Commencement Weekend Festivities

COMMENCEMENT CEREMONIES

President Scott Cowen presided over the unified Commencement 2001 ceremony at the Louisiana Superdome on May 19, 2001. Degrees were conferred by the President and each school then held its own individual ceremony where the degrees were actually placed in the hands of the graduates. The School of Engineering Ceremony was held at the Morial Convention Center.

Dean Nicholas J. Altiero welcomed graduates, family members and guests before introducing the keynote speaker, Colonel Albert J. Wetzel (BS EE’39). Col. Wetzel and the late William Preston Johnston are the latest recipients of the School of Engineering Hall of Fame Award. This prestigious award was established during the 1994 Centennial and is among the highest school honors bestowed by the Tulane University School of Engineering.

AGAIN, TWO VALEDICTORIANS

For the second year in a row, there were two valedictorians in the graduating class. Both Shamik Jian and Sean O’Neil earned perfect 4.0 averages for their four years of undergraduate study at Tulane. Shamik, a chemical engineering major, is beginning his first year of medical school and Sean, an electrical engineering major, is fulfilling his military obligations.

There were 152 graduates receiving bachelor of science degrees this year, 17 receiving master of science in engineering degrees and 3 receiving master of science in computer science degrees. Doctor of philosophy degree graduates were recognized and re-hooded and ROTC graduates were recognized.

Graduates and their families and friends joined engineering faculty and staff at a reception following the ceremony.

CLASS OF 1951 REUNION

One of the highlights of the commencement ceremony was participation by the returning members of the Class of 1951. They were recognized at the unified ceremony, and at the engineering program, Tommy Meehan (ChE’83), Alumni Association Board Member and President of Society of Tulane Engineers, presented them with 50-year certificates.

These alumni were wine and dined, along with their spouses and guests, at several functions throughout the weekend. The School of Engineering’s 50 Year Reunion Dinner-Dance was held on Friday night in the lobby of the Lindy Boggs Building, and was preceded by the Emeritus Club Luncheon held at noon the same day in the University Center.

SEE PHOTO GALLERY ON PAGE 4
A Message from the Dean

I have now completed my first year as dean and what a year it has been! As I outlined in the previous edition of Tulane Engineer, it is our intention to increase the size of the School of Engineering at Tulane and we are off to an excellent start. In fall 2001 we will welcome 6 new faculty members to our ranks bringing our total to 58. And we will soon begin searches for at least 5 additional faculty members to join us by fall 2002. In the next edition of Tulane Engineer we will feature these new faculty members and I am certain that you will find them to be a very impressive group. All of them are first-rate scholars and dedicated educators. With their addition, we will continue to build upon our research strength in four targeted areas of excellence: advanced materials, bioengineering and biotechnology, energy and environment, and information technology and computational science.

During this past year we have also focused on preparation for an ABET (Accreditation Board for Engineering and Technology) re-accreditation visit, scheduled for mid October 2001. This preparation has involved the articulation of specific educational objectives for each of our undergraduate degree programs and implementation of processes to measure how effectively these educational objectives are being achieved. In developing these programs educational objectives, our faculty has sought the input of industry through advisory boards that have now been established in each of our departments. Through the processes that we have put into place, we will seek to continuously improve our already strong undergraduate degree programs. Some of the improvements I envision over the next few years are expansion of the design experience throughout the curriculum from the freshman year to the capstone design project, summer internship experiences for all of our students, and more opportunities for our students to engage in an international experience without prolonging the time it takes to complete the degree.

As we have reviewed our undergraduate programs, we have taken the opportunity to review our graduate programs as well. Through this process we have identified ways to strengthen our research-oriented PhD and MSE programs. As a prestigious AAU university, Tulane is one of the top producers of research scientists and engineers in the country and we must continue to ensure that our research programs attract the very best minds in the world. We have now also introduced a new practice-oriented graduate degree program, the Master of Engineering (MEng) degree, and have developed a joint MBA/MEng program with the A.B. Freeman School of Business. MEng programs will be offered in each of our engineering disciplines and specialized programs such as one in engineering entrepreneurship are also being developed.

As I said, it has been quite a year. And we are just getting started. Your comments and suggestions are always welcomed and your continued support is deeply appreciated.

Nicholas J. Altiero
Dean of Engineering
Bequest To Help Renovate Building, Upgrade Equipment

Dramatic changes are in the cards for the Department of Civil and Environmental Engineering. The department recently announced it is the recipient of a $4.4 million bequest from the estate of Catherine G. Spaar of San Antonio, who died in November.

Her late husband, William H. Spaar, was a 1922 graduate of Tulane’s engineering school.

The resolution establishing the Spaar memorial fund is specific in its description of how the money is to be used, according to Nicholas Altiero, dean of the engineering school.

“The resolution says that all the funding will go into an endowment, which should have a pay-out of approximately $250,000 per year,” says Altiero. “Eighty percent of that must go toward graduate student scholarships.”

