

Engineering

A Publication of the Society of Tulane Engineers

Technology for the Global Village

Harold Rosen's (EE '47) pioneering work on communications satellites has vastly expanded information choices and brought all the world closer together. His accomplishments have earned him this year's Special Achievement Award from *Design News*.

Rosen, a vice-president of Hughes and an electrical engineer out of Tulane and Cal Tech, fathered the technology that helped keep dreams of a better life alive for millions of oppressed people. He developed the world's first synchronous, geostationary communications satellite, a design whose later refinements made it possible for people to use their TV sets to peek through the Iron Curtain and see what was missing in their lives.

Today, Rosen, who holds 51 patents, continues to innovate, concentrating on antenna and control-system technology, among other things. One of his recent projects: design of an efficient antenna for direct broadcast satellites that will permit people with relatively small dishes to get more than 100 TV channels. Hughes will launch the first of those satellites in 1993.

"When I began, I felt that better international communications would be good for the world, that among other things they would

make people less fearful of others in distant lands," he says.

But political change has not been the only result of Rosen's engineering revolution. Communications satellites based on his designs have drastically cut the cost and improved the technology of transoceanic telephone calls, brought college classes to school teachers in isolated communities, vocational courses to junior high school students, reports of global weather patterns to meteorologists, and medical help to remote areas like parts of the Northwest and Alaska.

An idea person

The first of Rosen's pioneering satellites, Syncom, was launched in 1963. Its lightweight design made it the first to be operable in

geosynchronous orbit, some 22,000 miles above Earth. That meant it was accessible for continuous transmission of audio-visual signals, and at the same time more reliable for such work than the low-altitude Telstar. This and his later breakthroughs have made the U.S. the world leader in the communications satellite industry.

"He is our intellectual leader," says Steven D. Dorfman, president of Hughes' Space and Communications Group. "He supplies the ingenuity, and has played a major role in the design of the more than 100 communications satellites we've launched since Syncom."

"Hal Rosen is a very stimulating person to exchange ideas with," says Thomas Phillips, recently
(CONTINUED ON PAGE 6)



Dr. Harold Rosen, winner of Design News' 1992 Special Achievement Award, has selected Tulane's Engineering School as the recipient of a \$15,000 grant from NTN Bearing Company. The grant was part of the award given to Dr. Rosen, vice president of Hughes Aircraft, for his leadership in the satellite technology field.

School of Engineering Celebrates 100th Birthday

On October 1, 1994, the School of Engineering will celebrate its centennial birthday. A big celebration is planned to commemorate the school's founding on October 1, 1894, when the university officially separated the College of Technology from Arts & Sciences. The next two and one half years will offer a series of special events and programs through which we will celebrate the many accomplishments of the school and its graduates over the past century. Bob Boh (CE '51,'53) will serve as Honorary Chairman and James O. Gundlach (ME '58) as Chairman of the Centennial Committee, which will also oversee a capital campaign to renovate Stanley Thomas Hall and the Civil Engineering Building, as well as establish funding for needed equipment, endowed chairs and scholarships.

The School of Engineering is rich in history and accomplishment. Bob Bruce, the Henry and Catherine Boh Professor of Civil Engineering, is writing a commemorative history of the school, entitled *Engineering—A Century*, and plans are underway to create a permanent archives of patents and
(CONTINUED ON PAGE 2)



From the Dean

These are exciting times for the School of Engineering. On one hand, we are celebrating the past achievements of the school as its centennial anniversary approaches, and on the other, we are enthusiastic over the recent growth the school has experienced and the preparations which are being made to keep the school competitive through the next century.

One hundred years ago an "engineering course" was being offered in the Academic Department of the university. The "course" evolved into a separate school of engineering which was formed in the fall of 1894, when the College of Technology was founded. (The name of the "College of Technology" was changed to the "College of Engineering"

in 1920, and in 1953, this was changed to the "School of Engineering.") Thus, we have a hundredth birthday coming up, which we plan to celebrate in style. Our centennial celebration will focus on our history and on the accomplishments of our graduates, and Bob Bruce, the Henry and Catherine Boh Professor of Civil Engineering, has agreed to write a commemorative history of the school. We will also conduct a capital campaign to renovate the two historical buildings in the engineering complex, Stanley Thomas Hall and the Civil Engineering Building, as well as add scholarships, endowed chairs and needed equipment.

The 1991-92 academic year has been an exciting one for the School of Engineering. We brought in a freshman class of 269, the largest since 1980. We also have the largest graduate full-time enrollment ever—195 students. For the first time in our history, research expenditures from external sources will top \$4 million. At a difficult time for recruiting students and for obtaining research grants and contracts, the School of Engineering continues to do well.

There have been a number of changes this year which reflect future trends in engineering. The

Department of Civil Engineering is now called the Department of Civil and Environmental Engineering. Moreover, we now offer an optional program in which a student receives both a bachelor's and a master's degree after five years of work. We have changed the name of the degrees in the Graduate Division of the School of Engineering to the Master of Science in Engineering (MSE), the Master of Science in Computer Science (MSCS), and the Doctor of Science (ScD). Department heads are now called Chairs, in keeping with most of academia.

Some schools of engineering emphasize research and others see themselves as primarily teaching institutions. At Tulane, we are committed to performing research at a world-class level and to providing the best classroom teaching available anywhere. With the faculty's commitment to continual improvement and its willingness to do the work needed, I am confident that we will be increasingly recognized as one of the leading engineering schools of our size in the nation.

William Van Buskirk
Dean, School of Engineering

Birthday Celebration

(CONTINUED FROM PAGE 1)
copyrights, photographs and memorabilia. From Albert Baldwin Wood (class of 1899), who was known as "Mr. Water" for his inventions of giant wood screw pumps, to Harold Rosen who holds 51 patents (and is featured in this issue), our graduates have been the twentieth-century's leaders in technology. "Engineering Days" will be planned throughout the country so that alumni will have the opportunity to gather and reminisce. The Society of Tulane Engineers will host a Centennial Speakers Series which will feature outstanding speakers on engineering topics and which will be held each semester.

As we celebrate the past, we also turn our attention to the future and renew the commitment to excellence made by the school's founders. By 1894, the academic departments of the university had moved to the present uptown campus to accommodate growing enrollment, and Brown Ayres (the first Dean of the College of Technology) saw his dream of a real school of engineering realized. In 1994, we plan to renovate the Civil Engineering Building and Stanley Thomas Hall to meet the growing engineering demands of the 21st century. The architectural plans are now complete and will be available for viewing in the near future. The fund drive, which will constitute

the school's portion of the university's overall campaign, will also provide for the much needed equipment, and endowed gifts necessary to keep Tulane's School of Engineering competitive.

As we embark on this centennial celebration, we encourage each friend, student, faculty member and graduate to participate. If you are interested in serving on a committee, contributing photographs and memorabilia or participating in the patent archives, please contact Winnie Beuerman, Centennial Director, Office of the Dean, School of Engineering, Tulane University, New Orleans, LA 70118. Phone: 504-865-5764, FAX: 504-862-8747.

NEWS

STE Presents Awards

The Society of Tulane Engineers presented the Harold A. Levey Award and the Outstanding Engineering Alumnus Award at its annual meeting on November 9, 1991.

Irwin Mark Haas is the 1991 recipient of the Harold A. Levey Award which was established in 1959 and recognizes outstanding professional achievement of a Tulane engineering alumnus within five to ten years after graduation.

Haas received a B.S. in Computer Science in 1983 and was one of the first graduates of that department. As an undergraduate, he was instrumental in the funding and operation of Tulane Emergency Medical Service, TEMS. He is employed by Northern Telecom and is a member of the scientific team at the company's research lab (BNR) in Richardson, Texas. He has made significant contributions to telephone technology at BNR. He is widely recognized as an expert on the DMS 250 switch, a Northern Telecom product that is the basis for telephone switches that serve cities and major suppliers such as MCI and Sprint. Haas is the youngest manager at his level in BNR history and in 1985 received the lab's "Spirit of Texas Award" for his outstanding contributions.

Haas serves as Texas' youngest member of the American Heart Association Board, and continues to serve on the Computer Science Advisory Board which he formed in 1984. As the technical liaison for BNR's University Interaction Program (UIP), Haas has secured funding and technical support for research and development at Tulane.

