Tulane Engineering
SPRING/SUMMER 1998
A Publication of the Society of Tulane Engineers

Biomedical Engineering Comes of Age

21 Year-old Department Celebrates with $1Million Gift

Tulane's Department of Biomedical Engineering reaches maturity this year with a $1 million boost from the Whitaker Foundation to develop a new laboratory and research program in computational tissue engineering. The grant will provide for expanded faculty and staff, graduate program assistance, and new course development for the department, which was ranked the 6th undergraduate program in the nation by the 1998 *Gourman Report*, and the 22nd graduate program by the 1998 *U.S. News and World Report*.

The Whitaker Foundation, the nation's largest private sponsor of biomedical engineering research and education, made the award under its program of Special Opportunity Awards in Biomedical Engineering that are designed to enhance the field through the establishment of permanent, high-quality programs that will have a lasting beneficial effect. This is Tulane's first Special Opportunity Award, although the Whitaker Foundation has generously supported the biomedical engineering

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Dr. Kay C. Dee, Director of the Experimental Tissue Engineering Lab, in front of Bio-Safety Cabinet planning the next experiment.

Dean Van Buskirk Named Provost and Senior Vice President at NJIT

Dean William C. Van Buskirk will become the Provost and Senior Vice President for Academic Affairs at the New Jersey Institute of Technology in October of this year. He will also be Foundation Professor of Biomechanical Engineering, an endowed position.

Dean Van Buskirk received his B.S. from the United States Military Academy at West Point, New York, and his M.S. and Ph.D. in Aeronautical and Astronautical Engineering from Stanford University. He joined Tulane University in 1970 as an instructor of biomechanics in the School of Medicine and transferred to the School of Engineering in 1971. He was instrumental in founding the Department of Biomedical Engineering and in 1977 was appointed its first head. He served in that capacity until 1991, when he was appointed dean.

Among the honors he has received is being named a Dow Outstanding Young Faculty Member by the ASEE in 1974. In 1981, he received the School of Engineering's Excellence in Teaching Award. In 1985, he was elected a fellow of the ASME. In 1986, ASEE gave him its outstanding Biomedical Engineering Educator Award. And in 1994, he was elected a fellow in the American Institute of Medical and Biological Engineering. Dean Van Buskirk's research interests are in the field of biomechanics. He has made significant contributions to understanding the mechanics of the semicircular canals and in the field of bone mechanics.

During his tenure as dean at Tulane, the school has seen a dramatic increase in student enrollment and quality, and in externally funded research. New faculty have been added and the departments of electrical engineering and computer science were merged in 1996. Dean Van Buskirk saw the opportunities presented in the rich history and traditions of the school of engineering. He organized the school's centennial celebration in 1994 and oversaw the 11.5 million dollar Centennial Campaign, the top priority of which is the now nearly complete renovation of Stanley Thomas Hall and the Civil Engineering Building. The School also added two new endowed chairs, an endowed professorship, and a number of new endowed scholarships. His efforts have resulted in a heightened awareness of the school and a dramatic increase in alumni participation.

His leadership has positioned the school to meet the educational challenges ahead and to excel in the 21st century. We wish him well in his new position.



Dean Van Buskirk

A Message from the Dean

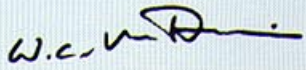
As I write this in mid-July, Tulane is in a period of transition. Scott Cowen, our new president, is on board and his influence is already being felt. We have three new department chairs in the school. John H. Grubbs is joining us from West Point to chair the Department of Civil and Environmental Engineering; Kyriakos Papadopoulos will be the new chair of Chemical Engineering; and Parviz Rastgoufard, the Entergy Professor of Electric Power Engineering, has agreed to chair the Department of Electrical Engineering and Computer Science.

Stanley Thomas Hall, the home of the Department of Electrical Engineering and Computer Science, is nearing the completion of a year-long renovation process. We will be rededicating the building on Friday, October 16, 1998. I hope you can join us on that date and see the building in its new splendor.

We are preparing for the entrance of a new freshman class. We expect 230 students, an increase of about 15% over last year. This increase was achieved while maintaining the high quality of the student body. The average SAT score of the freshman class will be over 1300.

I write to you with mixed feelings. I will be leaving Tulane in early October to assume the position of Provost and Senior Vice President for Academic Affairs at the New Jersey Institute of Technology. Leaving Tulane after twenty-eight years is very difficult. I have a deep affection for the University and the people associated with it. Both the University and the School of Engineering are poised for dramatic growth and I will miss being a part of it. I am excited, however, about the challenges and opportunities of my new position. An acting dean will be named soon, and I am confident that there will be a smooth transition of leadership.

Though I will be working elsewhere, a part of my heart will always be in New Orleans and at Tulane. Along with you, I will follow the progress of the institution with great interest. Like many of you, I will be back for Homecoming in mid-October. I hope to see you then so that I can say good-bye in person.



William C. Van Buskirk
Alden J. LaBorde Professor and Dean

Board of Regents Awards Fellowships

The Louisiana Board of Regents has awarded six more Graduate Fellowships to the School of Engineering. These are four-year fellowships to be offered to outstanding students who wish to pursue a doctoral degree. The awards are a result of successful proposals to the BOR's competitive selection process. The last award brings the current total BOR Fellowships to nineteen and the total funds committed to Tulane to more than $1.4 million. Associate Dean Efstathios Michaelides has been the author of the successful proposals and the principal investigator of these grants to the School of Engineering. To nominate qualified students, please contact the graduate division in the School of Engineering (504)865-5764 or emichael@mailhost.tcs.tulane.edu.

