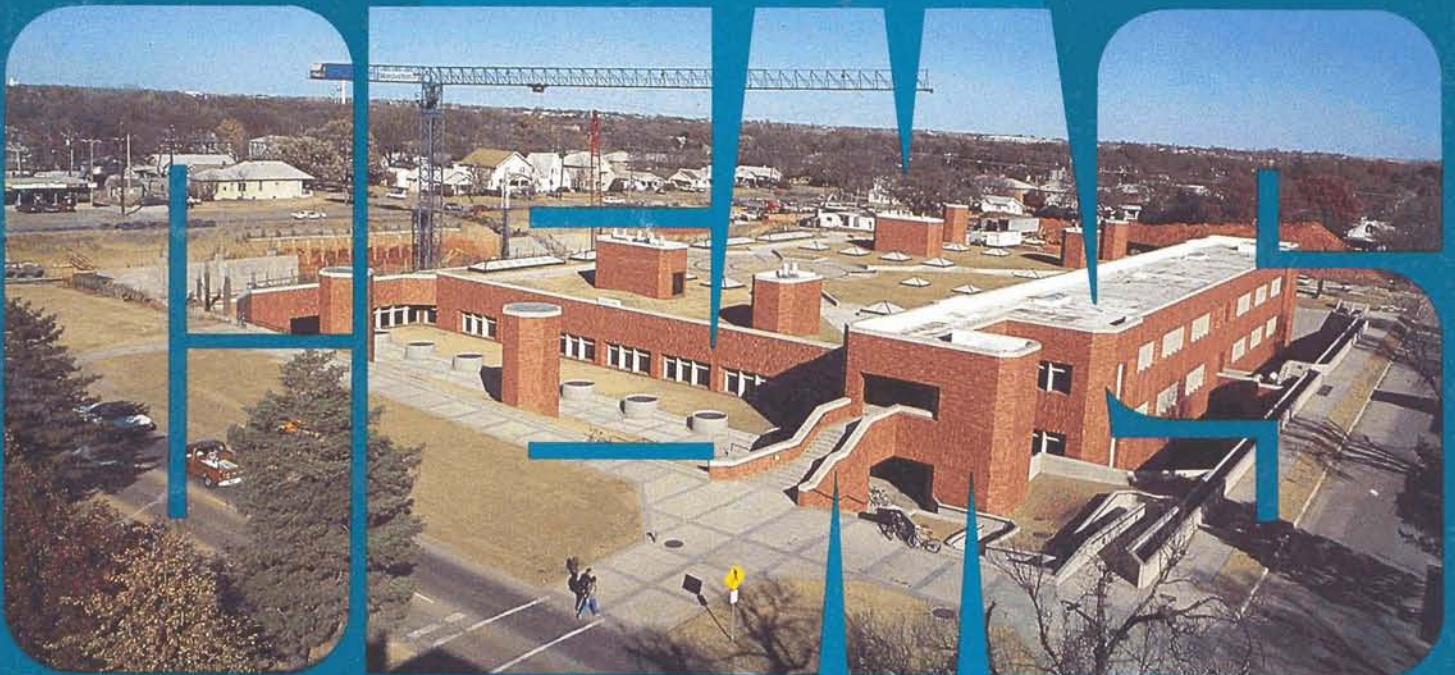


Winter 1986-1987

OKCHE

SCHOOL OF CHEMICAL ENGINEERING AND MATERIALS SCIENCE THE UNIVERSITY OF OKLAHOMA

THE UNIVERSITY OF OKLAHOMA'S ENERGY CENTER THE NEW HOME OF



Contents

Winter 1986-87

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- 2 Notes from the Director
- 2 OkChE Loses Founding Member Laurance S. Reid
- 3 Sliepcevich Receives Gas Industry Research Award
- 4 OU's World-Class Energy Center Now Open for Teaching and Research
- 10 CEMS to Host Colloid Symposium
- 10 Program of Excellence Scholarship Recipients and Sponsors 1986-87
- 10 New Endowment Matching Program
- 10 Pfund Participates in DOE Research
- 10 Sofer Moves to New Jersey
- 11 Alumni Updates
- 11 New Alumni 1985-86
- 12 Notes from the Chairman
- 12 1978-86 OkChE Funding Sources
- 12 OkChE Expenditures for 1985-86

Notes from the Director

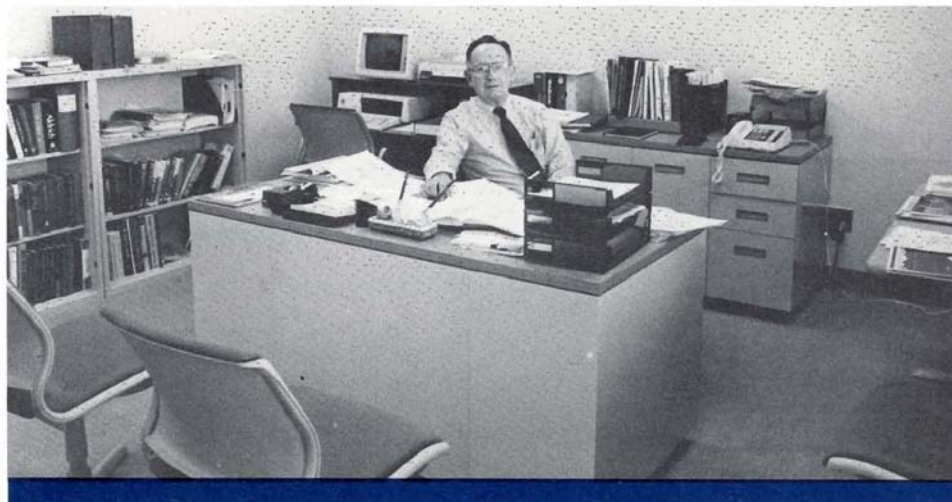
This issue of *OkChE* magazine features the Energy Center, the new home of the School of Chemical Engineering and Materials Science. This is the second major move for our department since I joined the OU faculty in 1958. It was in 1965 that we moved out of the old ChE Building on the alley behind the Field House into nice new facilities on the lower two floors of Carson Engineering Center. It was quite a step up in the quality of the space, but a number of the faculty regretted losing the identity of our own building. The old ChE Building is still there, but it is now used as a warehouse.

Our new facilities in the Energy Center are another step up from the facilities in Carson. We have gained only about 2,000 net square feet (from 22,000 to 24,000), but the new laboratories were designed by our present faculty and will better serve our needs for the next 20 years. Also, our office situation is much improved. All faculty members now have offices with windows. Whether or not this will increase productivity remains to be seen.

We want to extend a cordial invitation to all of our alumni friends to visit us in our new facilities. We have had a number of visitors on football Saturdays this fall, but we welcome you any time.