This means that approximately $200,000 of the endowment’s annual income is earmarked for support of graduate students in the department.

“The other 20 percent is for infrastructure needs - laboratories and maintenance of facilities in the Department of Civil and Environmental Engineering,” says Altiero.

John Niklaus, interim chair of the department, estimates the funding should boost the number of graduate students in the department from 15 to more than 20. “It will be very helpful to our faculty to have graduate student support enabling them to increase their research efforts,” says Niklaus.

The department concentrates on engineering research in several areas, including structures, environment, water quality modeling and pollution control.

According to Niklaus, the department is currently engaged in recruiting a new chair and two faculty positions, one in structures and the other in geotechnology.

“These funds will help us do more research, which should generate more funds in the future. It’s a good beginning,” he adds.

It turns out that this is very timely,” says Altiero, “because we are about to renovate the civil engineering building.”

For the past several years the department has carried on a campaign to raise funds to renovate the civil engineering building, which is one of the original structures on the uptown campus. Engineering classes were first held there in 1894 in the front building of a cluster of structures that was then called the mechanical and electrical laboratories building.

“The building is old, and the spaces are not efficiently used,” says Altiero. “The renovation will open up the space to create big laboratory areas and to redo the offices.”

The funds collected by the campaign were intended to help renovate the building, not to cover the cost of updating equipment for the building’s laboratories. Then the Spaar fund was announced.

“This gift addresses the No. 1 priority of the department’s capital campaign,” says Altiero, “and it addresses it perpetually because there will always be about $50,000 a year for laboratory upgrading, and of course, that’s important.”

Work on the renovation is scheduled to start as soon as classes end in May, with completion planned for the middle of the fall semester.

“It’s a tight window,” says Altiero. “We’re timing it in such a way that we have as little disruption as possible.”

“This fund will give us the resources to be competitive with the very top schools in getting good graduate students,” says Niklaus. “It’s a really wonderful resource for this department to become a first-class, top-notch department.”

(Written by Arthur Nead of Inside Tulane and reprinted with permission)

At Long Last — Civil Engineering Renovation Begun

While there was no groundbreaking ceremony to herald the beginning of construction for the renovation of the civil engineering building there certainly will be a dedication ceremony in the very near future. Fundraising for the renovation began in 1997. The reconstruction work began at the close of classes last May and is to be completed prior to classes this fall. The building will be re-dedicated in honor of Walter E. Blessey, Sr. Blessey, Professor Emeritus, is well loved and well remembered by many students who made multi-year commitments to support the renovation costs.

Scenes of the renovation underway in the Civil Engineering Building
Summer Program in Environmental Engineering and Science (SPEES) 2001

SPEES 2001 attracted twenty-four students (6th, 7th and 8th grade) to campus this summer to participate in a program sponsored by the National Institute for Global Environmental Change (NIGEC). Faculty ran the program. Student selection for the program was based on a 300-word essay of personal science interest and expectations of value gained from participating in the program. Students were selected from public and private New Orleans area schools and attended at no charge.

SPEES 2001 was designed to give students hands-on experience with subjects such as solar power and water quality testing. This year, Dr. David Sailor repeated the popular project of building and racing solar power cars and addressed the students on alternate energy sources. Dr. Laura Steinberg discussed water quality and had participants test water samples from their homes, build a simple filtration system, and visit a water treatment plant and pumping station. Dr. Hank Bart (EE/OB) led discussions on the Mississippi River and how fish populations can be tested over time to evaluate the quality of the river. He had the students collect fish samples from an overflow pond of the river. They also visited the Tulane Natural History Museum in Belle Chase. The week concluded with a visit to the NASA Stennis Space Center in Mississippi. Other faculty members participating in the program included Dr. Annette Oertling (coordinator), Dr. Calvin Mackie and Dr. Jack Grubbs.

Faculty participation from the participating public and private schools was limited to two local science teachers, who each received a computer in order to provide further educational outreach in their own classrooms.
Biomedical

Dr. Ron Anderson has been awarded the undergraduate student government’s John Stibbs Award for Outstanding Undergraduate Professor for the University for the academic year 2000-2001.

Dr. Kirk Bundy participated as a member of the National Science Foundation Biomedical Engineering and Research to Aid Persons with Disabilities Peer Review Panel, which met in Washington, D.C., in March. This panel peer-reviewed Phase I Small Business Technology Transfer grant applications.

James Eason, an associate research fellow, has been awarded a Whitaker Foundation Biomedical Engineering Grant for his project entitled “The role of phase singularities in determining defibrillation efficacy.” Funding began on September 1, 2001 and a total of $240,000 will be awarded over three years.