First High-Performance Concrete Bridge in Louisiana

Tulane's School of Engineering is involved in the design and construction of Louisiana's first bridge to be constructed of high-strength high-performance prestressed concrete. Through a three-year contract with the Louisiana Transportation Research Center and the Louisiana Department of Transportation and Development, the implementation of the new material will be accomplished in a prototype bridge to be constructed in Charenton, Louisiana.

High-strength concrete could be defined as concrete having a compressive strength from 9,000 psi to 12,000 psi and higher. Studies have indicated that an optimum value would be between 10,000 and 12,000 psi. High-performance concrete is concrete that is engineered to achieve enhanced durability and/or strength characteristics, while ensuring adequate constructability. The characteristics vary depending on the requirements of the specific member (e.g., deck, beam, substructure) and the location (e.g. freeze-thaw zone). High-strength concrete (HSC) and high-performance concrete (HPC) will both be used in the construction of the Charenton bridge.

Tulane's role is to participate in the preparation of the plans and specifications for the bridge, to instrument the bridge members for monitoring purposes, and to report the performance of the completed bridge. The work should be completed by the year 2000. This project marks the completion of some fifty years of prestressed concrete research conducted by Tulane's civil engineering faculty.

Tulane Initiative In Cuba

Early Background

When the Tulane University College of Technology opened its doors in 1894, one of the programs offered was in the field of Sugar Engineering. In 1898, a degree in Sugar Engineering was awarded to an engineer from Barbaua, Cuba. Thus began a relationship between Cuba and Tulane which endures to this day. In the following decades, the number of Cuban students in the College of Technology increased. In 1914, over twenty percent of the students receiving the degree in Chemistry and Sugar Chemistry were Cubans. At mid-century, Cuban students constituted an important segment of the School of Engineering, and were prominent in Tulane tennis and baseball activities. With the Cuban Revolution of 1958, the Cuban presence at Tulane began to diminish over the years. Now, one hundred years after the 1898 degree in Sugar Engineering, a new Cuban presence is being felt.

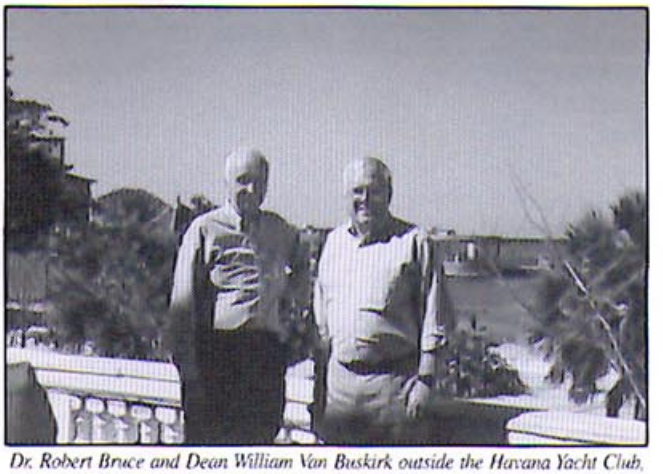
School of Engineering Initiative

In 1994, Tulane sought to expand international programs. In response to the University's interests, the School of Engineering submitted a proposal in November of 1994 aimed at programs with Cuba. The proposal envisioned student and faculty exchange, and suggested a School of Engineering involvement in the rehabilitation of the Cuban infrastructure.

In 1996, Tulane initiated the Summer in Cuba Program, an innovative program which provided Tulane students with the opportunity to study in Cuba under the direction of faculty from the University of Havana and from Tulane. The 1996 program was successful, and was followed by an expanded program in 1997. The success of the program has been enhanced by the Tulane Cuban Studies Institute directed by Dr. Nicholas Robins. The Cuban Studies Institute seeks to promote sustained academic collaboration and exchange with Cuban counterpart institutions and scholars, cultural exchange, and international dialogue. The Institute organizes conferences on topics related to Cuba, a speaker's series on Cuba, the Summer in Cuba Program, and a book exchange program. The Institute also promotes research and the interdisciplinary development and integration of Cuba-related topics and material into the university curricula through advising, academic matchmaking, licensing facilitation, and travel grants for faculty and graduate students engaged in work in Cuba. The program also fosters and coordinates Cuba-related initiatives in other units of the University including the School of Engineering.

1997 Collaboration with Cuban Counterparts

A Tulane delegation to Cuba in December of 1997 included Dean Donald Gatzke of the School of Architecture, Dean William Van Buskirk of the School of Engineering, and Dr. Nicholas Robins, Director of the Tulane Cuban Studies Institute. Accompanying the Tulane administrators were Dr. Eugene Cizek, School of Architecture; and Dr. Robert Bruce, School of Engineering. Institutions and organizations visited included the Instituto Superior Politecnico (ISPJAE); the National Center for Conservation, Restoration, and Museum Studies (CENCREM); the Group for the Comprehensive Development of the Capital (GDIC); the International Council of Monuments and Sites (ICOMOS); and the Oficina del Historiador de la Ciudad de la Habana. The Tulane delegation was warmly received by administrators and other representatives of the host institutions. In all cases the hosts expressed a willingness and a desire to establish collaborative relationships with their counterparts at Tulane. Of special interest to Tulane engineers was the expressed desire to establish educational and professional exchanges in the areas of infrastructure rehabilitation, biomedical engineering, and structural restoration and integrity.



Dr. Robert Bruce and Dean William Van Buskirk outside the Havana Yacht Club, Havana, Cuba.