Many of you, at least those of you in Oklahoma, know of our state's budget problems. Our department is not unaffected. We have had our departmental budget reduced 7.8 percent from last academic year, and we are anticipating a further cut in midyear. With the departure of Professors Radovich, Locke, and Sofer, we have three fewer faculty than we did in 1984-85. We have had to cut one faculty position from our budget and reduce the funding in one of the remaining two vacant positions to accomplish the reduction.

On the positive side, however, is the continued good support that we are receiving from our alumni. Also, our faculty have been aggressive in seeking external funding for their research; so much so that for the past two years our expenditures for sponsored research



Professor Ray Daniels finds plenty of work space in the office of the director in OU's new Energy Center as well as plenty of natural light from the window-lined north wall overlooking the plaza.

have exceeded our state funding, and the difference is growing.

The department was saddened by the death of Professor Emeritus Laurance S. Reid in October. Bud was the major professor and faculty advisor to more than a generation of chemical engineering students. After his retirement in 1969 he continued to serve the univer-

sity as a founding board member of OkChE, and he remained active on the OkChE Board until just this past year when his health would no longer let him continue. We will miss him.

*Raymond D. Daniels
Professor and Interim Director*

OkChE Loses Founding Member Laurance S. Reid

The OkChE Foundation for Excellence has lost a charter member of the board, Honorary Director Laurance S. "Bud" Reid. The longtime OU professor of chemical and petroleum engineering died quite suddenly Oct. 11. Reid had just returned home from the hospital with his wife, Mary, and had been looking forward to watching the OU-Texas football game.

Reid had been actively involved in the OkChE Board since its foundation in 1969 and remained involved in the petroleum industry as a technical consultant and advisor until his death.

Reid was born in Iowa and reared in Fort Worth, Texas. He was educated at Rice and Iowa State University, receiving a chemical engineering degree from Iowa State in 1931. He earned his master's degree in petroleum engineering from OU in 1937, joining the engineering faculty in 1940, and taught until his retirement in 1969.



Laurance S. Reid

AGA Honors 'Father of LNG'

Sliepcevich Receives Gas Industry Research Award



Cheddy Sliepcevich

In 1970, in recognition of his outstanding technical contributions, Reid received the Hanlon Award of the Gas Processors Association, the highest honor in the gas processing industry.

Reid founded the OU Gas Conditioning Conference in 1951 and served as its chairman until recently. He also was associated for many years with the International School of Hydrocarbon Measurement, which has been held at OU since 1924. In 1981, this school established the Laurance Reid Award, which is presented annually to an engineer or scientist who has made significant contributions to the science of hydrocarbon measurement.

Reid was a member of the American Institute of Chemical Engineers and the Society of Petroleum Engineers. Honorary technical memberships included Sigma Xi, Tau Beta Pi, and Sigma Tau.

Reid's family has established the Laurance Reid Memorial Chemical Engineering Scholarship Fund. Contributions can be made to the OU Foundation, 100 Timberdell, The University of Oklahoma, Norman, Oklahoma 73019.

For pioneering research in liquefied natural gas technology, Professor Cedomir M. "Cheddy" Sliepcevich of CEMS has been given the 1986 Gas Industry Research Award.

Presented by the American Gas Association Operating Section and sponsored by Sprague Schlumberger, the award honors high scientific achievement in research representing a significant contribution to the gas industry technology of lasting benefit.

Sliepcevich is a George Lynn Cross research professor of chemical engineering and the director of OU's Flame Dynamics Laboratory. He was honored for "the importance of his contributions to the advancement of gas industry technology through pioneering research in liquefied natural gas technology and for fundamental research on improving the understanding of combustion and flame dynamics."

Also acknowledged was Sliepcevich's "prominent role in developing and implementing the first commercial process of liquefaction and ocean transport of liquefied natural gas that has become the basis for a multibillion dollar industry."

Headlines announcing his award in the AGA newsletter labeled Sliepcevich "the father of LNG technology."

He is the eighth recipient of the award since its inception in 1975.

Sliepcevich accepted the award, which consists of \$1,000 and a plaque, at the Operating Section luncheon during the AGA annual meeting Oct. 20 in Seattle.

In nominating Cheddy for the award OU engineering Associate Dean John Francis said, "One of the greatest attributes of Dr. Sliepcevich's research is that, while he attacks fundamental problems, practically all of his research has found industrial application.

"The scope of his research has been

broad, ranging from energy scattering and thermodynamics to desalinization studies," he added.

Sliepcevich joined OU in 1955 and has served as associate dean of the College of Engineering with responsibility for college research activities and graduate programs. He also has served as chairman of the schools of General Engineering and Chemical Engineering. The director of the Flame Dynamics Laboratory since 1963, Sliepcevich was named George Lynn Cross research professor that same year.

Before joining OU, he served on the faculty of the University of Michigan, where he earned his bachelor's, master's, and doctoral degrees in chemical engineering.

A registered professional engineer in Michigan and Oklahoma, Sliepcevich was honored as Engineer of the Year in 1973 by the Central Oklahoma Society of Professional Engineers. The following year, he was chosen as the national recipient of that title.

In 1974 he was inducted into the Oklahoma Hall of Fame, and in 1975 he received OU's highest honor, the Distinguished Service Citation.

Other honors include the Curtis McGraw Research Award in 1958 from the American Society of Engineering Education, the 1967 Sesquicentennial Award for distinguished alumni from the University of Michigan, and election to membership in 1972 to the National Academy of Engineering.

Sliepcevich, who has directed 52 doctoral students at OU and another 15 when he was at the University of Michigan, was presented the George Westinghouse Award in 1964 from the American Society for Engineering Education for distinguished contributions to the teaching of engineering students.

The author of more than 160 publications, he was presented the William H. Walker Award in 1978 by the American Institute of Chemical Engineers for excellence in contributions to chemical engineering literature.

New Home of CEMS

OU's World-Class Energy Center Now Open for Teaching and Research

We've moved!

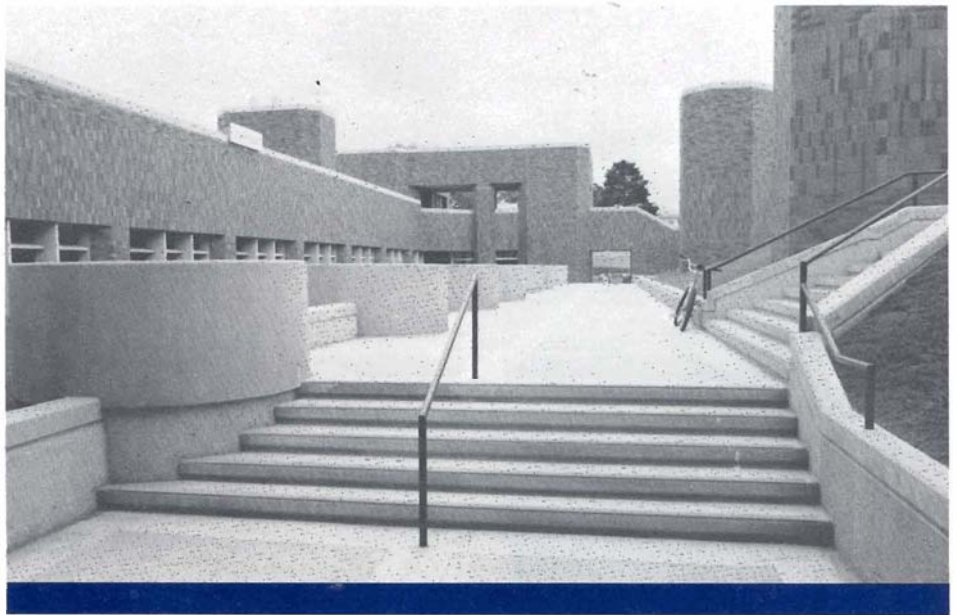
Where once was "that big hole in the ground," there now stands some 150,000 square feet of the University of Oklahoma Energy Center, in which the School of Chemical Engineering and Materials Science is making its new home.