A proposal submitted jointly by Dr. Donald Gaver of biomedical engineering, Dr. Ricardo Cortez and Dr. Lisa Fauci (both from LAS math faculty) for a Center for Computational Science was recently established with $1.9 million in funding from the Department of Energy. The Center will provide infrastructure to build on existing research strengths at Tulane, and unify and leverage the dispersed resources currently underway in the liberal arts and sciences and the schools of engineering, medicine and public health and medical medicine in this area. It will encourage the use of computational tools across science disciplines, and serve to identify and develop team-taught interdisciplinary courses that will bring together students of different departments.

Department Chair, Rich Hart, has been awarded the 2001 Theo C. Piklinton Outstanding Educator Award from the Biomedical Engineering Division of the American Society for Engineering Education. This national award recognizes individuals who, through establishing records of excellence in areas of education, research and administrative service, have helped shape the field of biomedical engineering education.

Glen Livesay, assistant professor, has received a Faculty Early Career Development Award from the National Science Foundation. The grant will help fund his efforts to better understand the stress applied to cells from activities such as walking or standing, which could lead to the development of engineered tissue as a replacement for damaged ligaments.

Dr. Livesay has received funding for his BORSF grant “Functional Evaluation of Soft Tissue Insertions to Bone: Establishing Design Criteria for Engineered Insertions.” He will investigate the interface between soft connective tissues and bone. The grant of $152,000 will cover a three-year period.

Drs. Paul Nunez and Kirk Bundy have been elected into the College of Fellows of the American Institute for Medical and Biological Engineering in recognition of their contributions to the field. These awards raise the number of AIMBE fellows in the Department of Biomedical Engineering to four.

Natalia Trayanova, associate professor, has received a four-year National Institutes of Health grant for her project “Virtual Electrode Hypothesis of Defibrillation.” She will collaborate with Igor Efimov at Case Western Reserve University. The total award is $1.8 million.

Dr. Trayanova has also been awarded a Fulbright Distinguished Scholars Award to support a sabbatical that will be spent working at the Mechatronic Feedback Group in the University Laboratory of Physiology at Oxford University in England.

Dr. Trayanova’s grant proposal “Roles of Structure and Heterogeneity in the Induction and Maintenance of Atrial Reentry” has received funding from the American Heart Association. The two-year grant with funding of $120,000 in direct costs will allow her and her postdoctoral fellow, Dr. Edward Vigmond, to uncover the mechanisms of atrial arrhythmias and fibrillation.

Chemical

A joint proposal submitted by Dr. Vijay John, chemical engineering, Dr. Gary McPherson, chemistry, and Dr. Samuel Landry, biochemistry department, has resulted in the establishment of an Institute for Chemical Sciences at Tulane. This project proposes to focus on the enhancement of collaborative research efforts in the chemical sciences, an area of existing strength at Tulane. Faculty with research interests in these areas will be eligible to participate in the institute’s efforts and activities. Funds from the bequest received from the Lallage Feazel Wall Estate will provide support for workshops, educational development and seminars.

Dr. Kim O’Connor has been named principal investigator of a $522,000 grant from NASA for the study of “Spatial Organization within Prostate Cancer Spheroids.” Co-Investigators are Dr. Daniel DeKee and Dr. Sandra Clejan, Professor of Pathology at Tulane Medical School. This grant is for a period of 3.2 years.

Dr. O’Connor has also received Tulane’s Interdisciplinary Teaching Award for the year 2001.

Dr. Peter Pintauro is the recipient of the 2001 School of Engineering “Outstanding Researcher Award.” He has authored or co-authored 58 archival publications and numerous proceedings papers and book chapters. He is also the holder of four U.S. patents. Dr. Pintauro will be presented this award at a special ceremony in the fall.

Civil and Environmental

Dr. Reda Bakeer has received the Louisiana Engineering Foundation’s “2001 Engineering Faculty Professionalism Award.” He is presently President Elect of the New Orleans Branch of the ASCE and serves as a member of the committee for reviewing the City of New Orleans building code.

Dr. Glen Boyd has been named principal investigator of the project “Methods Development to Study the Occurrence and Treatment of PPCP in Southeastern Louisiana” with funding provided by the Office of Naval Research and Center for Bioenvironmental Research: Bioenvironmental Hazards Research Program.

In December 2000 he was named co-investigator of the project “Field Testing of Surge Modeling Prediction to Verify Occurrence of Distribution System Intrusion.” The AWWA Research Foundation funded this project.

He is also principal investigator of the grant “Tools for Predicting DNAPL Removal by Alcohol Flooding in Heterogeneous Porous Media,” which is funded by the Louisiana Board of Regents Support Fund.

During the month of April, Dr. Boyd was invited to speak at Virginia Tech, Blacksburg, Virginia and Hartwick College, Oneonta, New York about his ongoing research in environmental engineering.