Rehabilitation of Havana Infrastructure

Havana's history of buildings, indeed Cuba's history of engineering and architecture, goes back over four centuries. According to the National Geographic Society, there are today in Havana more than 900 buildings of historical importance: 144 from the 16th and 17th centuries, 200 from the 18th century, 463 from the 19th century, and 101 from the 20th century. Old Havana, occupying some 242 city blocks, is like a place frozen in time. There has been almost no new construction since the Revolution. A visitor returning after forty years will find very little changed with the exception of the deterioration largely caused by lack of maintenance. Old Havana has remained essentially unchanged for centuries, a collection of historic structures so extraordinary that UNESCO designed Old Havana as a World Heritage Site in 1982.

Presently, Havana is in the midst of an active program to restore and preserve many of the older structures. The current phase of rehabilitation is described in The Master Plan for the Integrated Revitalization of Old Havana, published by the Historian of the City of Havana. The Master Plan addresses the restoration and preservation of historic structures; the transport and road network including road, rail, and maritime transport; and the infrastructure network including water supply, drainage, and electrical systems. It is noted that the railway was built in 1837, public gas lighting in 1848, the urban transportation system in 1862, telephones in 1888, and electric lighting in 1890.

For a time beginning in 1990, the changes in Eastern Europe and the effect on Cuba's economy, plus the increase in repressive measures arising from United States foreign policy, not only slowed down the pace of building and restoration work, but almost brought it to a complete standstill. In more recent years the pace of restoration has quickened, and foreign investment has increased significantly. Between 1988 and 1995, foreign investment was in the form of joint ventures and other forms of association with state enterprises. In 1995, it became possible for foreign companies to operate without the necessity of a joint venture.

Present-day Havana consists of fifteen municipalities within the City of Havana including Old Havana (Habana Vieja) and Central Havana. While the Historiador de la Ciudad de la Habana

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Stanley Thomas Hall to be rededicated

Homecoming 1998 will have a historical tone: the University's alumni association will celebrate its centennial, and the School of Engineering will rededicate Stanley Thomas Hall. The School will celebrate the renovation of the 86-year old building that has been home to thousands of engineering students over the decades at a rededication ceremony that will take place on Friday, October 16, 1998, at 6:00 p.m., on the building site. Tulane's new President, Scott Cowen, will preside. A reception will immediately follow and all alumni and friends of the School are invited to attend. For more information call the engineering dean's office (504) 865-5764.

Dean Van Buskirk realized the need for the School of Engineering to renovate the historic buildings in the engineering complex to keep pace with the demands of increasingly sophisticated technology. The renovation of Stanley Thomas Hall, the Civil Engineering Building, and the Mechanical Services extension became the cornerstone of the School's Centennial Campaign which emerged from its recognition of its centennial anniversary in 1994.



The recently completed $2.5 million renovation has preserved the historic façade of the building, erected in 1910, while modifying the interior to accommodate sophisticated wiring, electronic classrooms, modern laboratory facilities, project design and assembly rooms, as well as newly designed faculty and graduate offices. The exterior has been enhanced and a new roof added. The building will house the Department of Electrical Engineering and Computer Science.

The modernization of Stanley Thomas Hall has been made possible by the generosity of all who contributed to the Tulane Engineering Foundation for this purpose. Funding is nearly complete for the venerable building that embodies the spirit of the past one-hundred years and is now equipped to take new generations of Tulane Engineering students into the next century.

Have you noticed our new logo?

Laurie Orth of the Dean's Office organized a logo design competition last fall and all students and faculty were invited to enter. The winner was announced at a "Competition Cook-out" on November 14, 1998, and Dr. Kay C. Dee of the Biomedical Engineering Department received the prize.

Tulane Engineering

Class of 1948 Celebrates 50-year Reunion

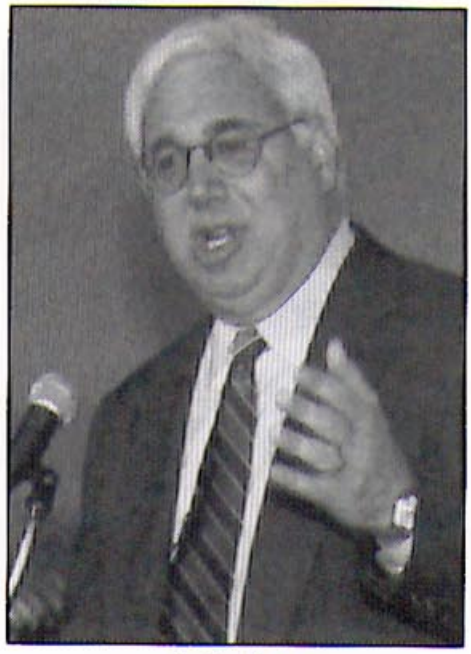


Nick Gagliano, John Walker, Robert Bland (winners of trivia pursuit game), and Dean William Van Buskirk (second from left).

The Class of 1948 held their 50th year reunion on Saturday, May 16, in the lobby of the Lindy Boggs Center. Dean and Mrs. Van Buskirk welcomed the alumni and their spouses and guests to a fun-filled evening of dining and dancing. A trivia game, played by most of the attendees, ended in a tie-breaker for second place. The three winners were announced and prizes were awarded.

Nick Gagliano was persuaded to take the stage and tell a very entertaining story about the 1948 St. Pat's campaign. He was campaign manager for Richard Blake, who was in attendance at the event, along with St. Pat 1948, Robert Bland.