Fully one half of the largest single construction project in the history of Oklahoma higher education has opened on schedule for use this fall by dozens of faculty and staff and hundreds of students.

"Opening of the first half of the OU Energy Center should give people in Oklahoma a feeling of accomplishment, for it demonstrates the state's willingness to confront and prepare for the future," said OU President Frank E. Horton, noting that "when times got rough for the energy industry, OU redoubled its commitment to this project."

"In just four short years, the University of Oklahoma will celebrate its centennial. By that time, the Energy Center will be recognized throughout America and the free world for the quality of its instruction, its innovative research projects, and its service to the energy industry. It will stand as a symbol of the progress, through research and service, that the faculty and staff of the University of Oklahoma can make as we move into our second hundred years and the 21st century," Horton said.

"The Energy Center is a product of the university's vision to build on its strengths and to be on the cutting edge of research so vital to the state of Oklahoma," Horton said. "Because the Energy Center programs are designed to focus on the challenges that face the energy industry, the university is well positioned to tackle the tough problems facing this nation's energy future and to help educate the men and women who will develop and use new energy technologies."



The Energy Center provides many convenient entrances such as this one along Jenkins Avenue. The round concrete planters will contain trees when the project site is fully landscaped. The chimneylike structures at right house air conditioning vents.



CEMS's new Plaza Level administrative offices offer a cheerful environment for both support staff and visitors. Secretary Polly Dvorak enjoys the space of the main reception area. Generous windows nurture both plants and frames of mind when the sun shines, but a hearty cup of coffee will help when it doesn't.

Unique Facilities

Harmon Construction Company, Inc., the general contractor for construction phases IIA, IIIA, and IIIB Alternate, completed the first half of the Center's two-story lab base, and the OU Board of Regents took delivery on June 12, 1986.

Even while boxes were being unpacked and lab experiments reconstructed after the move across Jenkins, cranes and bulldozers began again to create another huge excavation for the next phase of construction. The vast laboratory base of the structure will be completed by Manhattan Construction Company of Tulsa.

Though representing only half the planned structure, the completed section is big. Most of the 106 offices, 26 teaching laboratories, and 76 research laboratories—some 3.5 acres of space enclosed to date—sit underground creating an impression greatly understating the true scale of the building. It doesn't impose on its 7.7 acre tract, but reposes within it. It is not a grandiose design to impress the eye, but practical elements such as the many skylights, chimneys, and entries combine to create a functional beauty.

For the School of Chemical Engineering and Materials Science and the School of Petroleum and Geological Engineering, the completed section represents most of their allocated space within the multidisciplinary energy research and education center.

The two schools share the Plaza Level, a singularly narrow third floor running along the south side of the Center's base. CEMS's administrative offices occupy the east end of the level, and PGE's the west, with distinguished faculty offices and conference rooms between. The view from Plaza Level offices across the skylighted and chimneyed roof promises a splendid panorama of the planned tower.

The two schools dominate the Lab Level but share much of the lower level with the School of Geology and Geophysics and the dean and support staff of the College of Geosciences. Much of the new section will provide additional space for Geosciences and for Geology and Geophysics, as well as



This deep stairwell is but one of four along this Lab Level hall. Large skylights create a dramatic sense of space in this main avenue, allowing sunlight to penetrate the underground portion of the building.

provide space for the Department of Geography.

The tower will make available more space for them and for the School of Meteorology, as well as the offices of Science and Public Policy, the Oklahoma Climatological Survey, and the Energy Resources Institute.

All disciplines will benefit from the ongoing construction of the large Laurence S. Youngblood Energy Library as well as the construction of classrooms in the 80,000-square-foot section in progress.

When completed, more than half of the entire space will be in laboratories, numbering approximately 207, with 400 offices, 20 classrooms, and 10 photo labs.

The two massive floors of the Lower Level and Lab Level measure 414 feet by 360 feet and are mostly underground to take advantage of earth's natural insulating properties. The rest of the facility will reach 200 feet up in a 14-story (13 floors plus the plaza entry level) tower measuring 90 feet by 90 feet. It will be constructed of brick selected to match as closely as possible that used in OU's oldest campus buildings.

The \$18.9 million tower will be divided into three smaller phases that can be built as money is raised. (State law requires the money to be in hand before construction of a phase begins.) To date, just under \$9 million is still needed.

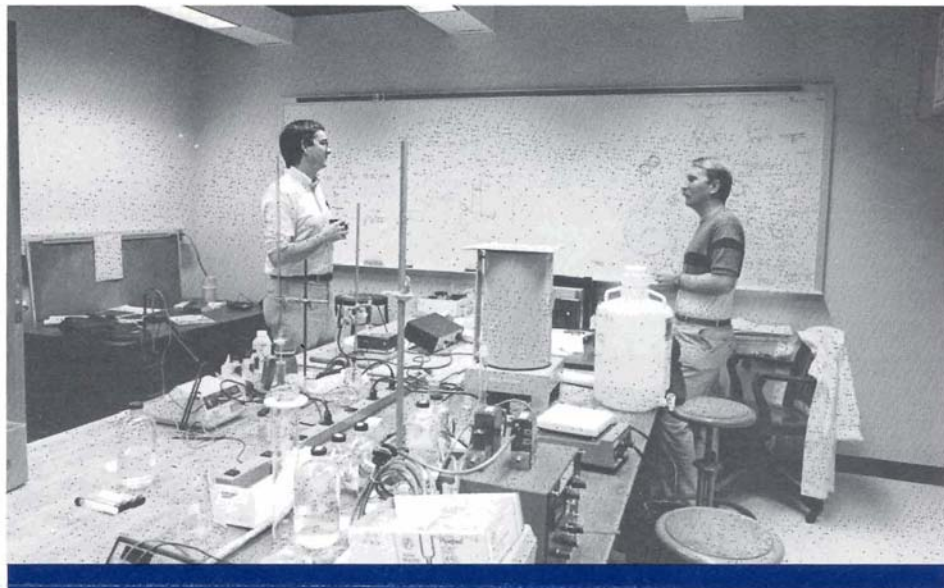
"It will operate on 50 to 65 percent of the amount of energy a conventional building of this scope would use, and we may do even better than that!" said Buford Duke, senior corporate vice president of the Benham Group, the project's architects.

