

Spring 1982

OKC HE

SCHOOL OF CHEMICAL ENGINEERING AND MATERIALS SCIENCE THE UNIVERSITY OF OKLAHOMA



**CEMS Students
Are First-Rate**
(see stories beginning page 2)

Dear Alumni:

CEMS is alive, well, and thriving! One good reason for our healthy condition is the fine support OkChE members have given to us over the years. Last year we received \$30,813 from alumni, company matching funds, and the Charles Perry Challenge Grant. In addition, we received substantial help from the university for laboratory equipment, new faculty seed grants, and support for special faculty projects.

The OkChE funds have been invaluable to us because they have allowed us to support about 20 to 25 Program of Excellence Scholarships. The students who received these funds continue to stimulate us and amaze the rest of the university. We are infamous on campus because of our present number of excellent students, and we are continuing to attract superior incoming freshmen.

I have just looked at the ACT scores of the high school seniors applying for Program of Excellence Scholarships for next year. In that group of 73, 24 have composite ACT scores of 30 or greater (only one percent of all students in the U.S. scored that high). In addition, four have a perfect 36 on the math section. The university has chosen 25 of our applicants for university-wide freshman scholarships. Four of these 25 who received university scholarships were selected for the Boyd Gunning Scholarships. The university gives only 10 of these four-year scholarships, which pay \$1,500 per year, to the entire class. Your continued support of this scholarship program is greatly needed and deeply appreciated.

As this issue goes to press, we are continuing to recruit new faculty. We have an opportunity to hire some more excellent people. More about this will appear in the next issue of *OkChE* magazine. In addition, Professor Radovich received word he will receive the DELOS Award given by the American Society for Engineering Education in recognition of his work in the Unit Operations Laboratory. OkChE had a hand in that by providing funds for equipment.

We are also in the midst of planning a move to the new \$45 million Energy Center Building, which will be completed by 1985. We will give you more information on that as well in the next issue.

We are extremely optimistic about the future at OU. Keep up with us through these magazines.

Sincerely yours,

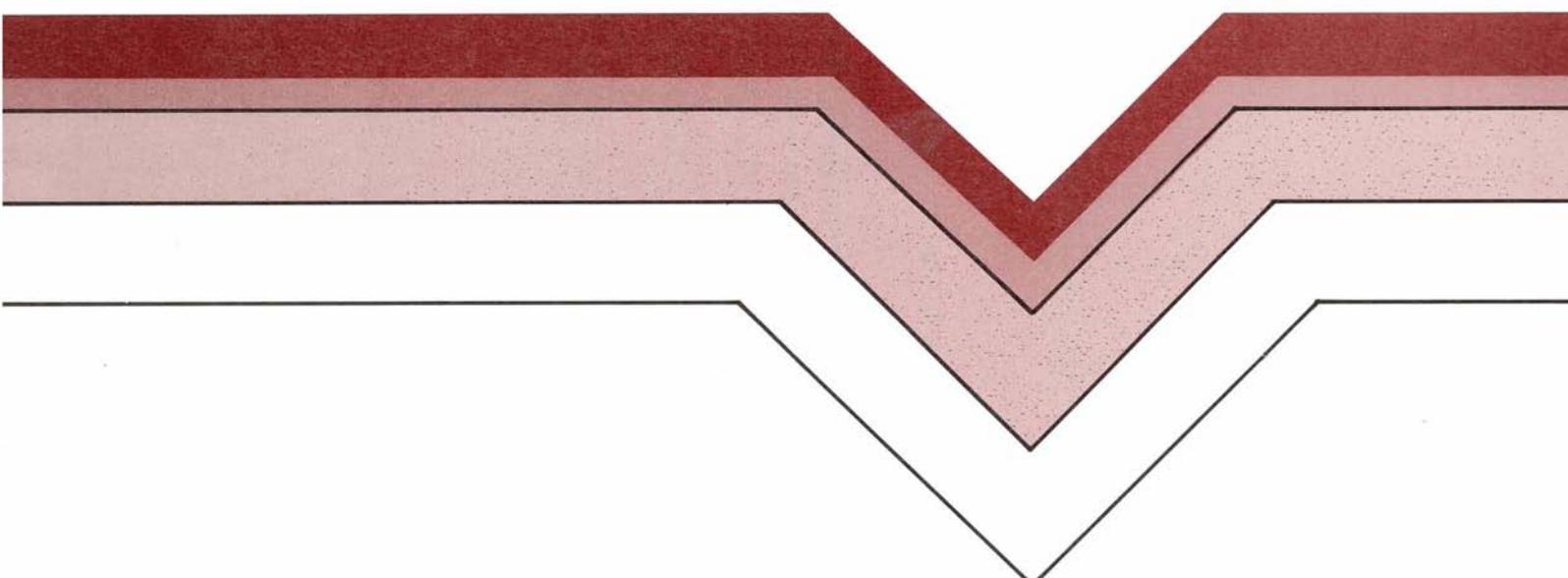
A handwritten signature in cursive script that reads "Carl E. Locke". The signature is written in dark ink and is positioned above the printed name and title.

Carl E. Locke
Director

Contents

Spring, 1982

- 2 Our Super Seniors: The Class of '82
- 3 A Look at the Senior Design Projects
- 6 OU Senior to Earn Two Degrees at Age 20
- 7 CEMS Freshmen Are Outstanding Too
- 8 Summer Undergraduate Research Program
- 10 Minority Student Summer Research Scholarship
- 11 Joint Boards of Directors Fall Meeting
- 13 New Faculty Support
- 14 Gulf Gives \$150,000
- 14 Eighth Annual Harry G. Fair Lecture
- 15 Charles Perry, Distinguished Alumnus
- 16 Alumni Notes



Our Super Seniors: The Class of '82

We have a truly outstanding group of chemical engineering seniors this year. One engineer from industry recently reported that his company was thoroughly amazed at the quality of the students as reflected in their on-campus interviews. Companies are extremely anxious to have the opportunity to employ some of these excellent students. The CEMS faculty is also very impressed with the quality of work these students have displayed throughout their four years here.