Dr. Walker Frederick Ramirez, head of the Department of Chemical Engineering at the University of Colorado at Boulder, was selected as the 1991 Outstand-



William Van Buskirk, dean of the School of Engineering (left), congratulates I. Mark Haas on receiving the Levey Award.

ing Engineering Alumnus. He received his B.S. in Chemical Engineering in 1962, his M.S. in 1964, and his Ph.D. in 1965, all from Tulane. Dr. Ramirez was also the recipient of a Fulbright Research Fellowship to France (1976, 1977) and an Academy of Science Exchange Fellowship to the USSR.

Thompson Fills Entergy Chair

When Hugh Thompson was dean of the School of Engineering sponsored research rose from \$300,000 to almost \$3 million.

Now Thompson will see his emphasis on research continue at the personal level as recipient of the newly endowed Entergy Chair in Electric Power Engineering.

"For me, research has always been essential to the vitality of the academic enterprise," says Thompson, whose own studies to date have spanned electrical transmission, nuclear science, and environmental engineering. As Entergy Chair, the now retired dean will lead Tulane's research of "the most modern, and energy efficient, applications of electric power."

Entergy Corp., formerly Middle South Utilities, has contributed \$750,000 over a six-year period to endow the chair, which is also designed to strengthen Tulane's

graduate program in electric power engineering.

Accepting the appointment in a February 18 investiture ceremony, Thompson forecast continued challenges for nuclear energy production.

"If the greenhouse effect is indeed a serious threat to our global climate, then nuclear power becomes the only feasible way to satisfy the world's energy needs," said Thompson, noting that nuclear power now produces more than 80 percent of the electrical needs of the French. "Some of us may yet live to see the nuclear option praised in the local press as the environmentally preferred approach."

He also called for a rethinking of the often heated relations



Former engineering dean Hugh Thompson says he has reached "a pinnacle of academic achievement"—the Entergy Chair.

between utility companies and the public. "The adversarial approach of many of our leaders would portray the relationship between the power industry and society as them against us," said Thompson. "I submit that the relationship is more nearly us against us and that greater progress is more rapidly available if the relationship is treated and nurtured in that context."

Thompson left a career in industry to pursue graduate studies at Tulane in 1961. Three years later, he received the school's first doctorate in mechanical engineering and joined the faculty of the School of Engineering, where he received recognition for excellence in teaching from his colleagues and his students. He bypassed department head to become dean in 1976, a position he held until 1991. During Thompson's 15-year tenure as dean, the School of Engineering saw construction of the \$12 million Lindy Claiborne Boggs Center for Energy and Biotechnology, the addition of new departments in biomedical engineering and computer science, an increase in women and minority students and the strengthening of environmental engineering programs.

Reprinted with permission, Inside Tulane/3.5.92.

RESEARCH

Pollution Solutions

Tulane researchers, like Sanjoy Bhattacharya, assistant professor of civil and environmental engineering, have a major role in new cooperative efforts between industries, regulatory agencies and the states to develop the best technologies to treat different hazardous wastes.

Bhattacharya recently received the 1991 Harrison Prescott Eddy Medal, awarded annually by the Water Pollution Control Federation for vital contributions to knowledge of wastewater treatment. He is principal investigator on seven current projects, including:



Water pollution expert Sanjoy Bhattacharya.

"Biodegradation of Hazardous Organic Compounds Using Sulfate-Reducing Bacteria," funded by the Louisiana Board of Regents, and the "Anaerobic-Aerobic Biotreatment of Hazardous Leachate," funded by the U.S. Department of Defense under the Tulane/Xavier Center for Bioenvironmental Research.

Combining chemical and biological processes to treat pollution will give the best results, Bhattacharya says.

The goal, he explains, is to form harmless end-products such as carbon dioxide and methane from complex hazardous organic compounds.

Chemical processing involves adding an oxidizing agent, which is costly. In biological processing, bacteria feed on the compounds, oxidizing them to harmless end-products. The engineer provides the right conditions for bacteria to grow so the process can take place at low cost.

Anaerobic bacteria, which do not need oxygen, are more efficient at breaking down some organic compounds, and aerobic bacteria, which do use oxygen, work better on others.

For example, Bhattacharya suggests, treat wastewater anaerobically and let the bacteria chosen degrade what compounds they can, then treat it aerobically and see what compounds remain. He points out, however, that these processes need to be well understood to avoid new disadvantages.

"We can already deal with single compounds or groups of compounds, but with mixtures we are at (CONTINUED ON PAGE 4)

President's Corner

It is an honor to serve as your STE President for the 1991-92 school year. The past few years have been an especially rewarding tenure for those of us serving on the board. The opening of the Boggs Center along with the ongoing recruitment of top-ranked faculty and students has fueled the continued growth and prosperity of the School of Engineering.

Your 1991-92 board members are proud to be part of this tradition. The current STE board includes Kay Erwin (1st vice president), Ricky Meyer (2nd vice president), Bill Marko (secretary), Lenny Quick (treasurer), Ashlyn Hall (assistant secretary), and Alfred Freudenberger (assistant treasurer). We are currently seeking nominations for next year's officers; three board positions should be available this fall. If you are interested in serving the school in this capacity, we encourage you to contact the STE board via Shelley Richardson in the Dean's office.

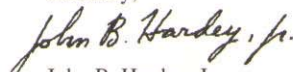
This is the inaugural issue of the newly formatted newsletter. The Dean's office has assumed the task of updating the *Tulane Engineer*, allowing our energies

to be redirected to more action oriented projects. We feel this is especially beneficial to the school as we approach the centennial celebration. The board is pleased to announce the first of these projects, the STE Centennial Speakers Series, which will feature informative talks by recognized engineering professionals each semester. Additionally, STE will sponsor an event for the first year engineering students designed to assist them in selecting the discipline for which they are best suited. STE will continue to sponsor the Annual Senior Awards Dinner as well as the Breakfast and Annual Meeting in the fall.

Finally, for those members who have qualified for an STE pin by virtue of a previous donation but have not yet received the pin, please write to Shelley Richardson, Engineering Dean's Office, Tulane University, New Orleans, LA 70118. Your pin will be promptly forwarded. We apologize for the delay.

Have an outstanding 1992 and I hope to see you at the annual meeting this fall.

Sincerely,


John B. Hardey, Jr.

Pollution

(CONTINUED FROM PAGE 1)

a loss," he says. "That's the significant part which everyone will appreciate in the near future."

Wastes are not identical, says Bhattacharya. Even different departments of one company could produce radically different wastes.

For this reason, Bhattacharya stresses management: "In environmental engineering, it's technology plus management that can solve our problems." Bhattacharya earned a master of business administration at the University of Cincinnati (1989) after completing his doctorate in environmental engineering at Drexel University (1985).

To illustrate the complexity of the problems, Bhattacharya contrasts treating wastewater with building a high-rise. The engineering options for the high-rise are pretty straightforward. In environmental engineering, the problem is never straightforward. "It's a technological decision, plus a judgment call and risk assessment, which makes it an interdisciplinary problem."

Bhattacharya sees waste minimization and exchange—using waste from one plant as a raw material for another—as a trend of the future. "Everything can be treated. The question is how cost efficient the process is and which process is best."

DEPARTMENTAL BRIEFS

Electrical

- The Society for Electric Power Research and Implementation (SEPRI) in cooperation with the New Orleans Section of the Institute of Electrical and Electronics Engineers, Louisiana Engineering Society, and the New Orleans Section of the Instrument Society of America announces the third biennial Industrial Electric Power Applications Symposium in New Orleans, November 12-13 at the Doubletree Hotel.

The School of Engineering at Tulane is establishing a university/industry/government cooperative research center that focuses on the research and educational needs of the power industry and extends these activities towards Tulane's mission of educational excellence.

The Center for Electric Energy Research serves as the vehicle by which the industry and organizational representatives, the faculty, and the students of Tulane interact with each other so as to provide research results of direct interest and use to the participating companies and organizations. For more information regarding SEPRI membership, the Symposium or the Center, please contact: Dr. Parviz Rastgoufar
Department of Electrical Engineering
Tulane University
New Orleans, Louisiana 70118
Phone: 504-865-5785
Fax: 504-865-5526

- Enrique Barbieri, assistant professor of electrical engineering, spent the summer at NASA Langley Research Center as part of a grant. His research involved studying inertial devices for control of space-based robots.

