. in Lenexa, Kan., as a fire protection engineer in the new fire protection division.

1989

Scott Gardner (IE) was married on Oct. 10, 1998. His wife (Linda) and he reside in Gardner, Kan. Scott recently accepted a job as engineering manager at Abrasive Engineering & Manufacturing in Spring Hill, Kan. dragonah@qni.com

1991

Nat Timper (ARE) and his wife, Ilona, announce the birth of their first child, Luke Arvydas, on March 17, 1998. Nat is a professional engineer with Timper Associates Engineers in Wheeler, Wis.

Kristie (Essig) Ward (IE) and her husband, Rob, announce the birth of their son, Nicholas Aaron. He was born Jan. 25.

Jeff Wasinger (CNS) married Kristi White (MKTG '90) in 1992. He currently works at Ruscilli Contruction in Columbus, Ohio, as project manager. JKW1024@aol.com

1993

Mark A. Jordan (EE) and his wife Heather had their first child on Nov. 1, 1998. The boy's name is Levi Matthew Jordan. Mark started Jordan Software Solutions Inc. in September 1997 and is busy developing software on a contract

basis. The family lives in Darien, Ill.
mandhjo@bigfoot.com

1994

Rich Holland (ME) and Wendy (Sallee) Holland (ME '92) announce the birth of twin girls, Lauren Katherine and Emily Michelle, on Oct. 7, 1998.
holland@pobox.com

Andrea L. Schmidt (ME) is working for the Trane Company. She has just moved from the Kansas City sales office to the Dallas sales office. She has accepted the position of applications team leader.

1995

Marcus D. Adinolfi (CIS) is an information analyst with Electronic Data Systems in Overland Park, Kan. He is currently a project leader in developing telecommunications software. He accepted the position after working at Raytheon Aircraft in Wichita for three years as a programmer. He has been married to his wife, Laura, for 10 years and they now have a three-year-old son, Domenick.

David E. Brown (CNS) is the contract administrator for Hayes Large Architects in Harrisburg, Pa. He married his wife, Brenda, in September 1996. They have twins who were born on Oct. 21, 1997. The boy is named Colton Evan and the girl Chloe Xandria.

Jeff Stock (IE) and his wife Jenni announce the birth of their twin boys, Joshua Charles and Alec Henry on Aug. 6, 1998. They have a brother Tyler. Jeff is working for Raytheon Aircraft.

Amee Urich (ARE) was promoted to the position of associate at Abacus Engineered Systems Inc. in Seattle, Wash. She is currently doing lighting design and electrical engineering.

1997

Jamie D. (Eck) Reece (CNSM) is a network engineer with Sprint. She is a part of the Network Building Architects & Engineers Division in Kansas City, Mo. She and her husband Don E. Reece (MGMT '96) reside in Olathe. Don is a production planner for Gamin International.
jamie.d.reece@mail.spring.com

1998

Jamie T. Reece (EE) is a design engineer with Garmin International. He and his fiancée, Sandy Crust, are planning a July wedding. Sandy will graduate from K-State in May with a degree in dietetics and nutrition.

Deaths

1940

Herman Peter Madsen (ME) died on Dec. 31, 1997. He had retired from the E. I. duPont film department in 1976.

1950

Paul L. Lundgren (EE) died Jan. 10.

1951

Donald A. Brown (ME) died Jan. 3 in Fair Oaks, Calif. After graduation he pursued engineering at both the Coleman Co. and Boeing Co. in Wichita. He moved to California to work for Aerojet-General. He later worked for Memorex, Comdata and Blue Diamond Growers, from which he retired. During retirement he conducted a private engineering consulting business. He is survived by his wife Frances, three sons and one daughter.