All this could have been predicted from scores on the ACT tests taken in their high school senior year. As an example, the average ACT score for all senior chemical engineering students is 27.5. This puts them in the 92nd percentile of all students enrolled in public PhD-level colleges. The Class of '82 on the average ranks in the top seven percent of all students in the United States.

The numbers are even more impressive for the Program of Excellence Scholars. Their average ACT score is 29, which places them in the 96th percentile. Two of these students made a perfect 36 on the mathematics portion of the test. Eight of the 17 senior scholars have a composite ACT of 30 or above. This score is representative of the top one percent of all students in the country.

Many of the senior students have also had engineering-related job experience. Seventy percent of the class has spent at least one summer in chemical engineering work.



About two-thirds of these students worked for oil and gas companies. Others worked for chemical and pharmaceutical companies, paper manufacturers, consulting firms, and the government. Over half of these students were employed for two or more summers at their jobs.

The students have worked in a wide variety of jobs. More than half of them have done process engineering work. They have done this work in petroleum refineries, gas processing plants, and chemical plants. Many have gained practical experience as roustabouts in the oil field. On the other hand, just as many have worked in research and development. Some of the more diverse work has been in economic forecasting, enhanced recovery, alternate energy sources, and biomedical applications.

Fifteen students have been involved in research projects with faculty during the school year. Most of this work was done voluntarily. They have worked on biomedical and kinetics projects with Dr. Sam Sofer, corrosion studies with Dr. Carl Locke, thermodynamic correlations with Dr. Kenneth Starling, and biomass conversion with Dr. Abraham Matthews.

We are proud of these students! Our hope is they will continue to do well and make an impact across the nation in graduate schools and industry.

A Look at the Senior Design Projects

Advanced Process Design is a course that seniors normally take in their last semester at OU. Teamwork is essential to engineering, and the senior design class gives students the opportunity to work together on projects of their choice.

The reports developed in the class often require monumental effort, but in the end they are worthwhile particularly because of the confidence students gain after defending their work before all who may have questions. (Examinations are open.)

The class atmosphere is kept as close as possible to what engineers

would experience in industry. Students quickly develop independence, and in time they begin to look and sound more like engineers than students.

Normally each project group consists of an average of five students. This year's class already had experience in fall semester projects in reaction kinetics. Students were more organized than usual and accustomed to working in groups; therefore, participating in groups averaging ten students per group did not seem like an unreasonable arrangement—just a challenging one.

The goal of the class has been to study in detail the six projects described on the following pages, plus two others—formaldehyde by methanol oxidation and ethanol from biomass by fermentation.

We hope that by developing fluency in eight different process designs students may be able to do a more professional job on their ninth project—the one they must do for industry when they get out!

Irises Limited

Irises Limited decided to select a process design for the treatment of heavy oils. Currently there is a lot of interest and need for getting the most out of the "bottom of the barrel." We have considered the residuum oil super-critical extraction process (ROSE), a propane de-asphalter process, and several catalytic processes that are described in the literature.

Because of savings in utility costs and capital investments as well as technical flexibility, we have chosen the ROSE process as an add-on to existing plants and refineries. Our intention is to produce various products, evaluate flexibility and considerations of scale-up, and compare with existing and competing catalytic processes.



Irises left to right: Brad Blevins, Tim Proffitt, Duc Nguyen, Mark Lewis, Orlando Diaz, Alex Dibe, Bob Dunn, Rick Cary, Tom Green.

Leftovers

Market forecasts for methanol as an industrial chemical indicate an increase in demand for the next several years. On the basis of information from several process technologies, our group, Leftovers, will design a Lurgi low-pressure process to convert natural gas, steam, and carbon dioxide to methanol.

It is our intention to perform a comparative technical and economic assessment of the various technologies, including marketing and financial aspects, along with scale-up considerations.



Leftovers left to right: Yadolla Montazer, Taleb Hallal, Todd Rushton, Giang Vu, Reggie Westmacott, Jorge Gomez. Not shown: Dat Dao, Jill Peterson, Maria Palacios.

Chemical Engineering Design

CED will design a desulfurization and demetalization unit to process heavy crudes. This technology is becoming increasingly important as crude oil quality declines due to the Saudi Arabian change from the production of light crude to heavy crude and the increased production of heavy crude oil from Mexico and Venezuela.

CED will design a unit based on a capacity of 30 thousand barrels per day crude with an API gravity of 17.5, a sulfur content of two to four weight percent, and a metals content of 98 parts per million. The product stream will be 28,500 barrels of processed oil with a sulfur content of less than 0.5 weight percent and a metals content of 20 parts per million.



CED left to right: Jon Voller, Don Powers, Tami Liddell, Joe Bohanon, Ron Armstrong, Laura Southard, Randy Reese. Not shown: Brian Fritzler, Diane Tucei.



IDC left to right: Gary Cartwright, Gretchen Matthern, Mary Sedlacek, Karen Dougherty, Pat Dillon. Not shown: Johnny Riter, Lin Allen, Randy Millier, Phil Winters.