The south face of the tower will become a passive solar collector, Duke explained. Double-paned glass, with three feet of air space between, will catch the rays of the sun in winter—when the sun is low in the sky—heating the air between the glass. The heated air will rise, where it will be collected at the top of the tower and pumped to heat the north side of the building.

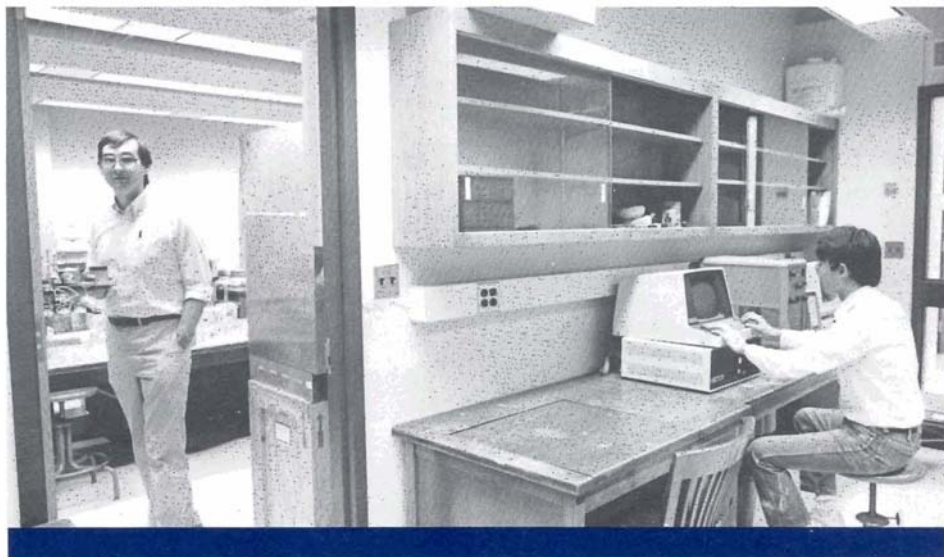
Further energy efficiency of the design is achieved with the overburden atop the laboratory base. The insulation of the soil and the trees and plants that will supply a beautifying effect for students and passers-by will also absorb much of the heat of the day and dissipate it during the cooling cycle of the night so that it never reaches the building.

Also among the Center's conservation tactics are "eyelidged" windows that will keep the summer sun from coming in and raising inside temperatures while allowing in the low winter sun to ease the heating burden. Skylighting provides free, natural light in place of the expensive, artificial alternative. Photocell controls will monitor lighting levels and shut off lights when enough daylight is provided.

In the completed section, some 169,000 bricks are already in use, as well as 52,000 concrete blocks, 13,700 cubic yards of concrete reinforced by over 600 miles of steel, 1,586 semitruck loads of gravel, 184 semitruck loads of concrete piping varying in diameter from 36 to 84 inches, 19 miles of conduit, 54 miles of electrical wiring, 3 miles of sewer waste lines, 10 miles of copper piping, ½ mile of rectangular



The majority of the Energy Center's vast space is in teaching and research laboratories such as this one. Dr. Jeffrey Harwell and graduate student David Steinhoff have made much use of the white board throughout discussions about experiments in the Thin Films Laboratory.

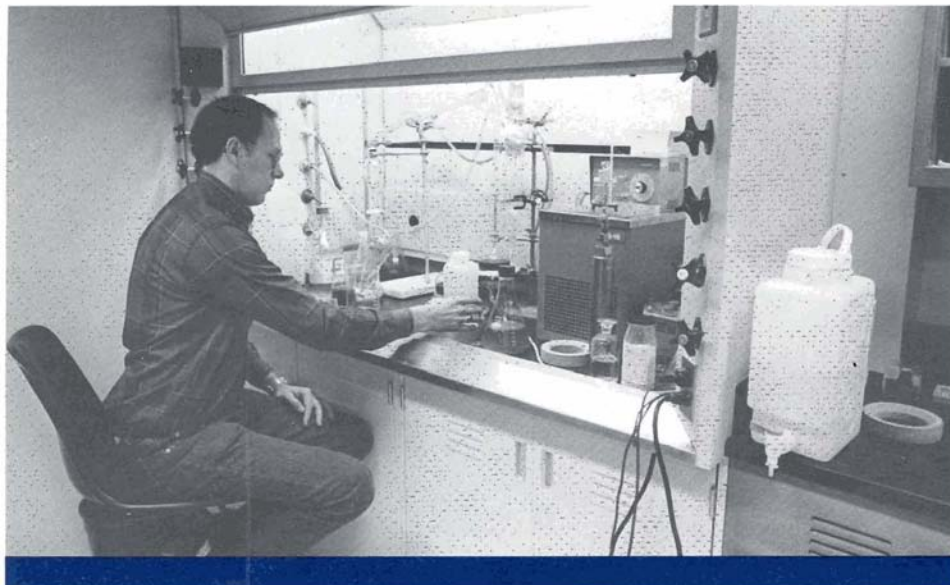


Prof. Harwell and the rest of the CEMS faculty were actively involved in the design of their lab space. Many of the labs are suites of rooms, allowing graduate student Jengue Wu to escape the noise of an active lab to crunch numbers on a computer in the next room.

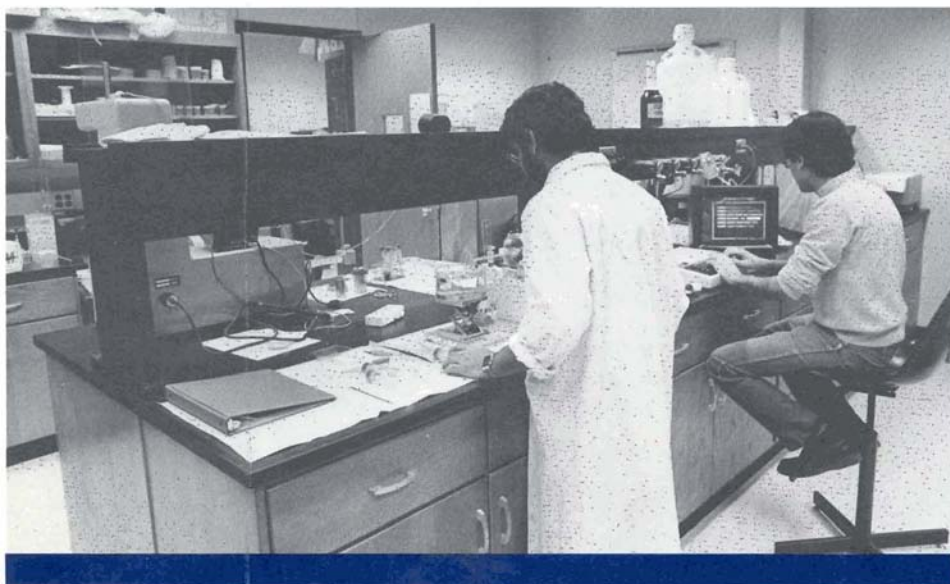
supply duct, ⅓ mile of round supply duct, 25 miles of pvc plastic control tubing, 3,000 light fixtures, 530 variable air volume boxes inside rooms, two 750-gallon hotwater heaters, and 4,000 cubic yards of topsoil—about 400 truckloads—on the roof for the Plaza Level overburden.