Dr. Laura J. Steinberg was an invited panelist at a workshop entitled “Critical Infrastructure: Needs in Interdisciplinary Research and Graduate Training.” The workshop was held at the White House Conference Center on June 14-15 and was co-sponsored by the White House Office of Science and Technology Policy and the National Science Foundation.
Electrical Engineering and Computer Science

Dr. Bill Buckles has been named principal investigator of the $3,000,000 grant establishing the Tulane Center for Missile Defense. The mission of the Center is primarily to conduct technology enabling research that assists the Ballistic Missile Defense Organization with the development of new methods for detecting, tracking, discrimination, aim point selection, and ultimately intercepting missiles that threaten U.S. interests at the theater or national level. This includes methods and technologies for assessing the results of missile defense engagements. An ancillary mission is to provide post-graduate education and training that meets the needs of officers in the Armed Forces whose military specialties involve missile defense and to be a source of expert advice for BMDO affiliated organizations.

Associate Dean Andrew Martinez, along with Tulane alumni Brian Bourgeois and Michael Harris, were awarded U.S. Patent 6,201,763 for their depthimeter.

Dr. Fred Petry has received an appointment as a Distinguished Researcher of the Navy Summer Faculty Program. He will work at the Naval Research Laboratory investigating knowledge discovery and data mining in spatial databases. Furthermore, he will continue this work all of next year supported in part by the Navy at NRL on his sabattical leave.

He recently presented the paper “Vagueness in Spatial Data: Rough Set Approaches” at the 14th International Conference on Engineering Applications of Artificial Intelligence in Budapest, Hungary.

Dr. Parviz Rastgoufard will serve a second term as chair of the department. His appointment will be for five years and will run through June 30, 2006.

Dr. Marin Simina has received funding for his BORSF research proposal entitled “Smart Agenda: Supporting Opportunistic Information Search.”

Mechanical

Dean Nicholas J. Altiero recently attended the American Society for Engineering Education Annual Meeting in Albuquerque, New Mexico where he was elected to the position of Vice President for Institutional Councils of the American Society for Engineering Education (ASEE). He was already a member of the Board of Directors of ASEE but this new post places him on the Executive Committee of the Board where he will represent the four institutional councils of the Society (the Engineering Deans Council, the Engineering Research Council, the Engineering Technology Council, and the Corporate Member Council). In addition, he has been selected by ASEE to be one of two candidates who will run for election for President of ASEE next March. Dr. Jack Grubbs recently rotated off the Board so at one time 2 of the 19 board members were from Tulane.


Dr. Mike Lynch, former interim dean for the school and Professor of Mechanical Engineering, is currently on leave and is working on establishing a center for entrepreneurship for the school. He will be working with local businesses and alumni who are interested in entrepreneurship at Tulane.

Dr. Monte Mehrabadi will serve a second term as chairman of the department. His appointment will be for five years and will run through June 30, 2006. Dr. Mehrabadi co-chaired a session and presented two papers: A Micromechanical Constitutive Model for the Behavior of Concrete: I. Theory, and II. Validation at the 2001 ASME Mechanics and Materials Summer Conference held on June 27-29, 2001 in San Diego, CA. The two papers are co-authored with Dr. Norma J. Mattei who is an Associate Professor of Civil Engineering at the University of New Orleans.

Dr. Efstrathios Michailides, Associate Dean for Graduate Studies and Research, was the General Conference Chair of the 4th International Conference on Multiphase Flows. This conference takes place every four years, The most recent one, sponsored by Tulane University, attracted 580 attendees from 46 countries.

Dr. Annette B. Oertling received her Ph.D. from Tulane Mechanical Engineering in May 2001 and will join the department this fall as the first supervisor of laboratories. In this new capacity, she will continue to teach mechanics and computer applications courses, participate in experimental research, and advise students on modern experimental methods and safety issues.

Dr. Asher Rubinstein was promoted to the rank of Professor of Mechanical Engineering effective July 1, 2001.

New Faculty Appointments/Additions

Dr. Andrew Martinez has assumed the position of Associate Dean for Undergraduate Studies. Dr. Martinez will continue to serve on the faculty of the Department of Electrical Engineering and Computer Science. His research background is adaptive estimation, acoustic signal processing, remote sensing and digital signal processing.

Martinez has been on the faculty of electrical engineering and computer science since 1983 and has served as chair of the department.

Dr. Yunfeng Lu has joined the faculty of the chemical engineering department as an assistant professor. Prior to coming to Tulane, Lu worked as a senior processing engineer at Applied Materials in Santa Clara, California and served as a research assistant professor at the University of Mexico. His research area is in self-assembled nanostructured materials.

Dr. Lu received his Ph.D. in 1998 from the University of New Mexico. His dissertation was titled “Nanoporous Silica Based on Sol-Gel Processing and Templating Approaches.”
The Engineering Student Council kicked off their annual Tulane Engineering Week celebration on March 10, 2001. The entire week was devoted to engineering related activities. It was the students' time to honor the engineering profession and promote the school.