Innovative Design Corporation

Our group is interested in converting hydrogen sulphide, an important pollutant in the natural gas industry, into the useful products sulphur and hydrogen gas. The hydrogen sulphide will be removed from natural gas using a selexol-like process and will subsequently be processed in a reactor to give hydrogen and sulphur.

This is an intriguing alternative to the manufacture of sulphur alone, and it is our intent to determine whether or not such a process is indeed competitive. We will consider several process configurations, emphasizing marketing, sizing, pollution control, and technical feasibility.



Paper Chase left to right: Frank Eaton, Lester Landis Jr., Brian VanderHeyden. Not shown: Clay Burkholder, Daria Di Scipio, Miya Linsenmeyer, Chan Tran, Kelsey Staton, Larry Harris, Steve Reber.

Paper Chase

The design project for the group, Paper Chase, will focus on the thermal conversion of cellulose wastes into heat and fuel. These wastes are found in abundance in the business districts of all major cities. With the current lack of land for the expansion of landfills and the increased price of energy, solutions not feasible in the past are becoming realistic alternatives.

Our intent is to design a plant for the disposal of the paper generated in an average metropolitan area. Oklahoma City has been chosen as the location of the study. There are five major processes for the conversion of wastes: the Lantz Converter, the Union Carbide Refuse Converter, the Battelle Pyrolizer, the Garrett Pyrolysis Process, and the Monsanto Langard System. Paper Chase will consider marketing, financing, and process variables in the sizing and optimization of the final design.

Hocus Pocus

The project for the group, Hocus Pocus Design, involves the synthesis of gasoline from coal feedstock. Coal is an abundant natural resource in the United States, and even with the current slowdown in gasoline consumption, a great deal of oil is being imported into the United States.

Our intent is to consider a conceptual design on the basis of seven separate process configurations. Various economic and technically critical perimeters will be studied. Included will be various resources for power supply, local as well as global optimizations, financial data, and market outlook.



Hocus Pocus left to right: Ema Ogoro, Bruce Stevens, Jeff Savidge, Victor Owens, Mary Justice, Bill Terrell, Sudhakar Potdar. Not shown: Tina Hopper, Brooks Kirlin, Joseph Zakaria.

OU Senior to Earn Two Degrees at Age 20

She didn't play with a slide rule as a little girl. But, University of Oklahoma senior Laura Brinson Southard says with a laugh, "When I played school, I probably lined my dolls up and taught them to add."

Southard, at age 20, will be graduated from OU in May with two bachelor of science degrees—one in chemical engineering and the other in math.

The average university student attains one college diploma by about age 22. But, Southard is not your average student.

A graduate of Ponca City Senior High School at age 16, Southard entered OU shortly after her 17th birthday and "tested out" of more than 40 hours of coursework. At the end of her first semester, she had earned 60 college credit hours, making her the equivalent of a college junior.

Laura credits her mother and two older brothers—all math majors in college—with nurturing her love for learning and for math. "My mother taught me that math could be fun and easy and not scary."

Her brother, Dick, who has a master's degree in computer science as well as a bachelor of science degree in math from OU, now works in Houston, Texas. Her other brother, Don, is head of the computer department at Oscar Rose Junior College in Midwest City.

"When I was pretty small, they'd come home from school and be excited about what they'd learned and tell me about it," Southard said.

They also taught her to read before she entered elementary school. Then, she said, "I had a wonderful first-grade teacher, Mrs. Flora Boyd, who worked with me."

It was in high school that she took the first chemistry courses which were to fire her interest in that area. She decided to study chemical engineering in college and chose OU because she received a scholarship there and knew of the good reputation of the College of Engineering.

It wasn't until she had earned so many credit hours of advanced standing that she felt two degrees would not be out of her reach.



Laura Brinson Southard

"To get my degree in math, which is in the College of Arts and Sciences, I tried to plan it so my electives for one degree were requirements for the other degree," said the senior who carries a 3.9 grade point average.

A University Scholar as a freshman, Southard has attended college on a number of academic scholarships. She has received a four-year scholarship from the department of chemical engineering, the Harriett Harvey Memorial Scholarship, the Rita Lottinville Award, and currently is attending school on a \$2,250 Schlumberger scholarship as the outstanding engineering senior.

In addition, Southard received a four-year scholarship given by Conoco Inc. to children of employees.

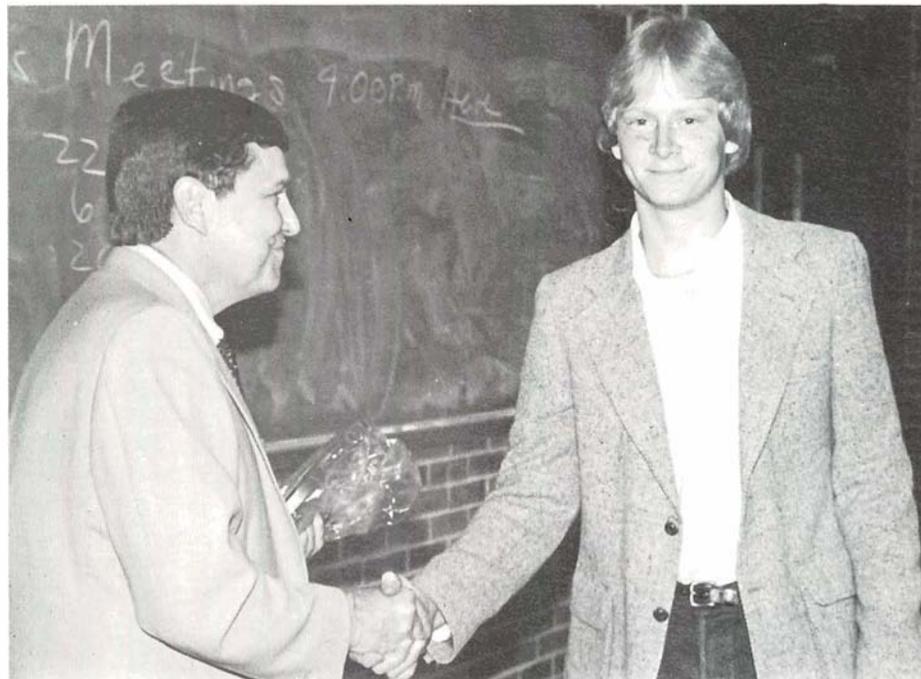
Besides her more academic pursuits, Southard enjoys playing the saxophone, an instrument she began studying in the fifth grade. She played for two and a half years with the University Jazz Ensemble.