Important Research

Another perspective on the progress of the project can't be measured in square footage enclosed nor counted in bricks laid. As important as the physical facilities, are, and as much as they are in the public mind, it is research by which the Center will be judged, President Horton has said.



Vented hoods exhaust noxious fumes from labs, enabling researchers like graduate student David Baugh to work safely with dangerous materials. Each hood is served with steam, compressed air, distilled water, and gases provided centrally within the building. Sliding glass covers and electronic hazard sensors help create a safer research environment.



Notable among the Center's features are the many fine cabinets of durable oak supplied throughout the labs. Graduate students Venkat Puranapanda and Vinod Tuliani use a micro-computer-controlled device in Prof. Ed O'Rear's Biorheology Lab to measure red cell flow properties of blood.

"I think it is important to emphasize that the Energy Center is not only a building. It is also a set of academic programs. It is important to underscore that the core of the Energy Center is the academic programs that are in energy-related fields and the people in them," Horton said.

When construction is complete, money will be raised through OU's Campaign for Excellence for the planned endowment of \$20 million for the Center to establish chairs and/or professorships in energy-related fields. Nine endowed professorships have been created, and 14 others will be added.

The fund-raising drive for completion of the planned tower and for the endowment of expansive energy research continues, but with half the building up and operating, early evidence hints of successful realization of the concept of a center for consolidated energy research.

"The advances made in energy research and education since the Energy Center was conceived are in some ways more important than the building itself," Frank Horton said. "We are beginning to see individual programs grow and gain strength because of the Energy Center, and in turn they are strengthening it."

The promise of the Energy Center has been credited with helping Oklahoma attract a \$10 million Landsat receiving station, a project that will affect agricultural and energy industries, help protect natural resources, and assist in urban planning and transportation management.

Another direct spinoff of the Energy Center is OU's Weather Center, a consortium of university, federal, state, and private meteorological agencies that are developing a nationally distinguished program in atmosphere research and forecasting.

Further enhancing research capabilities at OU, Congress has approved \$3 million for initial funding to purchase the world's fastest super computer for the state of Oklahoma, which will be used to process data from LANDSAT and NEXRAD but will be available for use by faculty and students at OU. "It will allow our universities to attract and retain top-flight scientists and research monies in hydrology, energy, agriculture, weather, defense, and other areas," Oklahoma Senator Don Nickles announced Oct. 20.

Another development is OU's participation in an international research project with scientists from MIT; KFA Laboratory in West Germany; and Taiwan, Japan, and Canada, searching for innovative combinations of existing energy systems to ease the world's transition into a new energy era. In addition, OU faculty are working on problems associated with enhanced oil recovery, coal liquefaction, deep drilling, and groundwater protection.

The short-term focus for research at the Energy Center will be on hydrocarbon fuels since hydrocarbons are the source for about 90 percent of today's fuels and since, as a state institution, the Energy Center must remain conscious of the need to use resources that are primary to Oklahoma's economy and will be for years to come. Consequently, much research will be in the area of enhanced oil recovery.

Preliminary studies are being conducted for a multidisciplinary program dealing with the long-term potential for the recovery of deep natural gas. Leading the project is CEMS Professor Cedomir Sliepcevich, a member of the prestigious National Academy of Engineers.

Other areas of investigation will be photovoltaic solar energy, geothermal plants, conversion of decaying matter into methane gas, oil shale extraction, improving the safety and prolonging the life of oil-field equipment, and the use of microorganisms, perhaps artificial ones, in the oil fields.

Generous Gifts

When former OU President William S. Banowsky said "universities are for the ages," he may well have been talking about the Energy Center project in perspective, involving as it has the work of many people over a span of several years in a united effort to meet future generations' energy needs.

The Center has had a long, sometimes rocky history, but President Horton has said he was glad to inherit the project when he took over Sept. 11, 1985, three years to the day after the ground-breaking ceremony.

Generous pledges, including a \$30 million pledge from a Dallas oilman, came during the energy boom. "When the last brick has been laid, the last dollar will be paid!" said Banowsky on Jan. 18, 1984. But the boom went bust, along with the \$30 million pledge, and fund raising became a battle.

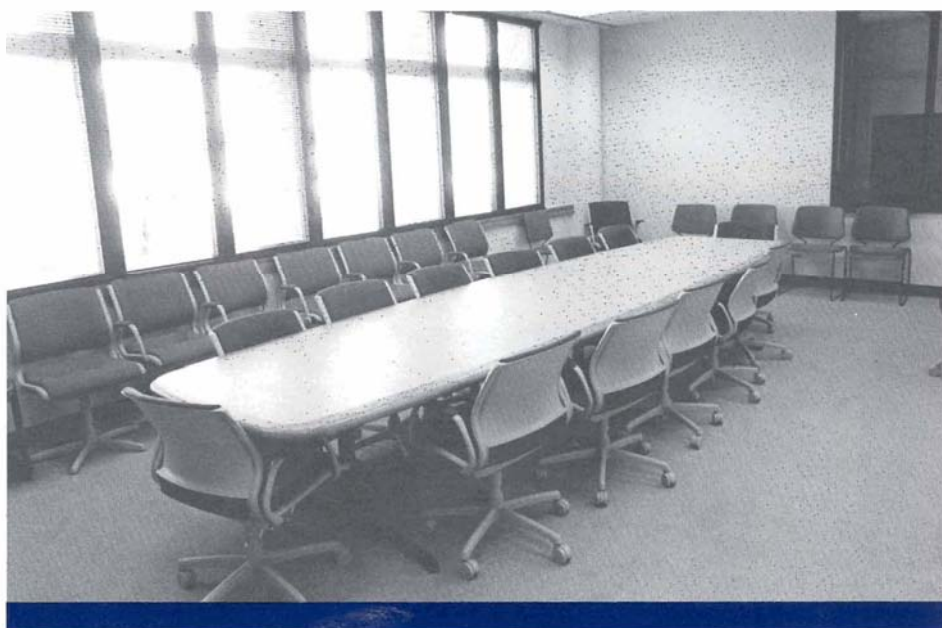
There was even some discussion of scaling down the project when Banowsky resigned, but during the term of former provost and Interim President J. R. Morris, ground was broken on schedule. Construction target dates continued to

be met under his administration and that of his successor, former engineering dean and Interim President Martin Jischke. OU's commitment to completion of the project is affirmed among Frank Horton's goals for the university's centennial.