Tulane Welcomes New President



President Cowen

In December, after a nearly year-long search, the Tulane Board of Administrators announced the selection of the next president of Tulane University.

He is **Scott S. Cowen**, Dean of Case Western Reserve University's Weatherhead School of Management in Cleveland, Ohio. On July 1, 1998, he became the 14th president of Tulane and arrives with an academic background in accounting and management, more than 18 years' experience as an administrator, and a reputation as a strong institutional and civic leader.

As dean of the Weatherhead School, Cowen led the school in three fundraising campaigns, raising more than $80 million in private donations. Under his leadership, the school's endowment increased from $6 to $75 million, with research funding jumping from $250,000 to $2 million. Cowen is credited with guiding the school to innovative approaches in curriculum design, management education within the university and adult learning. He has authored four books and more than 50 articles.

Cowen sits on the boards of Rubbermaid Inc., American Greetings Corp., Forest City Enterprises Inc., and Fabri-Centers of America Inc., and is a member of a number of community organizations. He serves as a consultant to a host of Fortune 500 companies, privately held companies and local, state and federal government agencies.

"It's rare when a business school dean becomes the president of a university like Tulane," said Cowen, 51, during a phone conversation held shortly after the board's announcement. "Once people get to know me, however, I think they will feel very comfortable with me and my core values. They will come to understand that my interests and experiences span many, many different areas of university and civic life."

"We are headed for very interesting times," said Cowen, who has a five-year contract with Tulane. "Higher education will continue to change and go through a transition over the next 10 years unlike anything we have ever seen before."

As for Tulane's future, Cowen said he could not now, obviously, be specific as to what changes his administration would bring to campus. He offered some broadly outlined hints, however.

"I philosophically believe that private institutions should be decentralized because the action occurs at the school or unit level," he said. "Therefore, I will arrive with a strong feeling that decentralization of a private institution is positive, and that it can be a good thing for the deans and faculties to have more freedom of action. What there needs to be is a strategic, academic and financial architecture throughout the central level that guides the decentralization. I go into this with that bias and will be asking if that fits with Tulane's culture and its strategy for the future."

"We are headed for very interesting times. Higher education will continue to change and go through a transition over the next 10 years unlike anything we have ever seen before."

--President Scott Cowen

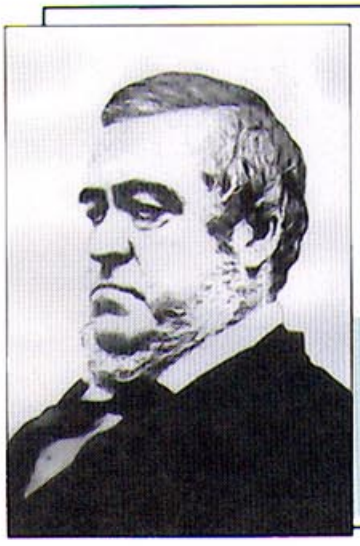
"As president," continued Cowen, "it is part of my responsibility to work with my colleagues on campus to develop a vision and a strategy for the future of Tulane. Once that is articulated, it is my charge to be the person who can talk about it externally to our various constituencies and marshal the resources for us to realize our aspirations."

Cowen and his wife, Marjorie, are parents of four grown children, all of whom are pursuing careers and will not be relocating with their parents.

Cowen admits that he has been only an occasional visitor to New Orleans, but that he has been made well aware of the singular nature of the city's culture. "I'm looking forward to learning about the city," he said. "I'd like to believe that I've not gotten so old that I can't adjust to new things. I go into this with a smile on my face and welcoming the opportunity for a new set of experiences."

Excerpted from an article written by Nick Marinello for the Tulanian, Winter 1997-98

Biomedical Engineering



Dr. Warren Stone, a native of Vermont, was part of the founding triumvirate of the Medical College of Louisiana (later Tulane University). Stone came to Louisiana in 1832, began teaching when the Medical College of Louisiana opened in 1835, and remained on the faculty until his death in 1872. He was a pioneer in biomaterials, being the first to recognize the antiseptic properties of silver sutures. He was the first surgeon to use anesthesia in Louisiana.



Dr. Rudolph Matas was dedicated to Tulane for nearly 80 of his 97 years. An 1880 graduate of the medical school, he made medical history in 1888 when he sutured an aneurysm instead of ligating it. During his long career on Tulane's faculty, he introduced intravenous administration, and was co-inventor of an early mechanical respirator and several surgical instruments. He bequeathed one million dollars to the medical school upon his death in 1957.

Dr. George Burch received both his undergraduate and medical degrees from Tulane. He began teaching at Tulane in 1934 and continued his devotion to research and medicine until his death in 1986. Burch was an early and leading authority on quantitative assessment of cardiovascular disease, but he believed that clinical observation was more revealing than instrument data.





Professor James A. Cronvich joined the Tulane Engineering Faculty in 1942 and retired as head of electrical engineering in 1980. From 1946 to 1986 Cronvich and George Burch worked together on research projects relating to electrocardiology, radiation effects, and digital plethysmography.