Her father is employed with Conoco as an audio visual coordinator, and her mother—after a more than 20-year break to raise her children—works as a computer technician there.

Southard's husband since July 25, Mark Southard, is also working for Conoco in Ponca City. Mark, 23, received his master's degree in chemical engineering from OU last summer.

After her graduation, Laura plans to join her husband and parents when she, too, takes a job with Conoco. She has worked for Conoco for the past three summers and is on a "leave of absence" now to complete her studies.

CEMS Freshmen Are Outstanding Too



Provost J. R. Morris congratulates Sam Little for outstanding achievement during his freshman year.

Sam Little of Norman, a sophomore in chemical engineering, was one of two University of Oklahoma students honored as Outstanding University Scholars from last year's University Scholars class. Provost J. R. Morris presented a plaque and \$50 check to him in recognition of his excellent work.

University Scholars are chosen from top high school students who have demonstrated outstanding performance and academic promise. Little maintained a perfect 4.0 grade point average during his freshman year at OU. He also received the outstanding freshman mathematics award and the Celanese Award as the outstanding freshman in chemical engineering.

Listed on both the president's and dean's honor rolls, he had earned 56 college credit hours, including 11 hours of advanced standing, by the end of his freshman year.

He is a member of the Engineering Club, the American Institute of Chemical Engineering, and the Pre-Medical Professions Club. Little also plays intramural softball and works as a grader for the mathematics department at OU and for Southwest Resource Engineering. He is doing laboratory research on ethanol with Sam Sofer, professor of chemical engineering.

Summer Undergraduate Research Program

The School of Chemical Engineering and Materials Science participated in a new program last summer directed toward the recruitment of new graduate students.

Dr. Kenneth Hoving, dean of the Graduate College, instituted this program in which the Graduate College provided funds to aid departments and schools in recruiting graduate students from outside their own undergraduate programs. Three of the four CEMS participants were required to be from other schools.

We proposed to recruit students majoring in chemistry at other Oklahoma colleges and universities for this summer program. Our purpose was to inform these students about our master's program for chemists

with a bachelor's degree. We have been successful in the past few years in attracting some excellent students into this program, but this is the first time we recruited in an organized way.

The following four students agreed to spend the summer with us working in the research laboratories: John Brots, Cameron University; Mary Cooke, Southeastern Oklahoma State University; John Goobeck, Cameron University; and Margaret Horne, East Central Oklahoma State University.

In addition to their research work, each student made a presentation at a seminar attended by graduate students and faculty. They also each submitted a report of their work done during the summer.

We think this program was very beneficial to CEMS as well as to the students. They added a new dimension to the laboratories and appear to be good prospects for future graduate students. We hope to continue this program next summer.

A brief summary of each student's experiences is given below:

John Brots

John worked in Professor Carl Locke's laboratory under the supervision of post-doctoral fellow Changiz Dehghanian. John worked on a project to fabricate some mercury-mercury oxide reference electrodes that could be embedded in portland cement.

John has applied for graduate school and is planning to enroll in the chemical engineering program for BS chemists in the summer of 1982.

Here is the abstract of his report last summer:

Mercury-mercury oxide reference electrodes are often used for making single electrode potential measurements on alkaline solutions. The mercury-mercury oxide reference electrodes have the greatest stability of all the metal-metal oxide electrodes. These mercury-mercury oxide electrodes worked excellently in alkaline solutions. However, once these electrodes were embedded in concrete they lost their moisture and deteriorated. These electrodes were no longer of any use in the measuring of the corrosion process of concrete.

This report presents a proposal for a different mixture of the ingredients used in making the mercury-mercury oxide reference electrode which may enhance its lifetime in portland cement. It will also include the construction and testing methods for the mercury-mercury oxide reference electrodes.





Mary E. Cooke

Mary worked in Professor John (Jay) Radovich's laboratory on an electroultrafiltration project. She did some background and experimental design for this project which concerned removal of polyethylene glycol from albumin by electroultrafiltration. The introduction to her final report is given below:

Albumin is a plasma protein used in component blood therapy where a particular blood constituent is used in treating specific physiological deficiencies. One technique for isolating plasma proteins is precipitation using polyethylene glycol (PEG). The albumin fraction is thus contaminated with PEG requiring subsequent removal of PEG.

Ultrafiltration is one method for removal that has been used in separation processes on the basis of molecular size.

A drawback in the use of ultrafiltration is a build-up on the membrane caused by a concentration of high molecular solutes. A modification step in dealing with this phenomenon is applying an electric field through the membrane cell.

The use of electroultrafiltration in removing PEG has been the basis of my summer research project. This report contains background information on plasma separation, PEG as a precipitant, methods of removing PEG, and the use of electroultrafiltration in separating PEG from albumin.