David Burr, OU vice president of University Affairs, said his faith in the project has never wavered. "Fund raisers can't have doubts once they take on a project," he said. "The day you say to yourself this can be done there's no

Members, state, national, and international corporations have contributed toward construction, equipment, and endowment of the Center, endorsing it as an investment in their own corporate future by helping create a stronger work force and new technology that will pay dividends in the future.

As an Energy Center Founder in OU's Campaign for Excellence, Conoco Inc. gave \$500,000 toward construction of the Center in February 1986, one of the largest gifts the company has ever



One facility new to CEMS is the departmental conference room, which will have a perfect central view of the tower across the parklike roof of the Energy Center base. The room provides ready space for OkChE Board and faculty meetings as well as for seminars and presentations.

time for that. I haven't had any doubts."

Horton also expressed confidence that money could be raised to complete the Center. "I think the people in the state and the energy industry recognize the important role the Center can play," he said. "I think the support is there. We are going to do everything we can to garner it."

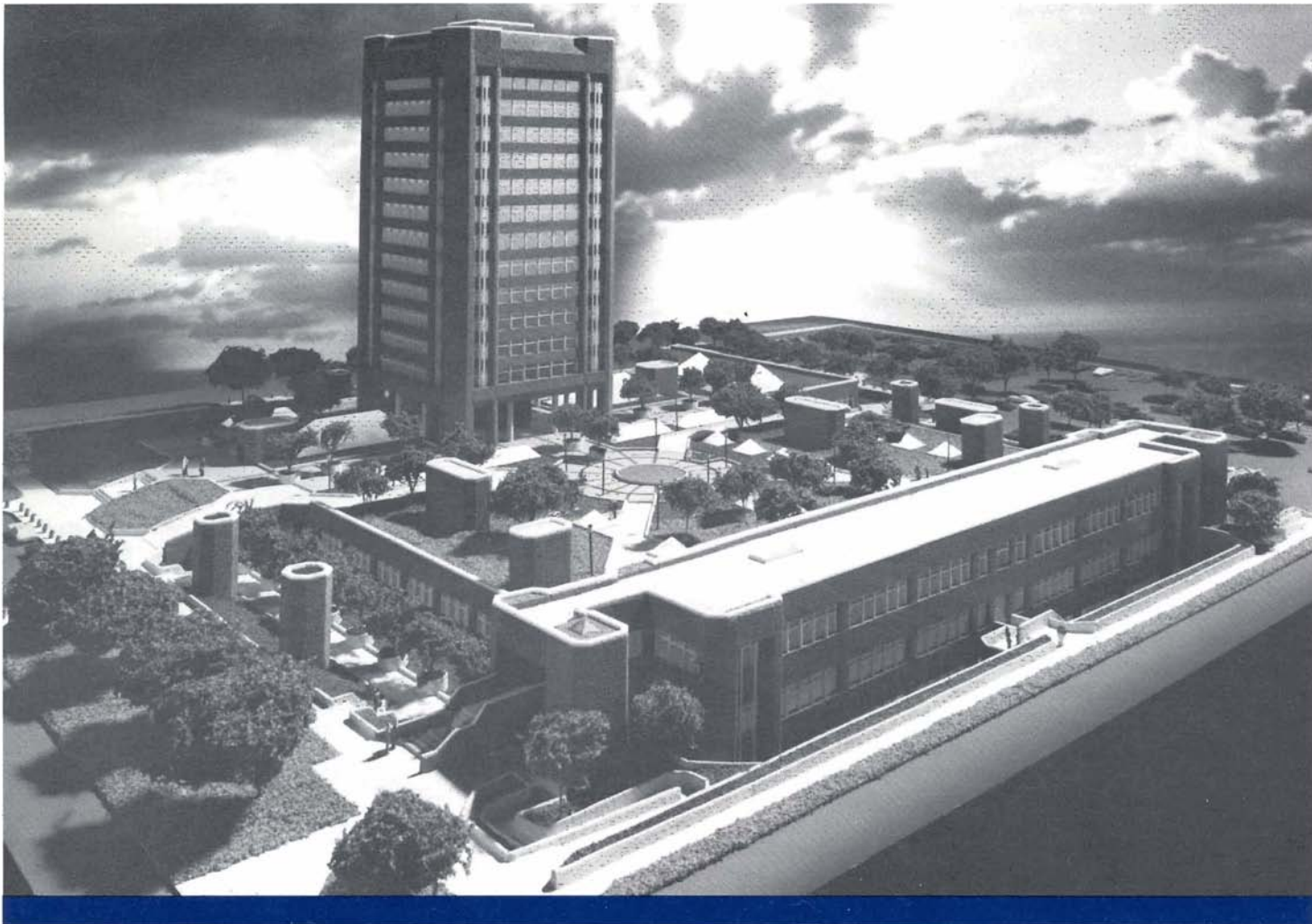
More than 150 Energy Center Founders contributed \$100,000 or more, three giving a million each, while 14 Charter Members gave \$50,000 or more.

Among the Founders and Charter

made to an institution of higher education.

"A strong university with excellent academic programs contributes greatly to the private sector," said Colbert Willhite, vice president for external affairs of Conoco. "We look to OU as a source of many of our future employees and believe the teaching and research done by OU and other universities are critical to the future development of science, engineering, and business professions.

"The OU Energy Center concept embodies an excellent academic tradition and holds the promise of providing first-rate educational opportunities to future generations," Willhite said.



The Benham Group's architectural model provides a realistic view of the Energy Center as it will be when completed. Though the single largest structure produced for Oklahoma higher education, the Center's vast spaces blend into the environment. More than half the total structure sits beneath 7.7 acres of trees and shrubs, adding both beauty and energy efficiency. The tower incorporates a solar heat collector through the whole south face. The remaining portion of the base currently under construction is scheduled for completion in 1988. The tower will follow in time for OU's Centennial.

Shell Oil donated \$950,000 for a computer-aided facility to examine seismographic data and develop three-dimensional pictures of underground reservoirs and other formations and aid underground explorations. Charles L. Blackburn, Shell executive vice president, said, "Those of us familiar with this project regard it as an investment for our industry." He said that through innovative programs and practical training, the Energy Center will affect the future of the oil industry throughout the free world.

Mobil Oil Co. gave \$500,000 for a thermodynamics lab, which will play a

major role in the generation of synthetic fuels.

Texaco gave \$200,000 for X-ray diffraction equipment, which will help geologists and physicists understand the atomic structure of rocks and other materials associated with hydrocarbons. Atlantic Richfield Co. gave \$100,000 for the development of a production lab, which will help improve the efficiency of lifting hydrocarbons and taking them to distilleries.