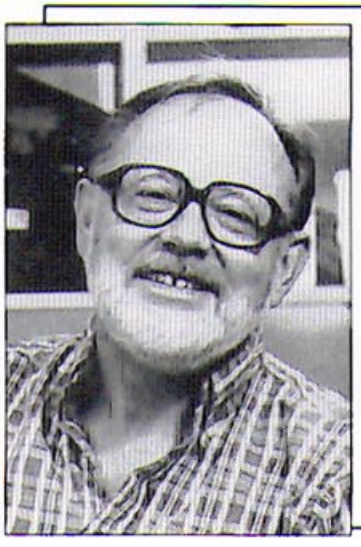


Dr. Jack Wickstrom was Professor of Orthopedics from 1955 until his death in 1979. During that time, he worked with a number of engineers to assess impact acceleration injuries and whiplash, and to design better p[illegible] thetic joints.

g - The Formative Years

Professor John L. Martinez, of the Department of Mechanical Engineering, worked with Jack Wickstrom in the 1960's and 1970's on the effects of whiplash. In addition to teaming up for research, they were also partners in education. Wickstrom often asked Martinez to lecture to his medical students about strength of materials and mechanics.





Dr. Stephen Cowin was a member of the Tulane Engineering faculty from 1969 until 1989. Cowin's early research interest was in mechanics of materials. In the mid 1970's when Tulane began to develop a strong biomedical engineering faculty, Cowin's interests moved into biomechanics. His strong theoretical and mathematical ability was a great complement to Klawitter and Weinstein's experimental abilities. Cowin, now at the City University of New York, was one of the most effective teachers in the School of Engineering.

Dr. Samuel Hulbert came to Tulane as Dean of Engineering in 1973. He had a strong background in biomedical engineering and saw that Tulane had many of the resources needed to establish a biomedical engineering department. In his first year as dean, he recruited a critical mass of faculty members to Tulane who had interests in biomedical engineering. Hulbert's research interests were in biomechanics and biomaterials. In 1976, Hulbert left Tulane to become President of Rose Hulman Institute in Terre Haute, Indiana.





Dr. William Van Buskirk came to Tulane in 1970 as a post-doctoral fellow in orthopedics, and stayed on to become a member of the mechanical engineering faculty. He founded the Biomedical Engineering Program (later Department) in 1974, and was chosen to be Dean of the School of Engineering in 1991. Dean Van Buskirk is a specialist in fluid mechanics.



In 1975, Jerry Klawitter and Allan Weinstein came to Tulane from Clemson. In addition to being close friends, they both had a strong background in biomaterials. Klawitter and Weinstein had a strong understanding of the practical and clinical side of engineering. Together they worked on the use of porous material implants, dental implants and hip replacements. Klawitter left Tulane in 1980 to develop a new heart valve, and Weinstein left in 1981.

President's Corner

A warm greeting to all Tulane engineers from myself and all STE officers. As the weather in New Orleans starts to creep into the dog days of summer, I would like to reflect on the past academic year for the school of engineering and look forward to next year. This year has been an interesting one for the STE as we strive to serve you better.

Last year, with the help of the Dean's office, we finally got our STE website fully functional. I urge you to visit this site at www.tulane.edu/~ste and let us know what you think. Any events that are of interest to the alumni, including both alumni and university events are placed on this site. Please send us any information that you would like to communicate to your fellow alumni. In addition to this, we are currently in the process of compiling an email list for the alumni association so that we can keep you better informed.

The major event for the fall is the homecoming brunch. The brunch will be held on October 17th at the City Energy Club. Since this location is convenient to the Superdome, we will have no problem getting to the game. In addition, we are planning a golf tournament during the same weekend. Please let us know if you would be interested in this event.

I am hoping that the rest of this year goes as smoothly as the beginning. I urge you all to become more involved in the STE and let us know what you would like. Please feel free to send me an email at rcurran@freeman.tulane.edu or contact me through the STE website.

-- Rob Curran

CUBA, *continued from page 3*

Vieja is principally concerned with Old Havana, the Group for the Comprehensive Development of the Capital (GDIC) is concerned with the rehabilitation and development of all fifteen municipalities comprising greater Havana.

Outlook for the Future

In their book HAVANA (Wiley, 1997), Segre, Coyula, and Scarpaci estimate that the restoration of Havana will require $10 - $14 billion dollars. While other cities were constructing shiny high-rise towers and fast-food outlets, Old Havana, Central Havana, and Vedado have retained their original shape, and as a result Havana's architectural, historical, and cultural character has remained intact. The restoration and preservation of national landmarks and monuments is proceeding with enthusiasm and state support, limited only by available resources. The restoration and rehabilitation of the infrastructure is being addressed as resources become available. Areas identified as requiring attention include education, public transport, road network, water supply and drainage, communications, energy, and environment.

Against the historical background of Tulane-Cuban relations, and through the effective efforts of the Tulane Cuban Studies Institute, the School of Engineering continues to provide direction in present and future engineering educational programs related to Cuba.

(Article submitted by Dr. Robert Bruce, Department of Civil and Environmental Engineering)

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Visit the STE Home Page at www.Tulane.edu/~ste

Boh Lecture to be Held in October



Dr. Charles H. Thornton to present Boh Lecture.

The 1998 Catherine and Henry Boh Lecture in Civil Engineering will be presented by Dr. Charles H. Thornton, Chairman of Thornton-Tomasetti Engineers. Dr. Thornton holds a B.S.C.E. degree from Manhattan College, and M.S.C.E. and Ph.D. degrees from New York University. His thirty-two years experience with Thornton-Tomasetti has included involvement in the design and construction of billions of dollars worth of projects in the U.S. and overseas, ranging from hospitals, arenas and high-rise buildings to airports, transportation facilities and special projects. Representative projects include the 1,475 foot tall twin Petronas Towers in Kuala Lumpur, Malaysia; the 50-story Americas Tower in New York; the 65-story One Liberty Place in Philadelphia; and the 50-story Chifley Square Tower in Sydney, Australia, as well as several sports stadiums around the country. He is presently on the visiting faculty at Princeton University and Manhattan College.