Mary stated in her cover letter, "I've truly enjoyed working at OU this summer. Everyone has been very kind and helpful. It has given me a chance to look at what graduate studies will be like and to see the type of program OU offers. I'm sure this experience will be helpful as I return to school this fall and as I further my education process."



Margaret Horne

Margaret worked with Professor Kenneth Starling's group on a literature search and data compilation project. She worked closely with several graduate and undergraduate students on this project. The abstract of her final report is presented here:

This report contains a summary of the work I have done since entering the undergraduate research program eight weeks ago. My assignment was to work on a literature search for data dealing with the viscosity of mixtures. In addition to this, my immediate supervisor, M. Ajlan, has taught me some basics dealing with Fortran computer programming.

She stated in her cover letter, "I appreciate your allowing me to be a part of this program. I found this experience to be not only enlightening but enjoyable as well. The faculty and students were both friendly and helpful. I am looking forward to going back to Ada and putting some of my new-found knowledge to use."

Foundation to help obtain an interactive computation facility for CEMS.

Bill Saxon, of Saxon Oil, gave the University of Oklahoma \$30 million for the Energy Center. This money, in addition to money provided by the state and other donors, will result in an endowed chair or professorship for CEMS.

We have submitted a proposal to AMOCO Foundation for a new faculty grant, which will be \$20,000 per year for three years.

OkChE Giving, Expenditures, Plans

Ken Starling gave a report on the expenditures for 1980-81 OkChE funds. Giving for the past year totaled \$30,813, the largest sum ever.

The major uses of OkChE funds during the past year were for undergraduate scholarships, continued upgrading of the Unit Operations Laboratory, special student projects, and student travel to pro-

fessional meetings. The continuation of the use of OkChE funds for these student-oriented projects was approved by the OkChE board.

Foundation for Excellence

An examination of Foundation for Excellence activities for the past year showed that little was done toward fund raising or further organization of this foundation. We considered two possible projects that the Foundation for Excellence might assume. One was to fund a chair or professorship. We noted that the university requires \$350,000 to endow a professorship and \$750,000 to endow a chair.

In addition, we talked about the possibility of a project to raise funds and challenge the university for a laboratory building on South Campus. This building could be used for the flame dynamics work that Professor Sliepcevich is doing at this time and the gas-treating experimentation program that Professor Radovich has going.

No decision was made about these projects, but both seem to be the kinds of activities that the Foundation for Excellence could consider.

We discussed the way in which the foundation should be organized in relationship to the OU Foundation. Charles Perry suggested that the Foundation for Excellence should be organized within the OU Foundation so that the latter could invest and administer the funds.

The Foundation for Excellence should have a separate board of directors made up of donors to the foundation and include as ex-officio members the chairman of CEMS, the dean of engineering, a representative from the University Affairs office, and the provost. The board would control the investment policy. The expenditures would be at the sole discretion of the board. Any unexpended funds would stay with the corpus, and we would expect a quarterly report from the OU Foundation on the status of the investments.

Townsend Scholarship

We met with the scholarship students at a reception at the end of the afternoon. During the reception, the students made a presentation of a plaque to Professor Townsend and named the Townsend Scholarship recipient for next year. The board approved making the F. M. Townsend Scholarship a permanent scholarship in the amount of \$600 per year. The first recipient to receive the honor was Tami Liddell.



Tami Liddell is the first recipient of the F. M. Townsend Scholarship. Dr. Townsend was on hand for the presentation and was honored with a plaque from CEMS students.

New Faculty Support

Industry has begun to provide support to engineering education through several programs which will supplement and assist new faculty in beginning their research programs.

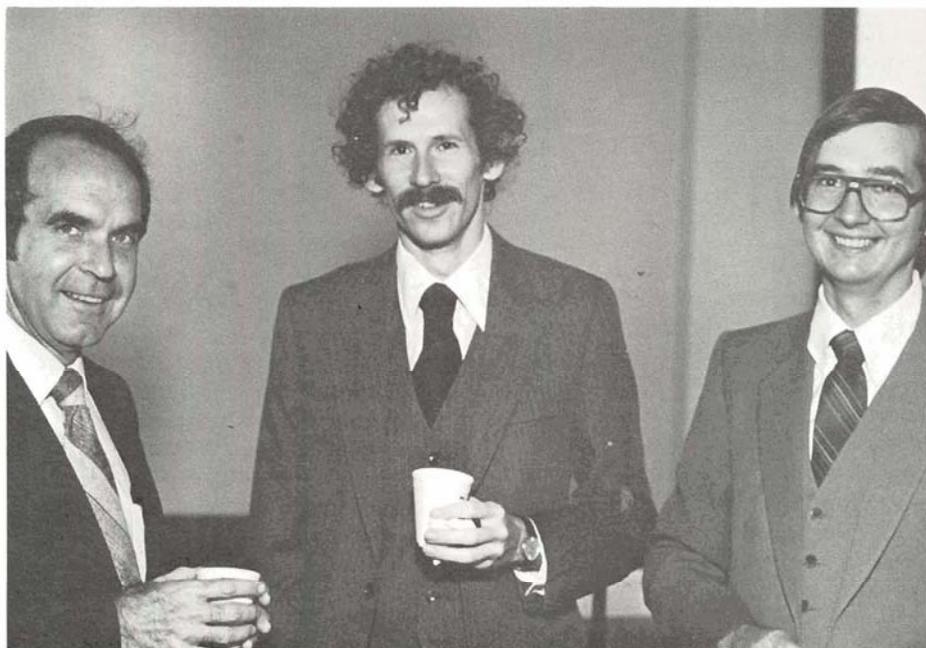
Exxon Corporation initiated the most dramatic program of this nature yet when it announced in September the creation of 100 Exxon faculty assistance grants and 100 Exxon teaching fellowships.