Memories

Mapping a career

Students wrestle with a problem during a photogrametry class as an unidentified instructor pauses to look over a shoulder. A historical note: The drafting tables these students are sitting at were made at K-State. Students who graduated before the mid-1960s may remember that there were foundry and carpentry shops in Seaton Hall. According to industrial engineering Emeritus Professor Frank Tillman, before there was such a thing as a vocational techical school, students came to K-State to learn machine shop and carpentry skills. They made all kinds of metal products such as log chains, metal parts for the trees of horse-drawn wagons, and brass fittings and pulls for desks and filing cabinets—and drafting tables—for campus offices. The industrial technology students, as they were called, made the products as their semester projects. One of the forges from the foundry is in the museum at Fort Riley.(Photo courtesy the Royal Purple, 1957)

Calendar of alumni events

- **June 25 - Sunrayce luncheon in Atlanta. Details to come.**
- **Oct. 1 - Pregame engineering party in Austin, Texas. Details to come.**

What's new with you?

We'd like to know–and so would your former classmates. Take a few minutes to jot down job changes, births, deaths, professional or other activities, your retirement or remembrances you'd like to share. Send your news to *Impact* at one of the addresses below.

Want classmates to contact you? Check the appropriate box below and we will include your address, phone number or e-mail address with your news. You must indicate that you want this information printed. Also, because of space limitations in the newsletter, please select only one address for publication.

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Tau Beta Pi honors Cargill as Company of the Year

Staley

Tau Beta Pi, the all-engineering honorary, and the college of engineering honored a major agricultural marketer and its president and chief operating officer with the 1999 Company of the Year Award and Leader of the Year Award at a banquet May 3 in the K-State Student Union Ballroom.

Tau Beta Pi chose Cargill to be its company of the year. Cargill is an international marketer, processor and distributor of agricultural, food, financial and industrial products with some 80,600 employees in more than 1,000 locations in 65 countries and business activities in 130 more.

The organization also honored Warren Staley, Cargill's president and chief operating officer, as its leader of the year.

Tau Beta Pi recognizes as its company of the year honorees those companies that have been committed to engineering education and to high standards and quality performance in the engineering profession.

"By naming a company and leader of the year, we have a chance to say 'thanks' to those organizations who are helping us achieve our goals for engineering education in the 21st century," said Terry King, dean of engineering.

Also representing Cargill were KSU grads H. Brent German (AGEC '82, EE '90), refinery superintendent, Cargill Soybean Plant, Sidney, Ohio; Scott M. Jenkins (MSM '83), general superintendent, Topeka Flour Mill; and Dale A. Fehrenbach (AGMECH '73), manager, plant operations, Minneapolis, Minn. The three met with approximately 400 students during the day while lecturing in various classes and meeting with student leaders in engineering.

"By having the chance to meet in smaller groups with these industry representatives, students get the chance to ask questions and find out what it's really like in the corporate world," King said. "They get the chance to find out what will be expected of them as young professional engineers."

Staley graduated from K-State in 1965 with a degree in electrical engineering. He joined Cargill as a trainee in 1969 and held various merchandising and administrative positions in the corn milling department until 1976, when he became general manager of Cargill's high fructose corn syrup operations in Dayton, Ohio. From 1978 until 1982, he held general management responsibilities in Cargill's European corn milling operations. In 1983 he moved from England to Buenos Aires, Argentina, as general manager of Cargill S.A. In 1987, he moved to Minneapolis as president of Worldwide Feed, the international feed department, and Caprock, Cargill's cattle-feeding subsidiary.

He served as president of Cargill's North America operations from July 1993 to June 1996. From 1991 until 1993, he had been chief of staff for Cargill's North America operations. He was elected to Cargill's board of directors in August 1995. He was elected president and chief operating officer of Cargill in February 1998. On June 1, Staley will step up to the post of Cargill's chief executive officer.