Dr. Thornton's lecture will surely raise the debate over "what is the world's tallest building," and he will be able to shed light on what constitutes this distinction. Officially it is the Petronas Twin Towers at 452 meters. The Sears Tower is 10 meters shorter.

The lecture will be held on October 22, 1998, at 4:30 p.m. in the Herndon Thompson Lecture Hall, Richardson Memorial Building. For more information or to make reservations call Virginia Rouzan at (504)865-5749.

Michaelides Invested as Weil Professor of Mechanical Engineering



Dr. Michaelides & Provost Martha Gilliland

The inclement weather on the afternoon of January 12, didn't dampen the spirits of the many guests who attended the investiture of Dr. Efstathios E. Michaelides as the Leo S. Weil Professor of Mechanical Engineering, not even when the violinist played "stormy weather." The Harold Bohn family, who generously endowed the professorship, greeted numerous family members and friends, and Dr. Michaelides entertained members of his family from as far away as Mexico.

Juanita and Harold Bohn established the professorship in mechanical engineering to honor the life and achievements of her father, Leo S. Weil. The professorship will support Dr. Michaelides' research.

Since coming to Tulane in 1990, "Stathis" Michaelides has established himself as one of the most widely respected international researchers in mechanical engineering, thermodynamics, and multiphase flows. A native of Greece, Prof. Michaelides received a bachelor of arts in engineering science and economics from Oxford University in 1977. He received his master of engineering science in 1979 and his Ph.D. in 1980 from Brown University. He is currently a professor of mechanical engineering and associate dean for graduate studies and research in the School of Engineering.



Harold Bohn addressing audience at investiture.



Juanita Bohn & Dean Van Buskirk at reception following investiture.

Charitable Giving That Pays:

The Pooled Income Fund Can Increase Retirement Income

Tulane's pooled income fund is an ideal arrangement for donors who want to support Tulane, but need to keep income for themselves or others. As the name suggests, gifts to the fund are pooled and invested together. Each of the fund's beneficiaries receives a pro-rata share of the fund's income for life, and then his or her share is transferred to Tulane to be used as directed by the donor.

A gift to the pooled income fund has the advantage of simplicity. Although the fund is a trust, individual donors to the fund do not create a separate trust. A donor makes a gift to the fund simply by signing a brief act of donation. The minimum gift requirement is $5,000.

Donors to the fund enjoy several tax advantages. A donor who makes a gift to the pooled income fund may claim an income tax deduction for the present value of what Tulane eventually will receive. Several factors affect the amount of the deduction, such as the number of beneficiaries, their ages, and the fund's rate of return in prior years.

Also, donors who give appreciated securities to the fund avoid recognition of capital gain. Tulane's fund accepts gifts of cash or marketable stocks and bonds. It cannot accept gifts of real estate or tax-exempt securities.

Beneficiaries of the fund receive income checks quarterly. Retaining income allows many donors to make a larger gift than they thought possible. In fact, some donors find that they can actually increase their income by making a gift to the fund.

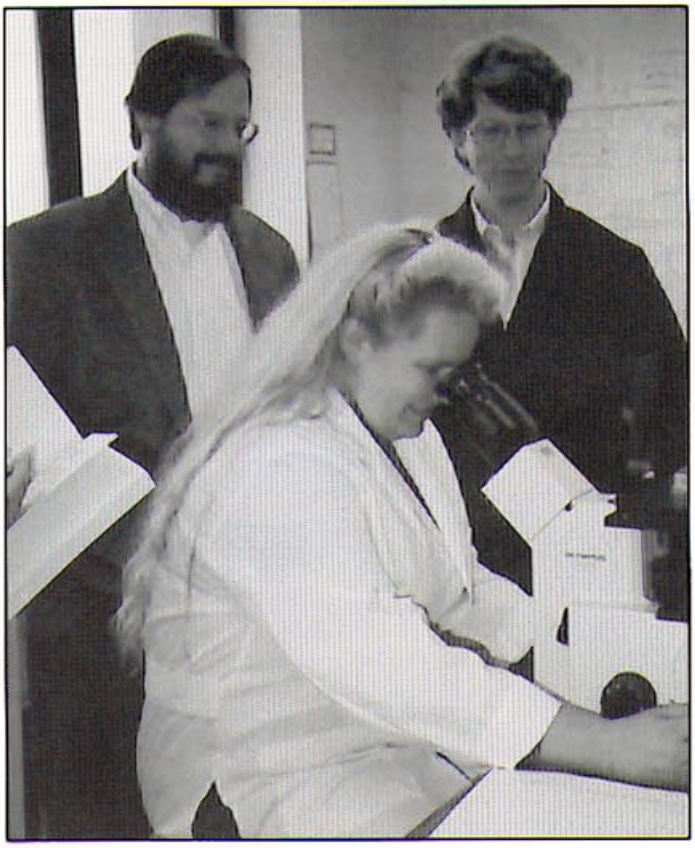
An example:

George, age 60, owns highly appreciated stock with a value of $50,000. The stock pays no dividends. He donates it to Tulane's pooled income fund and specifies that it will eventually create an endowed scholarship fund in his name at the School of Engineering.

George increases his income to approximately $3,000 in the first year without recognizing capital gain and gets an immediate income tax deduction of approximately $18,800.

The investment objective of the pooled income fund at Tulane is to maximize the fund's real return over inflation, while providing a consistent income stream approximating 6% annually over the long term. All income distributed is taxable as ordinary income. The rate of income is not guaranteed and depends on market conditions. The fund's management strategy aims to have the income grow along with the remainder interest that eventually will go to Tulane. This potential for growth in income can be a hedge against inflation.