The first day of E-Week was celebrated with the Elementary School Tutoring Session held at Wilson Elementary and Pre-College Initiative Day, both sponsored by NSBE. On Monday ASCE and SWE held a “Back to Kindergarten” party; Ultimate Frisbee sponsored by AICHE and SWE on Tuesday; High School Junior Day sponsored by ASME and a Barbecue/Volleyball Tournament sponsored by BMES and ESC on Wednesday; and the IEEE Picnic on Thursday. Friday’s activities climaxxed the week with the Tulane University Robotic Battle (TURBO) Competition and the crawfish boil/faculty auction closing down the show.

The Tulane Engineering/Computer Science Honor Scholar Society sponsored the TURBO competition. It involved 18 teams entering their robots that were limited to a 2 x 2 x 2-ft. size for competition against each other with the winner being the robot able to move the farthest. The winning robot was MO 7 Misfits, with team members Michael Cousin, David Bircher, Adam Bedway, James Brosch and Burnley Bell. Judging the competition from behind a protective screen that protected the audience from flying parts were Dean Nicholas Altoe, Associate Dean Andrew Martinez, Dr. Annette Oertling and John Green (ME ’95) of Walk, Haydel, Danes & Moore.

Thank You to all of Our Donors

Sincere thanks are extended to alumni and friends who supported the School of Engineering through contributions this past year. We are pleased to call special attention to those who contributed $10,000 and above this past fiscal year.

Planned gifts were received from the Sparr Estate ($4.4 million) and the Estate of E.V. Richards, Jr. ($5727).

A gift of $120,000 was received from the Edward G. Schliefner Education Foundation and was accompanied by a pledge to establish an endowed chair in Biomedical Engineering. ExxonMobil Foundation ($23,230) and Shell Oil Company Foundation ($22,000) supported their employees’ contributions to the School of Engineering by matching funds donations. Proctor and Gamble Fund ($10,150) and Exxon Company ($13,500) contributed to departments within the School of Engineering.

Mr. and Mrs. Gerald M. Haydel, Mrs. Nancy M. Derickson, Robert E. Craig, III and Dr. and Mrs. John Dane contributed to the Tulane Engineering Foundation with their contributions of $10,000 or more. A $25,000 contribution from the Eugenie and Joseph Jones Family Foundation was used to open an endowment fund for the School of Engineering.

Mrs. Winifred K. Deley generously added $20,000 to the previously established Claude Kelley Fund, of which she is a benefactor. Mrs. Rose Mary (Decker) Bernstein (BS EE ’57) provided funding for the Decker-Bernstein scholarship. Dr. Irwin Frankel (BS ChE ‘42) contributed a gift annuity that will provide scholarships for engineering students. Scholarships continue to play an integral role in attracting the best and brightest students. The class of 2001 scholarship recipients included six summa cum laude graduates, three magna cum laude graduates, four cum laude graduates, and ten who received departmental honors. These scholarship recipients are extremely grateful for the opportunities given to them, as evidenced by the following excerpts from a thank you letter.

“I had always hoped to attend college but the financial burden had been insurmountable . . . through your generosity, I attend, with great pride, this fine institution. What I have gained here at Tulane, the education and support, is invaluable.”

“The . . . scholarship has reaffirmed my commitment and enthusiasm to do work that is honorable to both Tulane University and its alumni. Thank you.”

Annual Senior Dinner and Award

On April 25, Society President Tommy Meehan welcomed the Class of 2001 to the annual senior awards banquet where numerous outstanding graduating seniors were honored. Awards were given for scholastic excellence with some geared to a special interest of the donors and some for activities in various professional societies. The recipient of the STE “Samuel L. Sullivan, Jr. Student Award for Service and Scholarship” was Stacie Nakao.

Dr. James MacLaren, Chairman of the Department of Physics, was on hand to present the “Joseph J. Kyame Physics Award” to engineering student Phillip Nguyen. This is a campus wide award given annually by the physics department.

The “Leon H. Schreck Memorial Award,” established in 1922 and the oldest award presented in the school of engineering was given to Shamik Jain and Sean O’Neil. The criterion for this award is excellence in scholarship in engineering and these two recipients were the valedictorians with perfect 4.0 GPA’s.

Faculty awards were also presented from student chapters of various engineering societies. This year’s recipients of the STE “Lee H. Johnson Award for Teaching Excellence” were Dr. Kim O’Connor’s chemical department, and Dr. Andrew Martinez of the electrical department and associate dean for undergraduate studies. The “Outstanding Staff Award” given by the students went to Laurie Orth.
Hard Research Delivers "Concrete" Results

An elegant snow-white bridge spanning a canal in southeastern Louisiana represents the advances of four decades of cutting-edge research by Tulane's Department of Civil Engineering. The Charenton Canal Bridge, on the banks of picturesque Bayou Teche, is the first bridge in the state and among the first in the nation to be built using high-performance concrete, a state-of-the-art material for civil engineering projects requiring concrete.