Civil and Environmental

- Dr. Michael E. Barber joined the Department of Civil and Environmental Engineering at Tulane in July 1991 after receiving

his Ph.D. at the University of Texas in Austin, his master's degree from Purdue University (1983) and his bachelor of science degree from the University of New Hampshire (1977). His dissertation, "Modeling Water Quality and Biota in the Colorado River Below Austin, Texas," focused on the effects of municipal waste water discharges with respect to downstream water column and sediment concentrations. These concentrations were used to predict the growth potentials of both rooted and attached aquatic vegetation. One of his research goals is to extend this work effort to include growth potentials of vegetation in wetland areas.

Prior to his enrollment at the University of Texas, Barber worked for a Colorado based consulting firm where he specialized in water resources engineering projects. His various projects included hydro-logic modeling investigations related to water rights, floodplain delineations, reservoir firm yield analysis, and drainage studies. He was also in charge of collecting base line stream flow and water quality data to be used in future planning activities and environmental impact statements.

- The graduate program in environmental engineering has expanded significantly during the past year. Currently, there are ten full-time and about fifteen part-time graduate students in the program, with anticipated growth to twenty-five full-time students in the next two years.

A new program has been implemented at the undergraduate level. Engineering students outside the Department of Civil and Environmental Engineering can now opt for a minor in environmental engineering. The change was made to meet industry's growing demand for more new and well trained environmental engineers. The department now offers both M.S. and Ph.D. degrees and is considering a separate B.S. degree program specifically in environmental engineering.

New courses have been offered recently in hazardous waste

treatment, groundwater quality modeling, bioremediation of hazardous wastes, experimental methods in hazardous wastes treatment, surface water quality modeling, and physical and chemical treatment. Most of the classes are offered in the evening to accommodate part-time students who work in local industries.

Several new environmental research projects have been funded by sponsors such as USEPA, DOD, NIGEC, Louisiana Board of Regents and various industries.

Biomedical

Biomedical Engineering now enrolls 159 undergraduates and awarded 44 B.S.E. degrees in 1991. Of 51 graduate students in the department, 20 are working toward master's degrees and 31 toward Ph.D. degrees, and there is one postdoctorate fellow.

Many seniors feel that the senior project is the high point of their Tulane career, and according to department head, Cedric Walker, "the projects are often the highpoint of the annual activities of the faculty as well. Education takes place in the laboratory as well as in the classroom, and it is a true satisfaction to behold what progress an enthusiastic and energetic senior can make in a year on their research project." One example is Walt Liebkemann's experiment on canine lungs to study the effects of lining fluid, surface tension, transpulmonary pressure, inflation rate, and airway radius on the critical pressure needed to reopen collapsed airways in the lung. He recently won the Tulane Louisiana Engineering Society Student Paper Contest for his paper, "Characteristics of Pulmonary Airway Reopening."

PROFILE

Sailing to the top

When John Dane III isn't building boats, he is sailing them. As a champion sailor, inductee in the Tulane Athletic Hall of Fame, ship-



John Dane III in 1971, engineering junior and all American sailor from New Orleans.

building executive, member of the Engineering School's Advisory Board, father of five and keeper of the family sailing tradition, the Tulane alumnus (CE '72) leads a bountiful life.

Dane is president of Trinity Marine Group, seven companies with nine shipyards, which construct, convert and repair a variety of steel, aluminum and fiberglass craft for the defense, oil and gas, marine transportation, fishing and passenger cruise industries. With headquarters in Gulfport, Mississippi, Trinity Marine has nearly 3,000 employees.

After leaving Tulane with a doctorate in civil engineering, Dane went directly into the marine industry working for Halter Marine in New Orleans. In 1980, he became president and co-owner of Moss Point Marine, Inc. He joined Trinity Marine in 1987.

Dane credits his Tulane education for developing his professional success. "I have fond memories of my student days at Tulane," he said "We had small classes and a top faculty in engineering. The school has a fine reputation throughout the country."

Tulane also has an excellent reputation for sailing, according to Dane, because of the year-round sailing weather in New Orleans and the tricky currents of Lake Pontchartrain. "It is one of the most difficult places to sail. It makes sailing in other places a lot easier."

Dane was recently inducted into the Tulane Athletic Hall of Fame where he joins sailing greats Buddy Friedrichs and Barton Jahnecke.



John Dane III in 1992, president of Trinity Marine. He credits his Tulane education for developing his professional success.

As a Tulane freshman, Dane was voted Intercollegiate Sailor of the Year in national dinghy competition. His second victory in the Douglas Cup match-racing competition in California was eulogized by a *Sports Illustrated* writer:

"Louisianian John Dane III claimed the right to be called the best young match-racing sailor in the United States. What Tulane's Dane did on one brief weekend was go undefeated against the saltiest sailors.

"One might argue that any kid can be lucky on a given weekend, but not in Dane's case. He had gone seven for seven the year before to win the same Douglas Cup competition for the first time."

Twenty years and many trophies later, Dane still is competing in his 2-man star class. In four Olympic trials, he finished second, third and fourth twice. He had acquired a new boat (Quest IV) in quest of sailing in the 1992 Olympics at Barcelona, Spain, however, pressing business matters prevent him from making the trials.

At home in Pass Christian, Dane carries on the family tradition of sailing. John's father, also a Tulane engineering alumnus, introduced him to the seas. Now he has four of his five children in sailing competition: John Ferguson, 14, Sarah Gibson, 12, Anne Hilton-Roy, 8, and Robert Schaeffer, 6. The fifth child, Margret Tyndall, 4, stays dry thanks to family skipper Mrs. Dane, Susan Ferguson.

Reprinted from Tulane Football Magazine Vol. 97 Issue 2.

ALUMNI NEWS

1920s

Frank W. Ebaugh (ChE '23) is listed in *Marquis Who's Who in the World* and in *Who's Who in Science and Engineering*.

Marx Isaacs (ChE '29), a fellow and active member of AIChE, recently received the 1991 Best Division Newsletter Award for the AIChE Environmental Division Newsletter which he has edited for 21 years. The Award will be renamed the Marx Isaacs Award in his honor.

1930s

Henry L. E. Vix (ChE '34) has fond memories of being STE president thirty years ago!

J. B. Eaton, Jr. (ME, EE '35) is enjoying retirement and recently remarried in Owensboro, Kentucky.

James S. Janssen (CE '31) is still active as a fuels consultant for Waldemar S. Nelson & Co., and as a published author. He has recently published *Further Adventures of the Elves of Bellaire Drive*, a sequel to his 1989 *The Elves of Bellaire Drive*.

Edward A. McLellan (ME '34) has a granddaughter in the freshman class at Tulane studying architecture. His youngest son and his wife recently attended their joint ten-year TMC reunion.

Edward J. McNamara, P.E., (CE '39) a senior consultant at Waldemar S. Nelson & Co., received the Louisiana Engineering Society's Leo Odom Award for distinguished service to the engineering profession.

1940s

Irwin Charles Weidig (EE '40) recently celebrated the 50th anniversary of his graduation exercises. C. W. Ricker was head of the EE department in 1940 when the class of the "electricals" numbered about nine.

Wilfred Hellmers Charbonnet (ChE '40) believes he has an

(CONTINUED ON PAGE 10)

Global Village

(CONTINUED FROM PAGE 1)

retired CEO of Raytheon Corp. "He is creative, persistent, and able to express the most complex technical problems in simple equations. He brought the rest of us along."

Adds Thomas Hudspeth, chief scientist in the Communications Division of Hughes' Space Group and co-developer with Rosen of Syncom, "He doesn't recognize obstacles, he works around them. He is a damn good engineer who pulls rabbits out of the hat. He really has heroic qualities."

The soft-spoken and slightly shy Rosen would hardly admit to that. In fact, he turns those compliments around, sharing the credit with others and using the pronoun "we" when talking about the technological achievements he has brought about. For example, he refers to Hudspeth, his friend and colleague of more than 30 years, as "a brilliant engineer who has been an inspiration to me."

But despite his modesty, Rosen is the acknowledged inspirational leader of the Space and Communications Group. "He's an idea person who can do calculations in his head faster than we can with calculators," says Frank Taormina, manager of the Group's Communications Division. "And, he has that personal touch, like surprising us by bringing the crew dinner when we were working around the clock on a satellite project. If he told us to go out the window, we'd probably do it because we'd figure there's something he knows that we don't understand."