Tulane's Office of Planned Gifts works with donors who are considering making a gift to the pooled income fund or other planned gifts to Tulane. For more information, call Lizbeth Turner, Director of Planned Gifts, at (800)999-0181 or (504)865-5751.



Graduate student Anastacia Bilek examining cells under microscope in Experimental Tissue Engineering Lab, with Department Chair Richard T. Hart (left) and Associate Professor Donald P. Gaver (right).

department over the last thirteen years. In all, Whitaker has given over $1.8 million, including two conference awards and six research grants, and most recently a 1995 award for heart stimulation modeling.

The $1million grant will create and equip a new Computational Tissue Mechanics Laboratory that will serve as a "companion laboratory" to the recently established Experimental Tissue Engineering Laboratory. The laboratory focus will be primarily in computational modeling and will include cell and tissue level investigations of bone growth and remodeling, cell adhesion, mechanotransduction, and the effect of fluid stresses on pulmonary epithelial cells. New curriula will include coursework in advanced tissue engineering and the interaction of tissue and biomaterials. Department Chair Richard Hart describes the new program and laboratory as "emphasizing a collaborative environment with industry and promoting interdisciplinary research between different academic areas, such as mathematics, chemical engineering, nephrology, orthopedics, ophthalmology, and bio-environmental research."

According to Donald Gaver, Associate Professor of Biomedical Engineering who will co-direct the project with Hart, the new laboratory and program "are a natural extension of our educational and research programs and will add new directions and create dramatic improvements to our teaching and research missions."

Grants such as the Whitaker continue to distinguish Tulane's Department of Biomedical Engineering, which enjoys the advantage of maturity and a fine reputation in the increasingly competitive field. Biomedical engineering is "hot" and new departments are being started at a number of universities. Studies suggest that there will be more employment opportunities than can be filled with new programs and increasing enrollments. The need for students with problem-solving skills and quantitative abilities is expected to grow well into the next century, and biomedical engineering and innovations in health care will be part of the U.S. strategic advantage in the world economy in the next century. "It is estimated that by the year 2015, biotechnology as a commercial enterprise will be a $600 billion industry and one of the largest employment segments in the United States." (Georgia Tech Alumni Magazine, Winter 1998.)

Tulane's department has matured since its founding twenty-one years ago, expanding its focus on mechanics to a broader range of investigations encompassing electrical engineering, signal analysis, and materials. The department has developed a strong expertise in computational modeling and analysis with specific foci on investigations of bio-solid mechanics, electrophysiology, and bio-fluid mechanics.

Tulane was a pioneer in the field of biomedical engineering, establishing a separate department in 1977. The department evolved under the leadership of Dean William Van Buskirk, from joint research efforts among faculty in the School of Engineering and the Schools of Medicine at Tulane and Louisiana State University in New Orleans. The genesis of this collaboration can actually be traced to the turn of the century when professors from Tulane's College of Technology, along with renowned Tulane physicians such as Drs. Warren Stone and Rudolph Matas, solved emerging health and sanitation problems in the city. In the forties and fifties, electrical engineering professor James Cronvich worked with physician George Burch on research projects related to electrocardiology, radiation effects, and digital plethysmography. The orthopedic roots of the present department were established in the collaboration of Mechanical Engineering Professor John Martinez and Dr. Jack Wickstrom who, along with other engineers, studied whiplash and the design of better prosthetic joints.

The biomedical program took shape in the 1970's when then Dean Samuel Hulbert, now president of the Rose-Hullman Institute of Technology, recruited faculty with biomedical expertise. The first degrees in biomedical engineering were awarded in 1974, and in 1977 four senior faculty members in mechanical engineering and one newly hired faculty member formed the separate department. The undergraduate program was accredited by ABET in 1981, and is now the largest major in the School of Engineering with approximately 180 undergraduates, and 60 graduate students. There are eleven faculty members, including the dean of the School of Engineering. Three new faculty members will be added within the next year. First-rate students continue to be attracted to the department whose faculty and staff are committed to excellence in research and teaching, and whose research active faculty teach both undergraduate and graduate courses. The faculty is committed to conducting the highest quality research and to training undergraduate and graduate students to participate in that research.

Tulane's prominence in the field of biomedical engineering will be enhanced by the new Whitaker grant, a catalyst that will catapult Tulane's biomedical engineering programs beyond the original vision and well into the twenty-first century. To achieve the award, institutional commitments were made to build biomedical engineering as part of the university's strategic plan, and to establish a departmental endowment and add endowed faculty chairs. Hart says the biomedical engineering faculty is excited about the opportunities ahead. **"By coupling our vision for excellence in education and research in biomedical engineering with substantial new resources, we intend to further establish Tulane as one of the nation's leading biomedical engineering departments", says Hart.**

In Memoriam

John L. Bell, Sr. (E'41)
Howard M. Craig (ME'29)
Lee Gordon deBrueys (EE'62)
Wallace Verloin deGruy (EE'39)
Gayden Derickson (CE'34)
Ralph Elizardi (ME/EE'34)
John P. Fernandez (ME/EE'30)
David George Frantz (EE'57)
Casimir Graugnard (EE'38)
Van Eaton Hart (ME'39)
Wiliam Follett King (ME'46)
George Elmer May (ME/EE'26)
John D. McBride (E'41)
Clifton Roos Newlin (ME/EE'37)
Ralph Peter Nolan, Jr. (ME'42)
Robert Cregor Reid (ME'46)
Wesley B. Root, Jr. (ME'45)
John Andrew Scott (ME'85)
Thomas P. Sherburne, Jr. (non-grad'43)
James K. Simpson (CE'44)
F. J. Hardoncourt Trepagnier (E'35)
John Anthony Usner, Jr. (non-grad'47)
Edwin W. Vennard (ME/EE'24)
Walter Jay Verlander (ME'42)
Charles S. Witcher, Jr. (non-grad'44 BA'48)
Capt. James Anderson Wright, Jr. (CE'36)

Memorial donations to a general engineering scholarship are welcome.