Tulane, together with its partners, was recently awarded the American Concrete Institute's Award of Technical Excellence for the bridge project. Those partners include the Louisiana Department of Transportation and Development, the Louisiana Transportation Research Center, Construction Technology Laboratories and Gulf Coast Prestress.

"Tulane was involved in prestressed concrete from the very beginning," says Robert Bruce Jr., the Catherine and Henry Boh Professor of Civil Engineering and an expert on concrete structures. "The Charenton bridge is a culmination of an almost 40-year effort. I honestly think that if it were not for the research at Tulane, this bridge would not have been built."

According to Bruce, Tulane initiated research projects beginning in the 1940s, with sponsorship from the Federal Highway Administration and the State of Louisiana. "I think we were the first American university to get involved in prestressed concrete."

What is concrete? Colloquial speech creates some confusion about the nature of the material. "The layman often fails to distinguish between 'cement' and 'concrete,'" says Bruce. "Especially in New Orleans, people talk about 'cement sidewalks.' The sidewalks aren't cement, they're concrete. Concrete is made of cement, water, gravel and sand."

When water and the solid ingredients are mixed, the cement-water mixture undergoes a chemical reaction and the whole mixture hardens into concrete. Reinforced concrete has steel rods running through it to give it additional strength. Prestressed concrete takes this idea a step further. To manufacture a prestressed concrete component, such as a pile or girder, steel rods are laid through the concrete casting form, and then put under tension. The concrete is then cast around the steel. After the concrete has hardened, the tension is released on the steel. "It's like a rubber band," says Bruce. "It wants to go back, but it can't, because the concrete has surrounded it."

Other developments have revolutionized concrete and its possible applications. High-performance concrete reflects a change in the composition of the mixture. A key new ingredient is silica fume, a byproduct of specialized blast furnace operations. The Charenton bridge was built entirely of high-performance concrete components, all manufactured at the Gulf Coast Prestress Plant in Pass Christian, Miss. Tulane and the plant have had a close working relationship for several decades, a relationship that Bruce credits with much progress in the development of high-performance concrete technology.

"It's not easy to produce high-performance concrete," says Bruce. Extra care must be taken in both its fabrication and construction.

"We had to do quite a bit of experimentation at Gulf Coast Prestress before we could achieve it. "The Charenton bridge was the culmination of an awful lot of research. For the first time, we took all this research and put it into a real structure," says Bruce.

These advances in concrete technology promise to greatly increase the life expectancy of highway bridges, which will result in saving public money for maintenance and replacement costs.

"The Federal Highway Administration has mandated that by 2005, all federal projects will use high-strength concrete," says Bruce. "As we look at infrastructure and sustainability, we want to make those structures last longer. Some time ago a bridge was expected to last 30 years. Now there's no reason a bridge couldn't last 100 or 150 years."

(Written by Arthur Nead and published with permission from Inside Tulane)

Editor's Note: Dr. Robert N. Bruce, Jr. will be the keynote speaker at the Tulane Engineering Forum. He has received numerous awards and recognitions during his many years of research in prestressed concrete, the latest of which was being named a Fellow of the Prestressed Concrete Institute for his outstanding contributions to the industry and to the Institute. His award will be presented at the PCI Annual Convention in October of this year.

---

Graduate Students Receive Prestigious Fellowships

Rebecca Brennan and Byron McCaughey are the new recipients of Louisiana Engineering Foundation's Vincent A. Forte Graduate School Fellowship. Both were recognized at the 5th LA Joint Engineering Societies Meeting in Baton Rouge on February 15. Their selection was made because of outstanding accomplishments and the desire to enter the teaching profession in the field of engineering.

Rebecca is a graduate student in biomedical engineering, who entered the program in the fall of 1998. Her undergraduate work was done at Louisiana State University. Byron is a doctoral student in chemical engineering and is a Board of Regents Fellow. His undergraduate work was also done at LSU.
President’s Corner

We read and hear a great deal about investments, 401(k) plans, retirement savings and the like. In addition, any professional society magazine we read will feature articles on Career Development and Professional Growth. In other words, the resources spent investing in yourself, developing marketable skills, and broadening your network of contacts are well worth the effort. As members of the Society of Tulane Engineers, we are investing in ourselves as well as the Tulane University School of Engineering.

Our degrees we earned from Tulane University are with us forever. We have the ability to make a positive impact on our futures through STE involvement, which enhances the reputation of the School of Engineering. Take a look at the Tulane Engineering Forum website - http://www.eng.tulane.edu/tef. This is our STE working with our faculty to bring in nationally recognized experts in their fields for the 2nd Annual Engineering Forum to be held September 21, 2001 in New Orleans. It has been both a great experience working on this program and a great fun. It is all about enhancing the reputation of Tulane and reinvesting in our degrees. Come forward with your ideas for the 3rd Annual Tulane Engineering Forum in 2002D! It is our STE...our university.