Pumped for problems

At the very least, he would figure out how to get them back in without falling. Rosen is a problem solver who is never so happy as when he faces and beats a tough technical challenge. "Problems get me pumping," he admits. "I like to find better, cheaper ways to do things."

Case in point: A few years ago he helped design the control system of a body-stabilized satellite, only to find out that a detail of the design might draw a suit from a

competitor. While other members of his team got discouraged, he went right back to the drawing board and came up with an even better design. It's an improvement in the control system for Hughes' three-axis, body-stabilized HS 601 satellite, the first version of which will be launched in March of this year for AUSSAT, Australia's national satellite communications company.

When the 1985 Hughes LEASAT satellite failed to climb into geosynchronous orbit after release from the Shuttle, Rosen worked with NASA to fix the satellite in place rather than bringing it back home for repairs.

His work saved the satellite, which was insured for \$85 million, and gave NASA the confidence to fix other satellites in place.

From missiles to satellites

When he joined Hughes in 1956, one of his first problems was to find a stimulating project to work on. Hughes hired him to develop radars and fire control systems for aircraft. But, within a short time he met Hudspeth, who convinced him of the excitement of the then infant technology of communications satellites.

"International communications were poor at that time," Rosen says. "International phone calls were expensive, and transoceanic television was impossible."

Satellites that stay tuned

He decided to concentrate on development of a practical geostationary satellite rather than on the low-altitude satellites favored by others. Scientists knew that satellites in geosynchronous orbit 22,238 miles above the Equator could provide continuous communication. Scientist and science fiction writer Arthur Clark had written about that. By traveling at just under 7,000 mph at that height, geosynchronous satellites would orbit the Earth at the exact rate it rotates, 360 deg in 24 hours. That meant the satellites would appear to stand still, as if supported by a gigantic tower, and provide contin-

uous communications ability with little, if any, tracking by earth terminals.

But, such satellites were too complicated for the job at that time. Rosen's solution: Cut the size, weight, and complexity, and simplify the altitude and orbit control with a spinning configuration.

Syncom II, in 1963, made possible the first two-way voice communication via satellite when President Kennedy spoke over the phone with Prime Minister Balewa in Nigeria. In 1964, Syncom III relayed live TV coverage of the Olympic Games in Tokyo, and, in 1965, Intelsat I, or "The Early Bird," relayed as many as 240 telephone calls at once between North America and Europe. That was more than six times the number of calls possible with the Atlantic cable.

These successes in international communications were followed by equal success in intranational communications, such as Indonesia's Palapa satellites, which link that country's thousands of islands. By the mid 1970's, Hughes satellites based on Rosen's designs linked all the continents.

Economics of design

Not a bad record of engineering achievement for the son of a New Orleans dentist whose mother wanted him to be a lawyer and whose father was afraid that the young Rosen would never find a job as an engineer. No one could deny his math skill, however, or the analytical traits that made him a natural at solving problems.

After high school, he enrolled at Tulane University to study electrical engineering. He recalls the dean telling his class that "an engineer is someone who can do for \$1 what any fool can do for \$2." That taught him the value of doing economically competitive designs, and he took the lesson to heart.

While working on his doctorate at Cal Tech, he continued trying to simplify engineering concepts. He asked Professor Carl Anderson, discoverer of the positron, for the simple explanation of why a spiral football pass or a spinning rifle shell stay stabilized, and together teacher and student worked out the

answer. He remembered the explanation later when he was working on spin-stabilized satellites.

"He always finds a simpler approach to solving an engineering problem than anyone else," says Al Wittmann, chief scientist for the Space and Communications Group's Systems Division, who has worked with Rosen for 15 years.

Immediate access

Not all the problems Rosen works on are related to Hughes contracts. Wittmann, of the Space Group's Systems Division, recalls being called by Rosen during the early stages of the Kuwait oil fires. "We've got to solve the fire problem," he told Wittmann.

"That was on a Thursday afternoon, and we worked on solutions all weekend separately at our homes," Wittman says. "It had nothing to do with Hughes, but it was a serious problem and he wanted to solve it."

That kind of weekend work is rare for Rosen. "Except during emergencies, I try not to work long days," he says. He likes to leave time for biking and walking with his wife, SCUBA diving, downhill skiing, wind surfing, and visiting with his grandchildren.

But as much as he likes his free time, he's not ready to retire. At 65 years old, he says he is in "my first year of overtime." He plans to work as long as it remains interesting and challenging.

And, there are challenges aplenty. "In the future, there will be a new class of mobile satellites, and the users will be trucks and cars with omni-directional antennas," he predicts. "Some people talk about polar-altitude satellites. There may also be medium-altitude (4,000 miles up) satellites for mobile communications if frequency allocation problems can be solved."

Whatever the future holds for satellite technology, his colleagues agree that Rosen will be a driving force. "He is truly an engineer for the nation," says Wittmann, "solving the nation's problems."

Reprinted in part with permission, Design News/2.10.92.



TECHNI-TORQUE

of Tulane

OFFICIAL PUBLICATION OF COLLEGE OF ENGINEERING

CAMPUS NEWS

NEWS AND INFORMATION ABOUT THE UNIVERSITY

ELECTRIC



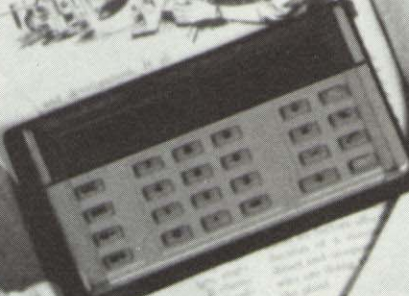
ENGINEER ENGINEERS

FALL 1974

S. GIRLS, GIRLS!!



Dean Hubbert with some of the "Law Girls"



STE Meet Oct. 26 Features Perry Roehm & James Robert



Report From The Dean

By Tom H. Johnson

In the past few years, the Tulane Engineering School has experienced a period of rapid growth and development. This growth has been the result of the efforts of the faculty, staff, and students, and the support of the College of Engineering and the University.

The meeting of the Society of Engineers (S.E.) at Tulane on October 26th was a most successful one. It was held in the Ball Room of the Hotel Tulane and was attended by over 100 members of the Society from all over the country. The meeting was held in conjunction with the annual convention of the American Society of Mechanical Engineers (ASME).

the TULANE SOCIETY OF ENGINEERS

FALL 1991

Thompson Steps Aside

Left Thompson, the "Dean of Engineering" at Tulane, has stepped aside after 11 years of service as the head of the School of Engineering. Thompson, who has been at Tulane since 1970, has been succeeded by James K. Van Buren, who has been at Tulane since 1974.

Skirk to take Helm at Engineering

William Van Buren, head of the Department of Biomedical Engineering, has been named to succeed Thompson as the head of the School of Engineering.

The Tulane Engineer through the years

Techni-Torque was first published in March 1942 by the engineering students. March 1943, it was accepted by Dean Roberts as the school's official publication. The *Techni-Torque* chronicled wartime and post war university life. Interestingly, *Techni-Torque* sold advertisements to augment the \$1 (20 cents—single issue) subscription rate.

The *Tulane Engineer* replaced the *Techni-Torque* as the school's official publication with the advent of the Tulane Society of Engineers. The many faces of the *Engineer* over the years appear on this page.





The Lindy Claiborne Boggs Center for Energy and Biotechnology

The faculty of the Tulane University School of Engineering wishes to express its deepest appreciation to the hundreds of people whose generosity made possible the construction of the Lindy Claiborne Boggs Center for Energy and Biotechnology. We recognize here the alumni, friends and corporations who supported this effort with gifts of \$100 or more.