Alumni News

1930's

James S. Janssen (CE'31) reports that he is still employed as a senior consultant at Waldemar S. Nelson & Co. After 62 year of marriage, he and Dot have 3 children, 8 grandchildren and many great-grandchildren.

W. L. Argus (CE'36) asks that if any of his old classmates and friends from Tulane days are still around, please contact him at bilarg@datasgnc.com.

William S. Huey (ChE'39) lives at 5269 Marcia Ave., New Orleans, LA 70124, and writes that "I would like to have things to do to keep busy in retirement." If anyone knows of any volunteer work, please get in touch with him!!!

Donald E. Jahncke (ME'39) has retired from Ford Motor Company and is now teaching manufacturing strategies at the College of Engineering at the University of Michigan.

1940's

Capt. Charles Bittenbring, III (CE'40) is retired but stays very active doing volunteer work with a boy scout troop, having accompanied his troop for the 33rd consecutive year to summer camp. He is currently the Virginia State President for AARP and also serves on committees at his church.

Wilfred Hellmers Charbonnet (ChE'40) and his wife, Jacquelyn, have nine grandchildren. They toured China this year.

Robert W. Adamson (ChE'41) continues to actively support engineering education at all school levels. As "honorary captain" of the '41 class ski team, he plans to be at various western ski resorts this winter and hopes to see some Tulane people on the slopes.

Howard F. Marx (ME'43) retired from Northrop Corp. in 1991 and is now co-chairman of ASAA Wright Flyer Project, a group of aircraft/aerospace engineers who have built a 1903 Wright Flyer reproduction and are preparing it for full scale wind tunnel tests in the spring of 1998. The project is generating, for the first time, definitive data describing the flight characteristics of the first successful aircraft for educational use in the field of flight dynamics.

Edward Moore (ME'48) is President of AARP Chap. 4530 and does volunteer work at senior centers teaching computers.

1950's

Robert Boh (CE'51, MCE'53) reigned as Rex, King of Carnival, during the 1998 Mardi Gras season in New Orleans.

Erwin R. Johnson (ME'52) retired in 1992 from the Port of New Orleans. He stays busy by volunteering at the VA Hospital in New Orleans assisting hospitalized veterans. He was a P.O.W. in the Pacific Theatre for 3 1/2 years. His hobbies are bowling, golfing, and stamps.

Roger K. Battle (ME'55) reports that he is "alive and well at Lake Tahoe."

Jay W. Oppenheim (ME'56) was elected president of the New Orleans F. Edward Hebert Chapter of the Marine Corps Reserve Officers Association.

1970's

Robert M. Meith (CE'72) retired after 30 years with Chevron Corporation and now resides in Diamondhead, MS.

Ltc. Walter Lee Murfee, II (E'72), his wife, Diane, and their four children continue to live in Tampa, FL.

Rafael Negron Romano (CE'75) is president of Underwater Engineering & Research Corp. in San Juan, Puerto Rico. They do structural assessments of piers and marine facilities. If ever in Puerto Rico, he says to please call him at 273-0302.

1980's

Larry Gros (ChE'80) is a staff planning advisor in Exxon Corporate Planning in Irving, TX. He and his wife, Jan, have three children.

Carrie Haydel (CE'84) graduated from Tulane's Executive MBA program in August, 1997.

Rachelle Meaux, M.D. (BME'89) is married to Tim S. Montgomery, formerly of New Orleans. They have a son, Spencer Thomas, born Feb. 27, 1997. She is currently in private practice in ob/gyn in Lafayette, LA.

John P. Darling (ME'89) received his juris doctor from George Washington University Law School in May, 1997, and was admitted to the Virginia Bar in Oct. 1997.

1990's

Tracy L. Bosemer-Merkley (BME'95) married Brian Merkley in October of 1997. She is working as a sales rep for KOS Pharmaceuticals, specializing in the cardiovascular field. She and Brian reside in Louisville, KY.

Navy Ensign Matthew A. Mato (E'96) recently reported for duty with Training Squadron 22, Naval Air Station, Kingsville, TX.

Navy Ensign Bryan L. Ross (EE'96) has recently reported for duty with Training Squadron 22, Naval Air Station, Kingsville, TX.

Upcoming Events

October 16-17, 1998	**Homecoming Weekend**
October 16	**Rededication of Stanley Thomas Hall** Ceremony on site with reception immediately following 6:00 p.m. For information and reservations call 865-5764
October 17	**Society of Tulane Engineers Jazz Brunch & Annual Meeting** Hall of Fame Induction and Alumni Awards City Energy Club • 1100 Poydras 11 a.m. to 1 p.m. • $15 per person For information and reservations call 865-5764 (spouses and guests welcome)
	Game at Superdome **Tulane vs. University of Louisville** 2:30 p.m.
	Postgame Homecoming Celebration at Superdome immediately following game

(Join in the Homecoming Festivities as Tulane's Alumni Association celebrates 100 years!)

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

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