The School of Chemical Engineering and Materials Science received one of the Exxon faculty assistance grants which consists of \$100,000 paid in five equal installments of \$20,000. The grant is for recruitment, retention, and development of faculty. The funds may be used as salary supplement to attract new junior faculty members who are just completing their doctorates, for summer salaries, or as supplement for base salaries of current faculty members. The intended beneficiaries are the junior non-tenured members of the faculty.

We plan to use these grants initially to support our new faculty. The grants will allow them to spend their summer setting up laboratories and beginning research programs. Their alternatives are teaching or obtaining summer jobs outside the university.

We are very appreciative of this kind of help because it allows faculty members to get started in a productive manner. We intend to use this grant in our recruiting program for other new faculty members as they each begin their research programs.

In addition to this program, the Dow Chemical Company Foundation has awarded CEMS a five-year grant consisting of \$6,000 per year with an additional \$2,000 in discretionary funds. Our plans are to use

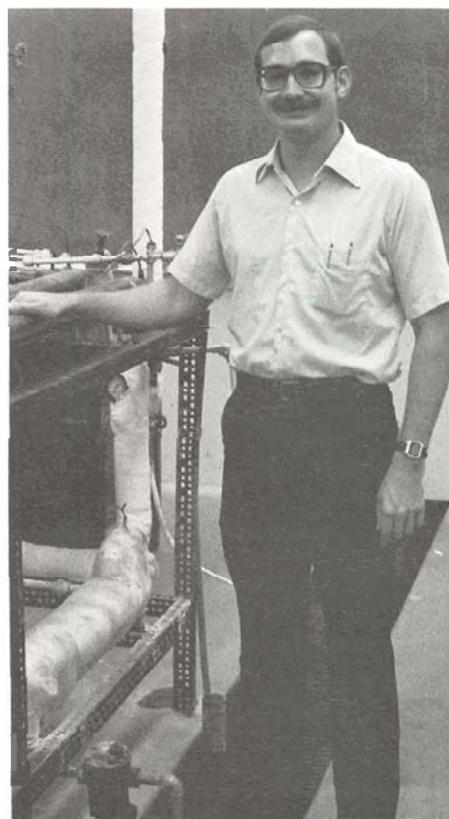


CEMS Director Carl Locke with new faculty who will receive support funds—Ed O'Rear, Jeff Harwell, and John Scamehorn (pictured below).

this initial \$8,000 in the same manner as we use the Exxon funds—for summer salary support. The Dow funding will be reviewed each year, and Dow says we can expect a possible increase.

Besides these two programs for which we have received commitments, the Amoco Foundation has initiated a program to provide \$20,000 a year for three years to be used in a similar manner to the other programs. Our proposal for this year was not approved, but with Amoco's encouragement, we will reapply next year. The increase from 15 to 26 participating universities will improve our chances of receiving one of these grants at that time.

CEMS is excited about participating in these grant programs. They allow us to continue our success in recruiting good faculty members and permit them to find their own success in research.



Gulf Gives \$150,000

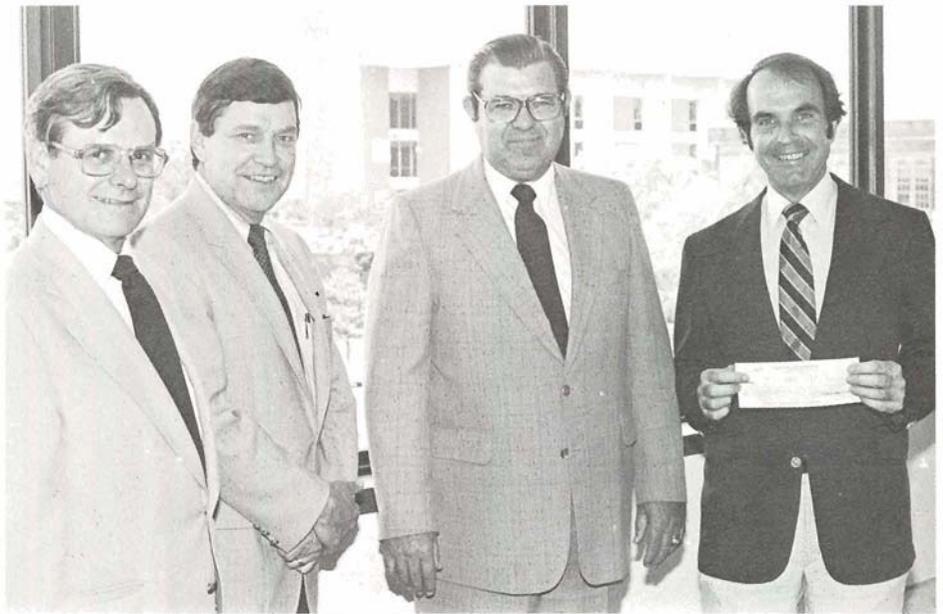
A \$150,000 gift by Gulf Oil Foundation to assist in the purchase of an interactive computer will help the University of Oklahoma School of Chemical Engineering and Materials Science remain one of the finest undergraduate programs in the country.

Officials of Warren Petroleum Co. in Tulsa, a division of Gulf Oil Corp., visited the OU campus last summer to present the first of three \$50,000 installments to the school's Director Carl E. Locke and Norman campus Provost J. R. Morris. Representing Warren Petroleum were K. C. Purgason, vice president for manufacturing, and Ray Canfield, director of employment and personnel administration.