William S. Adams
Air Products and Chemicals, Inc.
Thomas E. Alexander
Paul N. Alito
Dr. David J. Alley
Allied Corporation Foundation
Allied-Signal Foundation Inc.
Rene D. Alvarez
AMAX Foundation
American National Can Company
American Telephone and Telegraph Co.
Amoco Foundation, Inc.
Arthur Andersen and Company
Mr. and Mrs. Fredric J. Arnold
John E. Arnoult
Ashland Oil, Inc.
Albert M. Auster, Ph.D.
Charles J. Babington
Jerome C. Baehr
Robert M. Bailliet
Mr. and Mrs. William A. Baker, Jr.
Wayne R. Barcelo
Joseph L. Barial
Charles G. Battig, M.D.
Joseph E. Bavaria
Ernest W. Beck, Jr.
Joan Jackman Becker
William F. Becker
Peter H. Beer
Bell South Telephone Operations
Frank S. Bennett
Ronald J. Bertus
William T. Boardman
BOC Group Incorporated
Robert S. Boh
Philip W. Bohne
Thomas S. Booksh
Lionel J. Bourgeois, Jr.
Raymond J. Brady
L. Waymon Branch
Matthew B. Bronski
Bruce R. Brumfield
Richard F. Brunner
Benjamin S. Brupbacher
Dr. Philip Norton Buchanan
Burk-Klempeter, Inc.
Charles A. Burton
Richard M. Burton, Sr.
Mr. and Mrs. Murray J. Bush
Mr. and Mrs. Ralph F. Cairns, Sr.

Earl C. Calkins
Seymour Cambias, Jr.
Camco, Inc.
Denis J. Campbell, Jr.
Thornton L. Cappel, Jr.
Louis V. Caserta
Taylor J. Casey
William Cavanaugh III
Eugene J. Cazenave, Jr.
Tilghman G. Chachere, Jr.
F. Beale Chambers
John D. Charbonnet
Chevron Corporation
Michael A. Chilbert
Ciba-Geigy Corporation
Cities Service Company
Mr. and Mrs. Dan M. Cliffe
Martyn A. Cloutatre
Godfrey T. Coate
Edward S. Coleman
Combustion Engineering, Inc.
Consolidated Natural Gas Co.
Richard J. Cook
Alfred J. Cooper
Corpus Christi Petrochemical
Warren A. Courtade
Howard M. Craig
Robert E. Craig III
George L. Crain
Mrs. Joyce L. Crews
Lester L. Cronvich
Leon K. Curenton, Jr.
John Dane III
Mr. and Mrs. Jack Davey
David D. Davis
Arthur A. DeFraithe, Jr.
Steven L. Dehmlow
Gayden Derickson
Kenneth A. DeVun
Alvin B. Dews
Diamond Shamrock R and M, Inc.
Michael W. Didier
Charles H. Dieth
Stanley G. Dinkel
Kerry M. Dooley
Amos L. Doucet
August H. Douglas
Timothy J. Douglas
Walter E. Douglas, Jr.
Dow Chemical USA

Susan M. Dray
J. Leon Dressel
Mr. and Mrs. Maurice F. Dufour
Robson B. Dunwody
Marquette E. Dust
Irvin A. Ebaugh
John L. Ebaugh, Jr.
Newton C. Ebaugh
Ecusta Corporation
Lucas H. Ehrensing
Robert C. Ellyson, Jr.
EnerTech Engineering and Research Co.
Danny J. Enzone
Ethyl Corporation
Eustis Engineering Company
Ernest L. Eustis, Jr.
J. Bres Eustis
Frederick A. Evans
Harry D. Evans
James P. Ewin, Jr.
Exxon Education Foundation
Bernd Falk
The Farley Foundation
Thomas S. Farmer
Gervais F. Favrot Company, Inc.
Federal Signal Corporation
Thomas J. Feehan
John P. Fernandez
Warren Finley
Will Allen Finley
First Interstate Bancorp
John B. Fisher
George W. Flach
Miguel M. Flechas III
Cletus G. Fleming, Jr.
Harold L. Flettrich
George S. Foerster
Theodore P. Fowler
Louis T. Frantz, Jr.
Freeport McMoran, Inc.
Freeport Sulphur Company
Robert J. Fritz, Sr.
Hugh H. Fuller III
Richmond B. Galbreath
David J. Garland, Ph.D.
John A. Garth
Kenneth C. Gaspar
General Dynamics Corporation
General Electric Foundation
Bart J. Geraci
Henry George Gerstner
Getty Oil Company
Eugene J. Gilbert, Jr.
Eugene J. Gilbert III
Robert J. Giraud
Morris H. Gold
Michael S. Goodrich
J. B. Casimir Graugnard
Marina Elliott Gregorio
Angela Gregory
William Bres Gregory
Susan McGrael Grigson
Lawrence R. Gros
Grumman Aerospace Corporation
C. Henry Guell
Joseph E. Guidry
E. Carlton Guillot, Jr.
Guillot-Vogt Associates
Gulf Oil Foundation
Charles F. Gund
James O. Gundlach
Earle R. Gurtler
Arthur J. Haas, Jr.
Edgar J. Hagstette, Jr.
David L. Hall
Halliburton Educational Foundation
Ben J. Haney
Wermund E. S. Hansen
John T. Harrington
Mr. and Mrs. Charles B. Harrison
Hatley N. Harrison, Jr.
James E. Hassinger, Jr.
Gerald M. Haydel
Thomas H. Hayden, Jr.
Mrs. James L. Heath, Jr.
Mr. and Mrs. Sheldon C. Heath
Frederick E. Hebert
Frederick F. Hebert
Martin Hebert, Jr.
Ricky K. Hebert
Richard A. Heehs
Jill Bradley Hefelee
Mr. and Mrs. George A. Heft
Horace S. Henderson
Hercules, Inc.
Alfred J. Herkes

John C. Hess
Alfred Yim Kui Hew, Jr., M.D.
Barry J. Hildebrand
William C. Hildebrand, Jr.
John E. Hiller
Cameron T. Hilton
HIMONT, Inc.
Robert R. Hippler III
Edward D. Hogg
Pierre E. Holloway
Edward G. Holmes
Rudolph J. Holzer, Jr.
Holzer Sheet Metal Works, Inc.
Daniel H. Hom
Bruce S. Hopkins
John C. Hubbard
Hughes Aircraft Company
Norwood F. Hymel
IBM Corporation
Imcera Group Incorporated
William H. Ingram, Jr.
International Minerals and Chemicals Corp.
George Irving
Homer A. Jackson, Jr.
Mr. and Mrs. James S. Janssen
Harold H. Jaquet
Neill P. Jeffrey
Arietta Cagnolatti Johnson
Hans B. Jonassen
Owen L. Jones, Jr.
Robert G. Jones
J. Erik Jonsson
Arthur L. Jung, Jr.
Robert J. Kahl III
Charles N. Kahn, Jr.
Melissa E. Kaye
W. M. Keck Foundation
Albert P. Keller II
Claude J. Kelly
Claude J. Kelly, Jr.
James L. Kelly
Hugh M. Kiefer
John C. Killinger
Fred H. Kinsley
Val E. Kissgen
Leon Klein, Jr.
George C. Kleinpeter, Jr.
Sterling J. Knight
Douglas Meyer Koltun, M.D.
Mr. and Mrs. Joseph J. Krebs, Jr.
Paul Kenneth Kregling
The Kresge Foundation
Lawrence A. Kroman
Judith A. Kron
Robert J. L'Hoste, Jr., M.D.
John P. Laborde
Joseph J. Lafranca, Jr.
Donald E. Lagarde, Jr.
David F. Lake
Arthur F. Landry
Joseph C. Landwehr
Henry J. Lartigue, Jr.
Henry J. Lartigue III
Maurice J. Laskey, Jr.
Pembroke O. Leach
Robert E. LeBlanc III
William R. LeCorgne
Richard Henry Lee
Michele Manzo Lembo

Henry F. Lemieux
Lever Brothers Company
Clarence I. Lewis, Jr.
Wesley A. Lewis, Jr.
Libby-Dufour Fund
Robert J. Lindley
Alfred F. Livaudais
Joseph LoCicero III, M.D.
Martha Slater LoCicero, M.D.
George C. W. Logan
Marcel A. Loisel, Jr.
Theodore W. Long
Louisiana Concrete Pipe Manufacturers Association
The Lubrizol Foundation
Frank W. Macdonald, D.P.H.
John D. Machamer
Alberto F. Magh
Alan Joseph Magyar
J. T. Mahoney, Jr.
Donald C. Makofsky
W. Ray Manning
Dave B. Marcus
James J. Maricelli
Norbert W. Markel
James H. Martin
Martin Marietta Corp. Foundation
Douglas G. Mayberry
John K. Mayer
Michael H. Mayer
Joseph W. McCarron, Jr.
E. Patrick McCloskey
Mr. and Mrs. James W. McCrary, Jr.
Frank McDonald
Thomas Q. McIntyre
Edward A. McLellan
Frank V. McMillen II
Edward J. McNamara
Michael H. McRee
Rudolph J. Melzer, Jr.
Robert L. Mendow
Ren) P. Meric, Jr.
Richard T. Metcalf
Pamela B. Mett
Mr. and Mrs. John J. Metzger, Jr.
Charles E. Meyer
Clark O. Miller
Wesley D. Miller
William J. Miller
Percy R. Millet, Jr.
Mississippi Power and Light Co.
Robert Mittelstaedt, Jr.
Mobil Foundation Inc.
William A. Mod
Henri J. Molaison
Ralph C. Morgan IV
Mrs. Walter B. Moses
Richard J. Moss
Wiley L. Mossy, Jr.
Barry A. Munkasy
Mr. and Mrs. Kevin M. Murphy
Daniel R. Nash
National Can Corporation
Waldemar S. Nelson
Waldemar S. Nelson and Company
Wolfgang Neumann
Peter C. Newhouse
Mr. and Mrs. Richard R. Neyrey, Jr.
Randall K. Nichols
NL Industries Foundation, Inc.