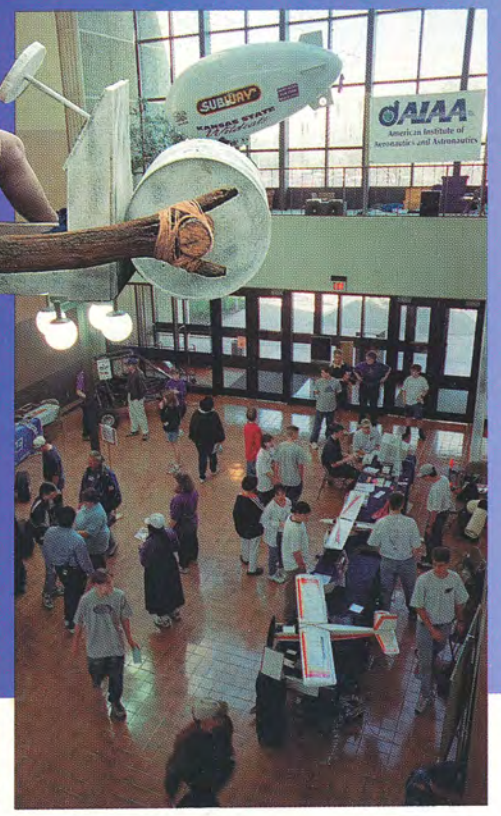
Staley received a master's degree in business administration from Cornell University in 1967. He is a member of United Way's board of directors. He is also chairman of the Cargill Foundation.

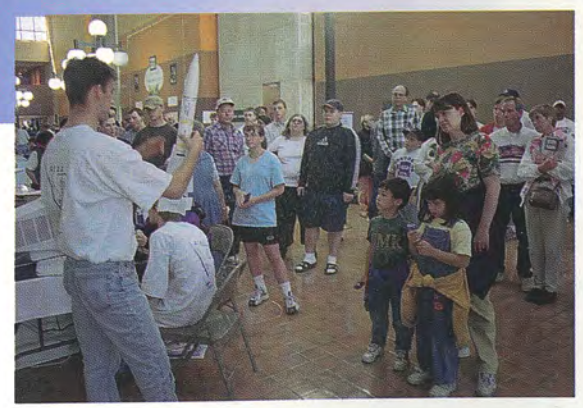
Staley is a member of the college of engineering's Hall of Fame.

He was the featured speaker at the banquet May 3, held in conjunction with Tau Beta Pi's initiation ceremonies of 13 undergraduate students, one graduate student and two engineering professors.

"We are fortunate to have an industry representative like Warren Staley bringing his perspective to our students," King said. "The fact that he is a Kansas State graduate only enhances his credibility with our students and helps them learn that with a degree from our college, they can achieve high goals."

Open House '99 – 'Deriving the future by integrating the past'





Top, far left, Bryce Visser, far left, Brice Pufahl, left, and Don Eisele, far right, prepare to duel in the robot contest. **Above**, Industrial won the Yellow Brick Award with its entry, "Judge Judy." **Left**, Eric Moore brings fire to the torch on the south porch of Seaton Hall, signaling the start of Open House. **Below**, Jeevan Padiyar explains the niceties of rocketry.

Clockwise from top left: Amy Dedonder and Ryan Linton travel in style on Mechanical's float. The atrium of Rathbone Hall was a busy place. BioAg students are blooming on their parade entry. Melissa Miller, senior in industrial and manufacturing systems engineering, was crowned St. Patricia, and Brett Krug, senior in architectural engineering, St. Pat.