The OU School of Chemical Engineering and Materials Science, which was ranked fifth in the nation in a 1976 study of graduate and research program effectiveness, is striving to have the finest undergraduate chemical engineering program in the country, Locke explained. To complement its program, the school needs facilities similar to those encountered in industry. An interactive computer system with enough terminals for students to have almost immediate access to the system is a top priority.

The Gulf gift, which will be presented in annual payments through 1983, will make it possible for the school to purchase a computer system. Such systems range in price from \$150,000 to \$400,000, and any additional funds needed by the OU school will be sought from within and outside the university.

"Interactive computer services dominate the world of engineering practice and business," Locke said. "We have recognized a critical need for widely available, real time, interactive computational capabilities to support the educational and research programs of our students and faculty."



The \$150,000 gift from Gulf Oil Foundation was announced by Ray Canfield (left) and K. C. Purgason (second from right), officials of Warren Petroleum Company in Tulsa, a division of Gulf. Also meeting with the Gulf representatives was OU Provost J. R. Morris and Dr. Carl Locke, who holds the check!

Eighth Annual Harry G. Fair Lecture

The eighth annual Harry G. Fair Lecture was held April 16, 1982, on the OU campus. Lynn T. Reed, director of environmental affairs for Warren Petroleum Company in Tulsa, Oklahoma, was selected as the guest speaker for the lecture.

She joined Warren Petroleum Company in September 1977 as an environmental engineer. Prior to employment with Warren, she was plant engineer with the El Paso Products Company at their Olefin Plant.

Lynn is chairman of Subcommittee No. 7 of the Gas Processors Association Governmental Relations Committee. She represents Warren Petroleum Company on the Indian Nation's Council of Governments. Lynn is also a member of the Air Pollution Control Association and participates in Gulf's Vital Sources Speakers Bureau. She is a member of Tau Beta Pi.

Lynn and her husband, George, live in Tulsa and enjoy dirt biking



Lynn T. Reed

and four-wheeling.

Each year, this special lecture is given in memory of Harry G. Fair, an outstanding OU alumnus. Harry

G. Fair was born in Okmulgee, Oklahoma, on June 3, 1916. He attended Okmulgee Junior College before entering the University of Oklahoma, where he received the BS degree in chemical engineering in 1939.

Harry Fair joined the Phillips Petroleum Company following his graduation and worked his way up to the position of vice president for supply and transportation and concurrently president of Phillips Pipeline Company, with responsibility for worldwide exchange of crude oil and all transportation facilities.

He joined Coastal States Gas Corporation in 1971 as president, the position he held at the time of his death on July 27, 1974. Harry Fair was a member of a number of professional societies and was a licensed professional engineer.

The Harry G. Fair Memorial Lectures were established to provide an opportunity for CEMS students to

interact with top-level leadership from the management of engineering-oriented corporations.

Harry G. Fair recognized the need to relate the seeming complexity of corporate enterprises to the technical training of an engineer and had expressed the wish to spend some of his time after retirement exploring these issues with future engineers and their teachers.

His death at age 58 prevented him from carrying out this wish, but through Mrs. Fair's contribution of the Harry G. Fair Memorial Fund, Harry Fair's wish is being carried out.

We have been proud to have the following Harry G. Fair lecturers in the past:

1981—Robert S. Purgason
Manager of Operations for
Perry Gas Processors, Inc.
Odessa, Texas

1980—A. B. (Pete) Slaybaugh
Vice President of Conoco Inc.
Denver, Colorado

1979—Charles Perry
President, Perry Gas Processors Inc.
Odessa, Texas

1978—Raymond Lowe
E.I. du Pont de Nemours & Company
Vice President of the Elastomer Chemicals Dept.

1977—Laurance Reid
Chairman, Ball-Reid Engineers Inc.
Chairman, OU Gas Conditioning Conference
Chairman, International School of Hydrocarbon Measurement

1976—Harry Blomquist Jr.
President of Coastal States Gas Corporation
Houston, Texas

1975—Stanley Learned
Former President of Phillips Petroleum Co.

Charles Perry, Distinguished Alumnus



Charles R. Perry

Charles R. Perry has made remarkable contributions to the University of Oklahoma, the natural gas processing industry, and his community—Odessa, Texas.

As a 1951 graduate of the University of Oklahoma with a BS in chemical engineering, he has been

especially generous to the School of Chemical Engineering and Materials Science over the past 10 years. He has served on the board of directors of OkChE, our alumni support group, since it was organized. In each of the past four years, he has provided a major impetus for donations from alumni by instituting the Charles Perry Challenge Grant.

He challenged the alumni to give, by matching their contributions on a dollar-for-dollar basis up to \$10,000 total. Contributions went from under \$5,000 to \$20,000 during the first year of the grant. In 1979–1980, contributions totaled almost \$30,000. This increase in support has allowed the department to offer undergraduate scholarships to an additional 10 to 15 students per year and to equip a badly needed unit operations laboratory.

Charles Perry's moral support by working on the OkChE Board of directors has been as important as his monetary contributions. He has attended all of the meetings of the board and has provided substantial

leadership. He was also heavily responsible for organizing the Foundation for Excellence to encourage support for the School of Chemical Engineering and Materials Science. This foundation is still in a formative stage but has great potential for support of major projects.

Charles Perry delivered the sixth annual Harry G. Fair Lecture to our students and faculty. His presentation and advice, which demonstrated his integrity and basic motivation, were an inspiration to all who attended.

Charles Perry has also proved his desire to support the university as a whole by becoming a University Associate and a founder of the Energy Center.