These corporations are but a few among the many who have shared resources to make the Energy Center project a reality.

The School of Chemical Engineering

and Materials Science gratefully acknowledges the many contributions toward the project, from those who proposed the plan to those who developed and administered it and to those who invested their time, money, and energy in the university's dream of establishing a world-class energy research center in support of one of our state's most important industries.

CEMS to Host Colloid Symposium

It was recently announced that the 65th Annual American Chemical Society Colloid and Surface Science Symposium will be hosted by the Institute for Applied Surfactant Research at OU. Six to eight hundred participants are expected to attend the conference to be held in 1991.

The long lead time is evidence of both the prestige in hosting the event and the necessary planning for it. OU's

contributions to work in the colloid area helped obtain the conference for OU.

The formation of the Institute for Applied Surfactant Research and participation of five OU faculty with eight papers at the recent 60th Annual symposium in Atlanta, Ga., are evidence of OU's growing importance in the field.

New Endowment Matching Program

During the summer, Kenneth Hoving, vice provost for research administration and dean of the Graduate College, announced a new endowment matching program to be provided by the state of Oklahoma.

Though the details of the agreement remain to be worked out, the state has agreed to match 2-to-1 every dollar of interest earned from new endowments to the university in targeted areas.

Consequently, named professorships and chairs can be arranged for less funding than was previously required. Those interested in the program should contact Dean Hoving for further information.

Sofer Moves to New Jersey

In July, Professor Sam Sofer accepted a position at the New Jersey Institute of Technology (NJIT) in Newark. While missing his friends at OU, he continues to work with some Oklahoma colleagues in control and biomedical applications.

Sofer joined CEMS in 1974. He was promoted rapidly to full professor and later served as the director of the department. The faculty and staff of CEMS wish him well at NJIT.

Pfund Participates in DOE Research

CEMS graduate student David M. Pfund, a chemical engineering major from Norman, was one of 74 students participating in the Student Research Participation Program sponsored by the Office of Energy Research of the U.S. Department of Energy last summer.

Participating at Oak Ridge National Laboratory, Oakridge, Tenn., David developed a project involving calculation of fugacities in supercritical mixtures.

The 10-week appointment provided David an opportunity to experience the realistic work environment with DOE and DOE contractor staff, using state-of-the-art energy technologies to develop skills and knowledge.

Since 1958 more than 2,000 of the country's brightest students have participated in the SRP program, which is managed by the Oakridge Associated Universities' University Programs Division.

Selection for the SRP program is competitive and open to college students who have completed their junior year and have the potential for a successful scientific career.

The SRP program is one of many providing undergraduate, graduate, and postdoctoral students as well as faculty opportunities for active participation in energy production, utilization, and conservation research through DOE national laboratories.

Program of Excellence Scholarship Recipients and Sponsors 1986-87

Atlantic-Richfield Co.

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Jana Armstrong

Celanese Chemical Co.

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Proctor & Gamble

Derek Gregory
Jill Hall
Murray Hamilton
Bradley Harris
Barry Penney

F. Mark Townsend Scholarship

Astrid Bottomley

Alumni Updates

Ron Armstrong (BSChE '82) was on campus to meet with seniors for Conoco. Ron is now in Houston with the chemical and refining division of Conoco. He enjoys his job and spending time with his two children.

Longtime friend and alumnus **Dick Askew** (BSChE '47; MSChE '48) was on campus for the Energy Center Founders Day celebration. The festivities included presentations and a tour of the Energy Center prior to the OU-Minnesota football game.

Daryl Bitting (BSChE '83, MSChE '85) and his wife, Tami, stopped by for a visit on a recent trip to Oklahoma. He is working with Texas Eastman in Longview, Texas, on startup of butyric and valeric acid units. Tami is commuting to UT-Tyler to finish her studies on her physical education degree. They enjoy playing mixed doubles tennis in their spare time.

Alumna **Laurinda Crow** (BSChE '85) returned to campus for homecoming and toured the Energy Center before the game. Laurinda, a production engineer with Travenol, supervises the manufacture of an antibiotic drug delivery system. She lives in Mountain Home, Ark., and is fond of the rustic house with a loft that she rents.

Chris Harvey (BS Meteorology '81, MSChE '85) and his wife, Julie, recently celebrated the birth of their first

child, a boy. They live in Lake Charles, La., where Chris works with Conoco.

Jimmy Ivie (BSChE '84) is continuing his graduate studies in chemical engineering at Georgia Tech. This summer he presented a paper at the 60th Colloid and Surface Science Symposium in Atlanta on "Synthesis of Carbon Black by Benzene Pyrolysis," coauthored with Professor L.J. Forney.

Yen Khuong (BSChE '86) is working as a pilot plant engineer for Texas Eastman in an amorphous polyolefins unit. She enjoys her work and playing her upright Yamaha piano.

Joe King (BS MetE '74; MS MetE '84, PhD '85), a popular graduate teaching assistant and doctoral student, has accepted an offer to join the engineering faculty at Harvey Mudd College in Claremont, Calif. He completed his dissertation entitled "Hydrogen-Induced Dislocation Motion and Generation" under the direction of Bob Block. Joe, with help from his wife, Beverly, had his first child, son Adam Joseph. Congratulations, Joe!

Reggie Westmacott (BSChE '82) was graduated in June from medical school at the OU Health Sciences Center. He and his wife, Francine, have moved to Denver where Reggie accepted a residency in urology with the University of Colorado Affiliate Hospitals.

Odie Yoesting (MSChE '85) is employed with Texas Instruments in Dallas. He is working on the development of radar systems.

New Alumni 1985-86

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

John Barton	Scott Marsh
John Boyd, Jr.	John Martin
Cheryl Breece	Kent Narup
Nic Cordum	Sharon Patterson
Laurinda Crow	Thomas Pattillo
Robert Dew	Mark Pittman
Paul Duncan	Mary Ramos
James Ferguson	Thomas Richardson
Raymond Floyd	Steven Rickey
Atilla Foroughirad	Ashok Shah
Michael Fox	Iyad Shanaa
Nancy Gullickson	Barry Sierra
Kyle Hart	Carol Smith
Laurie Huebner	Michael Spradlin
Randall Hulvey	Ngoc-Chau Thi Thai
Lindsey Kasdorf	Larry Tillson
Yen Khuong	Seema Vad
Kenneth King	Barbara Walker
Richard Krenek II	Katherine Washer
	Billie Kae Winter

MASTER OF SCIENCE IN CHEMICAL ENGINEERING

Daryl Bitting	I-der Lee
Mark Boren	Virginia Luster
Carl Camp	Sesha Narayanan
Russ Davidson	Cuong Nguyen
Lane Gibbs	Ronald Rauniker
James Giguere	Bruce Roberts
Mark Hill	Pankaj Shah
Dermot Kerin	Sadasivan Shankar
Mark Langenberg	Chiu Kwan So
Churl Hee Lee	Stan Yunker