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Competing with the Best

Impact

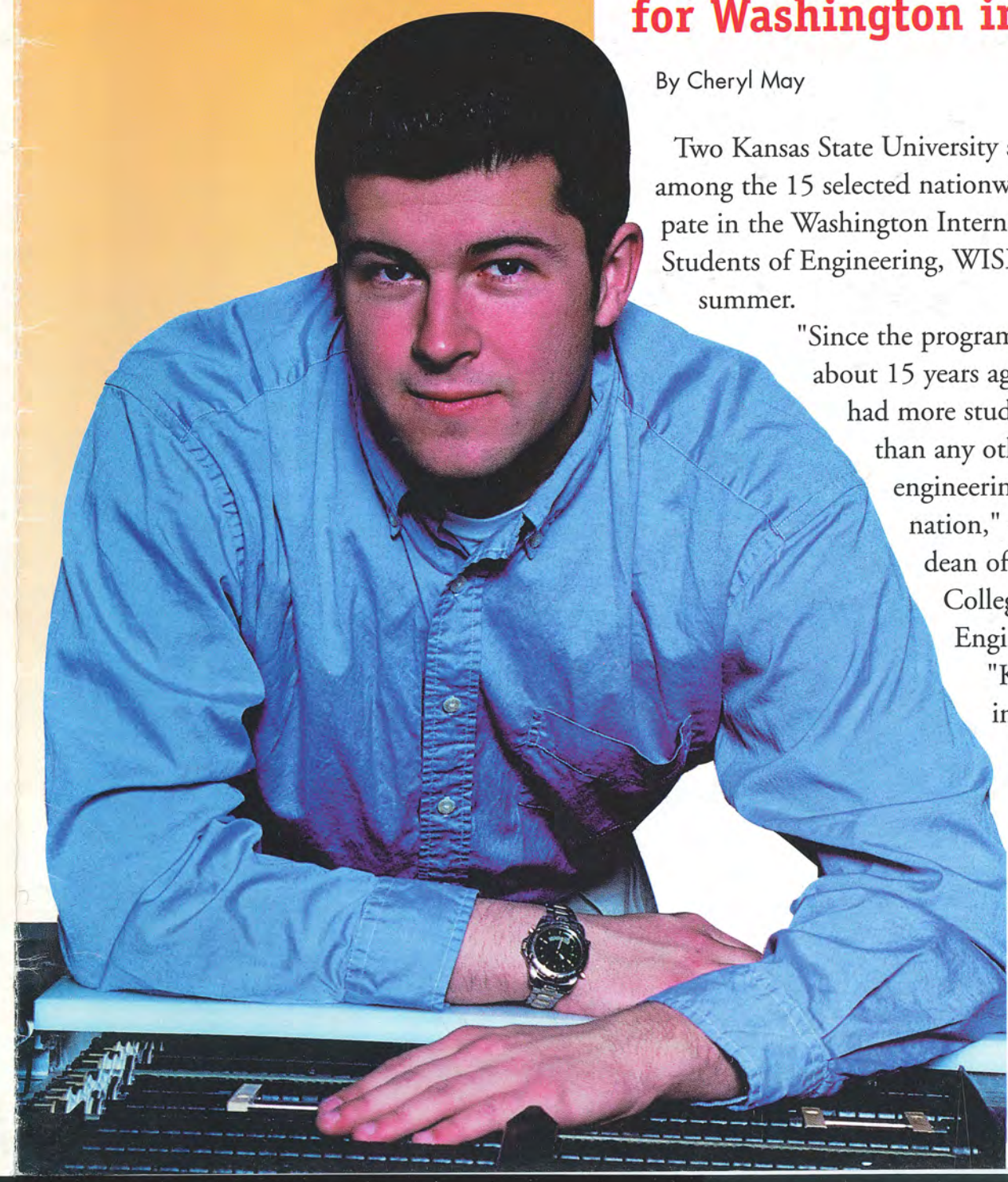
K-State students selected for Washington internships

By Cheryl May

Two Kansas State University students are among the 15 selected nationwide to participate in the Washington Internships for Students of Engineering, WISE, program this summer.

"Since the program's inception about 15 years ago, K-State has had more students participate than any other college of engineering in the nation," said Terry King, dean of the K-State College of Engineering. "K-State has dominated the field."

continued inside



Stephen Nicholls is one of this year's WISE recipients.

K-STATE ENGINEERING