Faculty and friends celebrate the plaque dedication at the Lindy Claiborne Boggs Center for Energy and Biotechnology



Supporters of the Tulane University School of Engineering

Northern Telecom, Inc.
Kyaw Nyein
Mrs. Robert D. O'Brien, Jr.
Annette M. Oertling
Jay W. Oppenheim
Raymond J. Ordoqui
Harry E. Osment
William J. Palermo
Lester P. Palliser, Jr.
John J. Pastorek
Albert B. Paterson, Jr.
Helen C. Pattison
Michael O. Pearce
Ashton J. Pecquet
J. Howell Peebles, Jr.
Mr. and Mrs. Norvin L. Pellerin
Mr. and Mrs. Roy A. Perrin, Jr.

Shepard F. Perrin, Jr.
Shepard F. Perrin III
Ralph M. Persell
Milton E. Pick
Dr. Thomas A. Planchard
Rev. and Mrs. Sidney J. Ponseti
PPG Industries, Inc.
Ernest L. Pragst
Bruce I. Printz
Prudential Insurance Co. of America
Thomas M. Randolph
Jack H. Rau
Harry C. Ray, Jr.
Capt. Alexander L. Redon
Mr. and Mrs. Grant O. Reed
David Dixon Reimuth
William O. Rester

Clarence G. Reuther
Joseph S. Reynaud
Reynolds Metals Company
Shelley H. Richardson
Mr. and Mrs. Louis W. Ricaud, Jr.
Paul Harding Ricker
Grantley B. S. Ricketts
Paul T. Rieder III
Frank Riess
Douglas B. Robert
William D. Robert
Harry C. Robinson, Jr.
Jack M. Roehm
John E. Rogan
Dr. Harold A. Rosen
Herbert J. Roussel, Jr.
Edwin P. Russo, M.D.
Gerald L. Russo
Helena C. Ruthrauff
Robert E. Ryan III, M.D.
Joseph Saenz
Francisco J. San-Miguel
Donald B. Schell
Schlumberger Foundation
Richard K. Schmidt
Donald C. Schneider, Jr.
David E. Schof, Jr.
Richard Ian Scopp
R. Mallard Seago
Keith J. Seals
Richard G. Sellers, M.D.
William R. Shaw, Jr.
Shell Oil Company Foundation
Mr. and Mrs. Henry B. Shepard, Sr.
Mr. and Mrs. Chris R. Sheridan
Edward M. Simmons, Jr.
Louis O. Smith, Ph.D.
Millard P. Snyder

Society of Tulane Engineers
South Central Bell Telephone Company
Southeastern Investment Company, Inc.
Douglas Bruce Southon
Vincent D. Spear
Jack B. St. Clair
Kermit O. Stalter
Gary N. Stephenson
Ferdi B. Stern, Jr.
Henry E. Stern
Ellyn Mintz Stetzer
Richard H. Stetzer
Maurice I. Stewart, Jr.
Bruno Stolley
Carolyn G. Stolz
Earl A. Stolz, Jr.
Robert S. Stoops
Charles E. K. Strong
Kenneth J. Stucke
George A. Swan III, Ph.D.
Peter N. Talluto, Jr.
Tenneco Oil Company
Texaco, Inc.
Texas Instruments Foundation
Tetxon Charitable Trust
George H. Thompson, Ph.D.
Hugh A. Thompson, Ph.D.
Samuel J. Tilden, M.D.
Frederick Y. Tillery
Harold A. Timken, Jr.
T. Y. Hans Tjian
Karen C. Toms
Transco Energy Company
J. H. Trepagnier
TRW Foundation
Wilday Tudury
Susan Dray Tullington
Edson C. Tung

T. W. Twiford, Jr., M.D.
United States Gypsum Corporation
John V. Valenza
Edwin W. Vennard
Walter J. Verlander
Jaime Vide
Henry Luther Eugene Vix
Daniel H. Vliet
Henry W. Voelkel
Norman H. Voelkel
David C. Vogt
M. Franz Vogt
Foster Luhmeyer Wade
Frank H. Walk
Dr. and Mrs. Cedric F. Walker
John E. Walker
James M. Walley, Jr.
Stephan J. Walton, Sr.
William E. Watkins
James W. Watts III, Ph.D.
Thomas H. Weidman
Gregory M. Weitz
Mr. and Mrs. Albert L. Welch
Samuel G. Wellborn
Marion Wellford
Wells Fargo Bank N.A.
Westinghouse Electric Corporation
Whirlpool Foundation
James B. Whiteside
S. K. Whitty and Company
Jeffrey R. Wiener
Mr. and Mrs. Donald E. Wilson
John V. Wilson
Mr. and Mrs. John W. Wilson
Dr. and Mrs. Randall S. Winn
Dalton L. Woolverton
James A. Wright, Jr.

IN MEMORIAM

• The Tulane School of Engineering has lost a true friend and long-time colleague with the passing of John K. Mayer, Professor Emeritus of Civil Engineering, on March 27, 1992. Professor Mayer served on the faculty of Tulane's School of Engineering for 41 years, starting as instructor of experimental engineering in 1932 and retiring in 1973 as professor of civil engineering. He was a two-time graduate of the School of Engineering, having earned a bachelor of engineering degree in mechanical and electrical engineering in 1930 and a master's degree in 1937. He completed additional work at the Massachusetts Institute of Technology in 1940 in a new field known as soil mechanics.

He rejoined the Tulane School of Engineering faculty in 1945 as instructor of experimental engineering and rose to become professor and head of that department. In 1950, when the school was restructured, he was named professor of mechanical engineering. Because of his extensive research and consulting reputation in the field of soil mechanics, he was named pro-

fessor of civil engineering, his third professorship at Tulane. Broadly talented and much sought after as an expert, Professor Mayer was licensed by the state of Louisiana to practice in the fields of civil, electrical, and mechanical engineering.

In 1977, the School of Engineering honored Professor Mayer by renovating the Department of Civil Engineering Soil Mechanics Laboratory.

In 1990, Professor Mayer established an endowed fellowship fund as a memorial to his wife, Dixie Tharp Mayer. The endowed fund is known as The John K. and Dixie T. Mayer Fellowship Fund. Proceeds from the fund will be used to support a graduate student in the Department of Civil and Environmental Engineering.

We will miss this kind and gentle man whose love for teaching and dedication to his students were without equal.

• Shepard Francis Perrin, Jr. (ChE '42), a member of the Dean's advisory board, friend and benefactor to the School of Engineering, died Wednesday, January 29th at his home in Baton Rouge. A native of New Orleans and resident of Baton

Rouge, he was a realtor, consulting engineer and Exxon International Annuitant. He was former executive director of the Louisiana Superport Authority and a Navy veteran of WWII. He is survived by his wife, Elizabeth Rice Perrin of Baton Rouge, his son, Shepard Francis Perrin III, (ChE '83), and two daughters.