Charles founded and until 1982 was chairman of the board and chief executive officer of Perry Gas Companies, which recently merged with Parker Drilling Corporation. His business acumen allowed him to build a multimillion-dollar enterprise from a \$2,500 cash investment in about 10 years. He received the

Silver Bar Award in Ector County in recognition of this demonstration of free enterprise.

He has provided the natural gas business with a much needed gas-processing service. He has five patents and 12 publications in this area. He is active in the Gas Processors Association and has made important contributions to this organization. He has also actively supported the Gas Conditioning Conference, which is held at OCCE in Norman, by serving on its advisory board.

Charles Perry has been active in other professional organizations such as the American Institute of Chemical Engineers and Natural Gas Men. He is also a registered professional engineer in Texas, having been honored by the Permian Basin Chapter of the Texas Society of Professional Engineers as Engineer of the Year in 1968.

Charles has been extremely active and supportive of many institutions in Odessa, Texas. His biographical information lists participation in charitable groups such as the Salvation Army, Clover House of Odessa, Girls Club of Odessa, United Way, and the Planned Parenthood Association of Ector County. He has been president of several of these organizations.

In addition, he is serving on the boards of the University of Texas Permian Basin Development and the Colorado River Municipal Water District. He is past president of the Odessa College Board of Regents.

It is obvious that Charles Perry is one of the leaders in the community of Odessa, which has benefited greatly by his work and service.

Charles Perry is truly one of the outstanding graduates of the University of Oklahoma. He continues to serve the university, the gas industry, and his community in an excellent manner. The School of Chemical Engineering and Materials Science considers Charles Perry to be a particularly distinguished alumnus. We are proud of Charles

Perry's accomplishments and honored by his contributions to the school and the university.

Alumni Notes

Let us know where you are and what you are doing. Please fill out one of the enclosed information cards and send it to us. We will publish the information in our next issue of *OkChE*.

Deaths

Dr. Efton Lilbořn Park Jr., chairman and professor of chemical engineering at the University of Mississippi, died on October 26, 1981, after an extended illness. Park received his Ph.D. from OU and taught as an instructor of chemistry here before taking positions at Rice University, the University of Colorado, and the University of Missouri—Rolla. He had been at the University of Mississippi since 1978.

1950s

Ron G. Bruce, BS '58, MS, '59, 2530 Parana, Houston, TX 77080, works for Conoco as a manager of products planning, natural gas products.

1960s

Byron Capito, BS '60, Box 100, Texas City, TX 77590, is employed as a general manager for Schwartz Iron and Metal.

Carl F. Crownover, BS '61, Box 2552, Corpus Christi, TX 78403, is president of Jordan Laboratories Inc.

Burtis Lynn Espy, BS '61, 118 W. 6th, Guymon, OK 73942, practices chiropractic medicine at his own clinic. His wife, Rene, is also a doctor.

Chen-hwa Chiu, ME '64, PhD '70, 511 Sandy Port, Houston, TX 77079, works as an engineering specialist in the production operations division of Exxon Production Research Company. His wife, Nai-Hui, is a registered nurse, and his three sons—Edison, 7, Eugene, 6, and Ian, 3—are adjusting to the warm climate of Houston, where they have lived since December, 1980. Prior to that, they lived in Lehigh Valley, Pa.

Roger G. Harrison Jr., BS '67, 1361 S.E. Evergreen, Bartlesville, OK 74003, moved from Kalamazoo, Michigan,

where he worked for the Upjohn Co., to Phillips Petroleum in June 1981. He is working in the petroleum, chemicals, and energy processes division of research and development. He and his wife have two sons, ages two and five.

1970s

R. L. Langley, BS '70, 211 Mariner Ct., Crosby, TX 77532, is employed as the plant manager for Warren Petroleum Company.

Wilfred E. Ziegler, BS '70, 112 Hemlock Dr., Williamstown, NJ 08094, works as the superintendent of electric smelting for the Shieldalloy Corp. in charge of the production of ferrovanadium in electric arc furnaces.

Fred Hall, BS '71, 1 Bittersweet Rd., Fairport, NY 14450, continues to develop advanced process control schemes for gas processing plants and refineries. He is the section manager (application engineering) for Taylor Instrument Co.

Robert J. Gimpel, BS '73, 9500 Selkirk Dr., Anchorage AK 99502, is the production supervisor for Sohio Alaska Petroleum Co.

Kevin M. Goin, BS '73, MS '76, PhD '78, 4746 S. Harvard, Apt. 38, Tulsa, OK 74135, works as a staff engineer for Cities Service Co. He transferred from the control systems department in Lake Charles, Louisiana, to the engineering sciences department in Tulsa in July 1981.

William Gary Jones, BS '76, 2219 College Green Drive, Houston, TX 77058, is the operations superintendent for Diamond Shamrock Corp. In his spare time he plays racquetball, lifts weights, and is taking karate.

Debra Mitchell, BS '78, 435 NW 45th, Oklahoma City, OK 73118, is now in her fourth year at the OU medical school. She plans to do her residency in radiology, "a natural stepping stone from engineering," she says.

Philip E. Lewis, BS '78, 10205 Westheimer, Suite 780, Houston, TX 77042, is employed as a computer applications engineer with Dresser Industries, Titan Division.

Freddy E. Wilson, BS '79, 4851 W. 5100 So., Kearns, UT 84118, works as a chemical engineer with Hercules Inc.

1980s

Richard L. McFall, BS '81, 806 Dixon, Borger, TX 70997, is employed as a process design engineer with Phillips Chemical Co.