Thomas P. “Tommy” Meehan

2000-2001 Society of Tulane Engineers Officers

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Tommy Meehan</td>
<td>504-733-6739</td>
<td><a href="mailto:tmeehan@intralox.com">tmeehan@intralox.com</a></td>
</tr>
<tr>
<td>Vice-President</td>
<td>David Gereighty</td>
<td>504-280-5687</td>
<td><a href="mailto:dgereighty@uno.edu">dgereighty@uno.edu</a></td>
</tr>
<tr>
<td>Secretary</td>
<td>Dave Kanger</td>
<td>504-738-1143</td>
<td><a href="mailto:DAK@modjeski.com">DAK@modjeski.com</a></td>
</tr>
<tr>
<td>Treasurer</td>
<td>Robert Kahl</td>
<td>504-734-4335</td>
<td><a href="mailto:Robert.Kahl@spr.doc.gov">Robert.Kahl@spr.doc.gov</a></td>
</tr>
</tbody>
</table>

LEAP Awards Banquet

The 19th Annual Louisiana Engineering Advancement Program (LEAP) Awards Banquet was held on May 10, 2001. Keynote speaker was Tulane’s own Jamie Granger, a computer engineering major. Dean Nicholas J. Altiere introduced Ms. Granger. Dr. Calvin Mackie of the mechanical engineering department serves on the Board of Directors.

LEAP was founded in 1979 with the objective of attracting ethnic minority students and assisting them in the preparation for careers in engineering. Over 30 middle, junior high, and senior high schools in the New Orleans metropolitan area take part in this program that is sponsored by contributions from the corporate community and a grant from the Department of Energy.

The wide array of programs and activities sponsored or provided by LEAP has assisted over 5700 students with over 80% entering college. Of those students entering college, over 55% chose engineering or other mathematics and science based curricula.

Alumni News

Tulane Grad Headed to Space

Hurley, a Marine fighter pilot, can expect to participate in a space flight within five years.

Among the many honors bestowed upon Col. Hurley include graduating magna cum laude with honors from Tulane School of Engineering: Distinguished Graduate, Tulane University NROTC: Distinguished Graduate, Navy Flight School; and the Stephen A. Hazelrigg Memorial Award for Best Test Pilot/Engineer Team, Naval Strike Aircraft Test Squadron. At Strike, he participated in a variety of flight-testing including flying qualities, ordnance separation, and systems testing and became the first ever-Marine pilot to fly the F/A-18 E/F Super Hornet. Hurley was serving as the Operations Officer at Strike when selected for the astronaut program. He has logged over 2200 hours in more than 20 aircraft.

He was awarded the Navy and Marine Corps Commendation Medal and various other service awards, and was selected as a pilot by NASA in July 2000 he reported for training in August 2000.

Hurley credits Tulane Civil Engineering Professor Robert Bruce for being “the guiding light” that inspired him to reach for the stars.

CLASS NOTES

1940s

Edward G. Holmes (EE’44) attends classes at Emory Senior University in Atlanta. He takes mostly philosophy courses. In September, he was in Los Angeles for his son’s wedding. He did not travel abroad this year.

1950s

Stan Chiocchio (ME’57) has retired after selling his business. In retirement, he is teaching Advance Placement Physics at Isidore Newman School, 1904 Jefferson Avenue, New Orleans, Louisiana.

James O. “Jimmy” Gundlach (ME’58) and his wife, Susan (N’60) were presented with the Tulane Alumni Association “Volunteers of the Year” Award at a ceremony held May 6th.

1960s

Robert M. Bailliet (EE’64) was elected 2001 President of the Instrumentation, Systems and Automation Society (ISA). ISA, formerly the Instrument Society of America, is an international professional technical society.

Cesar Lombana (ChE’65), manager of the MDE Program & Regional Partnership Department at Sandia National Lab, received the Professional Achievement Award last October at the
Hispanic Engineer National Achievement Awards Conference in El Paso, TX.

Noah Long (CE'65), President of Rosser International, has been named Chairman of the Executive Committee of the firm. As Chief Executive and President, Mr. Long takes over the leadership of Rosser International, a 53-year old architectural and engineering firm headquartered in Atlanta.

1970s

George C. Kleinpeter, Jr. (CE'70, MS'74) was named 2000 Outstanding Alumnus at the Society of Tulane Engineers Jazz Brunch and Annual Meeting last fall. Mr. Kleinpeter was out of town and unable to attend the brunch, but his daughters were in attendance and accepted the award on behalf of their father.

James Richard “Jim” Bolch (ME'79) has been appointed Vice President, PEM Manufacturing and Supplier Development, of International Fuel Cells, a unit of United Technologies Corp.

Deborah Ducote Keller (CE'79) received a master of science degree in engineering management from the University of New Orleans. She is Senior Manager of Operations at the Port of New Orleans.