• Thomas Eaton Alexander, Jr. ME, EE'35, a member of the Dean's advisory board, died November 29th at his home in Baton Rouge. A native of New Orleans and a resident of Baton Rouge, he was founder and chairman of the board of Power Packing Company, Inc. He was a registered professional electrical and mechanical engineer and served on the boards of the Food Bank of Greater Baton Rouge, O'Brien House and the Association of Retarded Citizens. His survivors include his wife, Jeanne Perrodin Alexander of Baton Rouge and sons, Thomas E. Alexander III of Metairie, Sidney D. Alexander of Covington and James H. Alexander of Germany. He named the chemical engineering department's library and was a kind and generous friend to the school throughout the years.

• The Tulane School of Engineering notes with sorrow the death of James P. Ewin (CE '42) on June 30, 1991. Jimmy Ewin was a tireless supporter who served the school in many capacities. Ewin taught part-time for fifteen years in the Department of Civil Engineering, and was the first president of the Tulane Society of Engineers, as well as a member of the Engineering School's Board of Advisors. He was vice president of Keller Construction before forming the firm of Ewin, Campbell and Gottlieb in 1954. He will always be remembered by his students for his dry wit, soft southern drawl and wealth of knowledge of the construction industry.

• Tom Alexander (ME EE '35)
C. Dudley Andry (non-grad '34)
The Very Reverend C. Julian Bartlett (ChE '35)
Clement Burke Binnings (CE '39)
Ralph F. Cairns, Sr. (ChE '34)
Maurice F. Dufour (ChE '30, '33)
James Ewin (CE '42)
Hatley N. Harrison (ME EE '32)
Maurice Francis Hatrel, Jr. (EE '47)
John K. Mayer (ME EE '30, ME '37)
George H. Nusloch II (non-grad '48)

ALUMNI NOTES

A Hardy, Hearty Breed

In connection with the recent Reunion '91, the architects and engineers of the Class of 1931 held a dinner on the evening of Thursday, November 2nd at the Alumni House on Willow Street in addition to the general 60 year reunion reception for members of all schools held on Friday the 8th at the residence of Eamon Kelly, President of the university.

Present at the architecture and engineering dinner party were:

Mr. and Mrs. Jerome C. Baehr (engineering),
Mr. and Mrs. James S. Janssen (engineering),
Mr. and Mrs. Adolph E. Jastram (architecture),
Mr. and Mrs. Murvan M. Maxwell (architecture),
Mr. John J. Metzger (engineering),
Mr. John W. Wilson (engineering),
Mr. Samuel Wilson, Jr. (architecture).

We missed a few out of town classmates who were unable to attend, but those who were there had a great time seeing fellow graduates whom they had not seen for years. The gathering and the dinner, provided by the staff of the Tulane Alumni Association, were excellent and were deeply appreciated by those who attended.

James S. Janssen
CE '31

Alumni News

(CONTINUED FROM PAGE 5)

unbeatable record! He, his three sons and a daughter-in-law have all graduated from the Tulane School of Engineering. They collectively represent Chemical, Electrical and Mechanical.

John D. McBride (ChE '41) and spouse Dorothy have recently celebrated their 50th wedding anniversary. They live in Pass Christian where a number of other retired Tulanians are also enjoying Gulf Coast life.

Howard F. Marx (ME '43) recently retired from Northrop Corporation Aircraft Division where he was manager of long range planning.

William J. Jacobi (EE '43) founded Space Computer Corporation in Santa Monica in 1987. The company specializes in advanced signal and data processing systems for spacecraft and other applications and has been awarded ten Small Business Innovation contracts from the U.S. government. He would like to correspond with other Tulane Engineering grads from 1942-47.

Fred R. Frizelle, Jr. (ME '46) is retired in Honolulu and regrets that he was unable to join his old classmates Art Jenssen, Hans Steen, Joe Fowler, Charlie Boyle and others at the 1990 reunion.

1950s

George P. Bywater (ME '50) is living on Marco Island, Florida. He retired, after 34 years, from American Cynamid Co. as a corporate group vice president.

Myron A. Pessin (ME '53) is currently chief engineer for the external tank project of the space shuttle program at the Marshall Space Flight Center in Huntsville, Alabama.

Charles R. Pittman (CE '55) recently became president of the newly organized C.R. Pittman Construction Co., Inc. in New Orleans.

John E. Coles (EE '56) retired from New Orleans Public Service in 1989 and now serves as general manager of Freeport Power Company on Freeport, Grand Bahama Island, Bahamas.

Peter L. Mullins (ME '57) sold his consulting firm, Management Foresight, to Arthur Andersen & Co. in 1991 and is now living in Santa Barbara where he is still active consulting for construction and distribution firms.

Richard C. Faust (CE '59) retired from McDermott International after thirty-two years and now resides in Belgium where he is European representative for Amclyde, a manufacturer of large cranes.

1960s

Murray Bass, Jr. (CE '60) is an advisory trustee of the Driscoll Foundation and a member of the governing board of the Driscoll Children's Hospital in Corpus Christi, Texas.

Henry Paul Dorman (ME '60) acquired Dermatological Products of Texas, a manufacturing and marketing company for prescription and over-the-counter skin care products in 1990. He serves as chairman and CEO of the company, which boasts sales of over \$22,000,000 annually.

Richard N. Graham (ME '62, '64) is now working for ALCOA in Vidalia, Louisiana, after two assignments overseas.

Amaury Piedra (EE '64, '66), has recently joined NEOCAD in Boulder, Colorado, as president and CEO. The company markets proprietary tools for the development of field programmable gate arrays. He is also a new member of the advisory board to the School of Engineering.

William J. McBride (ChE '67) was elected president of MEI Engineers in Houston, Texas, a company responsible for providing project management teams to chemical plants and petroleum refineries.

Frank G. Adams (ME '69) is president of Interface Consulting International, Inc. in Houston. The firm has been in the top 50 area businesses per growth in sales and participated in the rebuilding of Kuwait through a joint venture with Kuwait United Construction Management.

Randall K. Nichols (ChE '67) is currently working on his Ph.D. in ChE at Texas A&I and is computer model development manager for Reynolds Metals Company in Corpus Christi, Texas. He is proud to have personally delivered new daughter Michelle Lynn on October 4, 1991.

1970s

John R. Huerkamp (ME '70, '72) was recently promoted to chief of

networks for the Sewerage and Water Board of New Orleans. His office is responsible for sewerage collection, water distribution and drainage in the city.

Steven R. Szymurski (ME '71) recently retired from the U.S. Army and joined the Air Conditioning and Refrigeration Institute in Herndon, Virginia, as a project manager in the research and technology department.

John T. Gray (CE '71, '72) was recently promoted to assistant vice president of chemicals and petroleum at Burlington Northern Railroad in Fort Worth, Texas.

Ronald Charles Guzman (CE '72) lives in Chatham, New Jersey, and is a corporate accounts manager with Digital Equipment Corporation where he has been appointed account manager for Mars, Inc. He will help develop long range computer system strategies in manufacturing, logistics, sales and marketing and administrative systems.

William F. McDonnell (Eng. '72) is a medical research officer with the U.S. Environmental Protection Agency and was awarded a Level I Scientific and Technological Achievement Award by the EPA for his work on the health effects of ozone exposure.

T. P. Fowler (EE '73) is a senior vice president with AGRI-CO Chemical Company, a division of Freeport McMoRan, in Mulberry, Florida. His family is celebrating the arrival of Kevin, their fourth child, second son.

Bob Mahood (EE '73) lives in Houston, Texas, with spouse Cheryl and two children, Brian and Lauren. He is senior counsel for Conoco, Inc., and is responsible for oil and gas transactions.

James E. Orth (ME '73) has been named general manager of Louisiana Land and Exploration Company's Denver, Colorado, division after completing assignment in LL&E's London division as engineering manager for Europe, Africa and the Middle East.

Rafael Alfonzo (ChE '74) has been chosen as president of the "Consejo Venezolano de la Industria" (the National Chamber of Industries) in Caracas, Venezuela.

William A. Settoon, Jr. (ChE '74) lives in New Orleans and is president of Settoon & Co., a financial and engineering consulting firm for natural gas producers and processors, and hazardous waste processors.

Timothy M. Peglow, P.E. (BME '76) is senior vice president of engineering and operations for LaPorte Hospital in LaPorte, Indiana. He is also chairman of the clinical engineering section of the American Society for Hospital Engineering.

Gregory D. Gurbach (ChE '76) has been appointed field facilities manager for Chevron in Papua, New Guinea.