DOCTOR OF PHILOSOPHY IN CHEMICAL ENGINEERING

Anis Fakeeha
Mahboobul Mannan

BACHELOR OF SCIENCE IN METALLURGICAL ENGINEERING

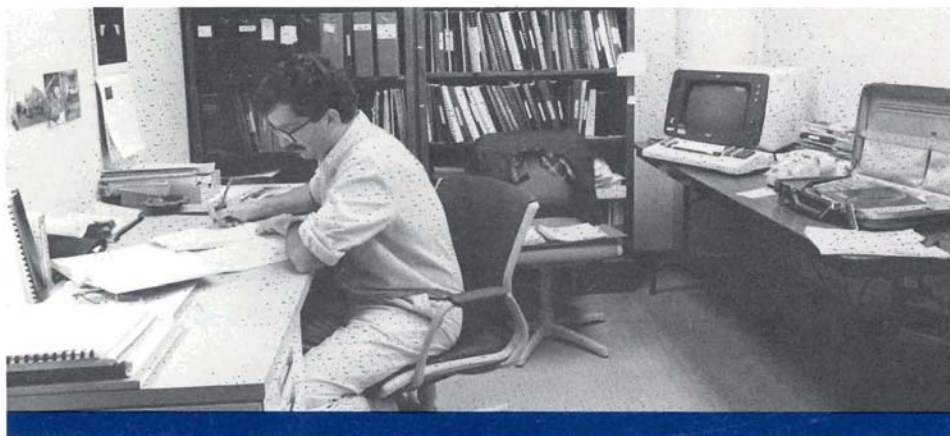
Doug McClure
Duy T. Nguyen

MASTER OF SCIENCE IN METALLURGICAL ENGINEERING

Carol St. John
Michelle Simmons

DOCTOR OF PHILOSOPHY IN METALLURGICAL ENGINEERING

Kevin Kennelley



Jeffrey L. Savage (MSChE '83, PhDChE '85) was among the first to occupy the Energy Center, holding open house and celebrating with a fine cigar while the rest packed to move. Jeff recently accepted a position as project engineer in thermodynamics at the Gas Research Institute in Chicago. He had worked with Prof. Ken Starling since his graduation on a GRI project concerning supercompressibility factors for natural gas.

Notes from the Chairman

The OkChE Board had its fall meeting on September 19. The highlight was to meet in the new offices of CEMS in the Energy Center and to tour the new facilities. Without question, the Energy Center provides the most modern and safe environment for laboratory activities.

The board welcomed two new members, K. C. Purgason of Warren/Chevron and Gary A. Kilpatrick of Phillips Petroleum Co. We are fortunate to have these gentlemen set aside time from their busy schedules to help us in our efforts for OkChE.

Since our board meeting, we have lost a charter member of the OkChE Board. Laurance S. Reid died October 11. Bud Reid has been the real stalwart of this board over these past 17 years and was always ready to participate in whatever was needed to strengthen OkChE.

The major portion of our meeting was devoted to discussion of the present status of OkChE and the College of Engineering. The loss of our director and

the dean, along with the financial cutbacks, has caused a slowdown of activities while awaiting the appointment of a permanent director and dean.

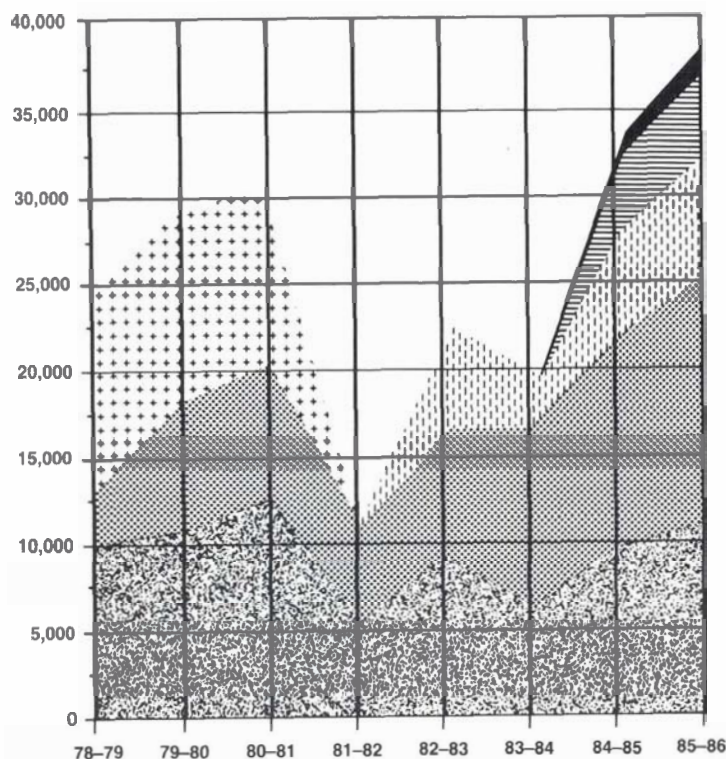
The grant for the Charles Perry Gaseous Fuels Laboratory was reviewed, and it was noted that almost \$200,000 has been pledged. The board was informed that an existing building on the north campus now used by the School of Aerospace, Mechanical, and Nuclear Engineering will be made available for the Gaseous Fuels Laboratory. This action means that the Gaseous Fuels Laboratory will be ready some 1½ to 2 years ahead of schedule.

Our board meeting closed with a reception for the Program of Excellence students and the Student Advisory Committee. The board looks forward to meeting and renewing acquaintances with the students. It was most encouraging to hear from the students that companies are coming on campus for interviews and especially that there is an indication the demand for chemical engineers is up.

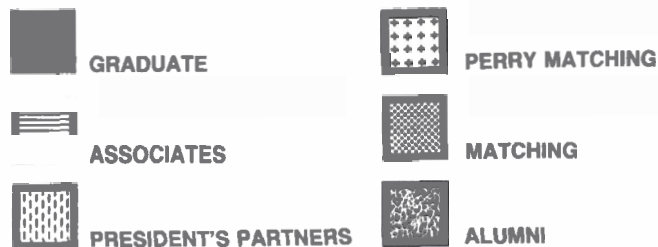
Ed C. Lindenberg
Chairman, OkChE Board of Directors



Within days of the opening of the Energy Center, Manhattan Construction Co. assembled this huge crane flying the OU and Oklahoma flags and set to work on the next phase of construction, the completion of the laboratory base.



1978-86 OkChE Funding Sources



OkChE Expenditures for 1985-86

Magazines	\$ 7,295.28
Scholarships	12,775.00
Laboratory Equipment	293.57
Perry Building—Fund Raising	664.90
Student Activities	1,940.60
Board Meeting Expenses	633.46
OkChE Secretarial Support	6,510.40
	\$30,113.21