Judy Kron (ChE '77) celebrated her 14th anniversary with DuPont in Wilmington, Delaware. She is field marketing program manager.

Richard G. Sellars, M.D. (ChE '78) lives in Tampa, Florida, with wife Beth, a mechanical engineer. He practices sports medicine and works with several Tampa area teams and is a spring training orthopaedic consultant with the Cincinnati Reds.

Marina E. Gregorio (CE '78) is an engineer with Barriere Construction Company in Metairie, Louisiana, and the proud mother of a second daughter, Laura, born April 29, 1991.

Duncan A. Simpson (CE '78) is an assistant U.S. attorney for the eastern district of Louisiana in New Orleans. He was recalled to active duty in the U.S. Navy Civil Engineering Corps and was sent to the Middle East during Operation Desert Storm.

Joseph E. Bavaria, M.D. (ChE '79) is chief resident in cardiac and thoracic surgery at the University of Pennsylvania. He and wife Kimberly had their first child, Melanie Evans, on February 12, 1991.

Nancy Freeman Mikkelsen (BME '79) is a senior training specialist at E.I. DuPont in Wilmington, Delaware. Nancy and her husband are the proud parents of their second child, Christian.

1980s

Laurie Hackett Gordon (BME '85) is in Friendswood, Texas. She

left the Air Force as a captain and joined the Texas Heart Institute in cardiovascular research.

Jeanne Nagele LeBlanc (CE '87, '88) is with Chevron Research and Technology as a structural design engineer in New Orleans. She married Christopher S. LeBlanc (A&S '76) on August 3, 1991.

Emily Verges Reynolds (CS '80) is a systems specialist with Mitsubishi Motor Sales of America and says the best part of the job is driving the latest model cars! She lives in Cypress, California, with husband Scott and two-year old son, Jordan who loves cars too.

Carlos A. Guio (EE '85) returned to Bogota, Columbia, where he founded Colare Trading Company in February 1991.

Patrick I. Borgen, M.D. (BME '80) is the attending surgeon at Memorial Sloan-Kettering Cancer Center in New York, where he lives with his wife Elizabeth and three children. He was recently named Director of the Breast Cancer Research Laboratory and is continuing research in oncogenes, cytokines and mechanisms of mitogenic signal transduction.

Tommy Meehan (ChE '83) will relocate to Mogeliv, Republic of Byelorussia in the former Soviet Union, to manage a new polyester polymer plant for Eastman Chemical Company.

Frank S. Brown (CE '80) co-founded Acadian Place Properties, a real estate investment firm which purchases and manages commercial properties in Lafayette, Louisiana.

Thomas F. Heausler (CE '81 '83) recently moved from San Francisco to Kansas City, Missouri, where he is a structural engineer for Burns & McDonnell. He and his wife Mary have two children, Emily and Abigail.

Daniel Mikulak, III, P.E. (CE '82, '91) is presently retained by the Far Eastern Textile Group in Taipei, Taiwan, as the chief project coordinator for the development of the Far Eastern Plaza, a 44-story twin-tower office, hotel and retail complex due to open in 1993.

Wendell G. Pfeffer (CS '83) was married in April 1991 in Acapulco, Mexico, to Leticia

Albarran of Mexico City. They now reside in Key Biscayne, Florida, and are expecting their first child in June 1992.

Larry Gros (ChE '80) is transferring back to Baton Rouge from Houston as a technology group manager for Vinyl Intermediates Applied Research with Exxon Chemical Company.

Robin Vaughn (ME '81) has recently completed the Gaspra Asteroid Encounter as a member of the Galileo Navigation team. The very successful optical navigation campaign led to early return of a Gaspra science image. This first close up view of an asteroid was recently released by NASA. Robin is now working on the Graf/Casini project and is with Jet Propulsion Laboratory in Montrose, California.

Ronald C. Anderson (BME '87) is an assistant professor at Tulane. He and wife Cathy are the proud parents of twin boys, Christopher Charles and Benjamin Dean, born May 27, 1991.

Tracy Heckler (CE '88) married Michael Santucci on October 26, 1991. She is working as a civil engineer for Project Design Consultants, a private consulting firm in the construction industry in San Diego.

Jane Kotecki, M.D. (BME '85) is currently completing her first year of emergency medical residency at Methodist Hospital in Fishers, Indiana.

Joe Bowers (CS '86) is a software engineer at Sunstrand Data Control (Avionics Systems Division) in Seattle. He is currently working on Boeing's 747-400 Data Management Unit.

Kenneth L. Vaughn (CE '89) is with the Texas Transportation Institute at Texas A&M in College Station as a graduate research assistant. He is the proud father of twins, Clovis Dillon and Paul Trevor, who were born on April 28, 1991.

1990s

Laura S. Popich (BME '91) is a research associate at the Tulane Medical Center doing biomechanical research which involves the three dimensional movement of the

Tulane Placement and Starting Salaries

A small sampling of seven of Tulane seniors' starting salaries:

Chemical: \$39,360-40,000

Civil: \$36,492

Computer Science: \$33,100

Mechanical: \$41,000

Electrical: \$38,000

The figures are representative of contracts offered by three oil companies, one paper company, one chemical company and one product manufacturer.

The top five national average starting salaries for 1991 college graduates (by major): chemical engineering (\$38,394); mechanical engineering (\$35,555); electrical engineering (\$34,917); industrial engineering (\$32,774); computer science (\$32,106).

Source: *Recruiting Trends 1991-92*, Michigan State University

knee and the comparative study of this motion with normal and pathological knees.

Ross Paskofi (BME '90) is a second year medical student at the University of Minnesota Medical School in Minneapolis.

Glen P. Harrod (ME '91) recently began work with ARCO as a facilities/production engineer for the Eastern District in Lafayette.

J. Curtis Killinger (Pet '91) and his wife are the new parents of Joseph Matthew, who joins sister Catherine, age 3. He is a senior research associate for Texaco E&P Technology in Houston and recently changed jobs from U.S. Upstream Headquarters to Worldwide Upstream Research, working in Basin Statistics/Risk Economics.

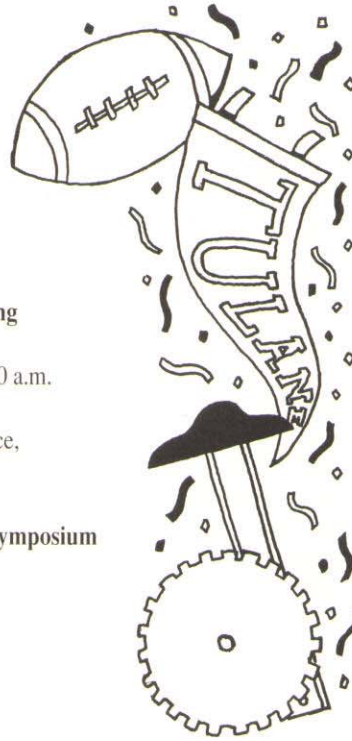
UPCOMING EVENTS

October 23-25, 1992 **Homecoming Weekend**

Friday, October 23 **Engineering Open House**
Reception and Centennial Photo Exhibit
Dean's Suite, Boggs Center
Time to be Announced

Saturday, October 24 **Society of Tulane Engineers Annual Meeting and Breakfast**
Faculty Dining Room, University Center, 8:30 a.m.
For more information, contact:
Shelley Richardson, Engineering Dean's Office,
Phone: 504-865-5764, FAX: 504-862-8747

November 12-13 **Third Biennial Industrial Electric Power Symposium**
Doubletree Hotel
For more information please contact:
Dr. Parviz Rastgoufard,
Department of Electrical Engineering,
Tulane University, New Orleans, LA 70118
Phone: 504-865-5785, FAX: 504-865-5526



The Tulane Engineer is published semiannually by the Society of Tulane Engineers, Engineering Dean's Office, Tulane University, New Orleans, Louisiana 70118

Society of Tulane Engineers
Board Members 1991-92

President

John Hardey

1st Vice President

Kay Erwin

2nd Vice President

Richard C. Meyer

Treasurer

Leonard C. Quick

Assistant Secretary

Ashlyn B. Hall

Assistant Treasurer

Alfred Freudenberger

Tulane

Society of Tulane Engineers
Engineering Dean's Office
Tulane University
New Orleans, LA 70118

Non-Profit
Organization
U. S. Postage
Paid
New Orleans, LA
Permit No. 173