Nancy F. Mikkelsen (BME'79) recently became Director of Education for the National Association of Colleges and Employers (N.A.C.E.) providing all professional development programming to both college career centers and employer college recruiter members. Nancy and her family reside in Allentown, Pennsylvania.

1980s

Mansour Salek Almalik (MS'81) co-authored the article: “Low-resistivity beds may produce water-free,” for a recent issue of The Oil and Gas Journal. Dr. Almalik is an associate professor at King Saud University, Riyadh, Saudi Arabia. His interests are reservoir engineering, phase behavior, numerical simulation, and reserve estimates. In addition to his Tulane MS degree, he holds a BS from King Saud University and a PhD from Texas A&M University, all in petroleum engineering.

Harry E. Asmussen (ChE'82), president of the Albuquerque Club, was awarded the “New Club of the Year” Award by the Tulane Alumni Association at the May 6 ceremony.

Frank Pausina (MS'82 Pet. Engr.) co-authored an article; “MMS investigations provide insights into GOM accidents,” for a recent issue of The Oil and Gas Journal. Pausina is currently senior accident investigator for MMS Gulf of Mexico region. He has been with the MMS for 26 years, during which time he also served as a civil penalty reviewing office and supervisor of the measurement and exploration development plans units. Previously, he was contract claims analyst with the US Navy. In addition to his masters degree from Tulane, Pausina holds BE in mathematics from the University of New Orleans.

Frank M. Clemente, Jr. (Ph.D. CE'84) has been appointed Chief Geotechnical Engineer of TAMCO Consultants, Inc., an ENR 100 Engineering/Architectural Firm headquartered in New York City. Walter E. Blessey, Professor Emeritus, served as Dr. Clemente’s PhD advisor and chairman of his dissertation committee.

Robert Walton Hensley (CS'84) was honored on June 23 as one of Houston’s Top 20 Women in Information Technology for 2001. For the past three years, the Association of Women in Computing (AWC) Houston Chapter has dedicated a specific event for the recognition of women in the technology sector who hold positions of leadership in the Houston metropolitan area. Each “Top 20” nominee holds a management position or has tenure, has demonstrated significant accomplishments in her career and acts as a positive role model for women.

Joseph Orville Billig (BME'87) recently left his practice in Chicago and is now an anesthesiologist at the Vail Valley Medical Center in Vail, Colorado. He enjoys skiing, cycling, and fly-fishing, and writes that he can be reached by email at jobillig@vail.net.

Frank L. Bemardo (CE'88) is the owner of a growing structural engineering firm in Boca Raton, Florida. You can visit his company’s website at www.eurolinengineering.com for more information or to contact him.

Dr. Ramon L. Cuevas (BME'88) graduated from the University of Puerto Rico Medical School and came back to Tulane to do his internship at the medical center from 1992 to 1993. After that he went to UCLA where he specialized in physical medicine and rehabilitation. At the present, he is the Residency Program Director at San Juan VA Medical Center Program in San Juan, Puerto Rico. His email address at work is ram.cuevas@med.va.gov.

Traci Misner Wheels (CS'88), her husband, Joel, and their two children, Lillian, 6, and Thomas William, born April 6, 2000, live in Little Rock, Arkansas.

Jana Gorrell Adams (BME'89) recently opened her private practice in pediatrics in Oklahoma City, Oklahoma, and writes that she has two children, Zachary, 4, and Taylor, 17 months. “I would love to hear from friends that I have lost touch with. E-mail us at skiime@home.com,” she writes.

David Whiteford (CE'89) and his wife, Hope, announce the birth of a son, Colin. Whiteford is a software architect for Nortel Networks in Raleigh, N.C.

1990s

Marta L. Villarraga (BME'90, MS'92, Ph.D.'97) was named the Harold A. Levey Award recipient at the Society of Tulane Engineers Jazz Brunch and Annual Meeting held on October 14, 2000.

Sharee Elizabeth Major (BME'92) and David Leonard Ruskak were married on October 21, 2000 at St. George’s Episcopal Church in New Orleans. Sharee received a master of science in public health degree in toxicology and risk assessment from Tulane. She is a doctoral candidate in the environmental health sciences department of Tulane School of Public Health and Tropical Medicine in an environmental toxicology program.

Christian Gibbs Hooper (EE'93) and Dr. Deirdre Ellen O’Boyle were married April 21, 2001 in New Orleans. Christian is a principal in a real estate firm in the New Orleans area.

Doug Kraus (BME'94) married Nathasha Schaad in Galveston, Texas, on November 18, 2000.

Scott M. Gros (CE'95) and Lisa Wojciechowski were married in late March in New Orleans. Scott is employed by Boh Brothers Construction as a project manager.

Norman Lee Brown, Jr. (BME'96) and Yolanda Nicolette Washington were married on October 20, 2000 in New Orleans. Norman is employed by the University of Michigan Medical Center as a medical physicist, and the couple reside in Ann Arbor, Michigan.

Daniel J. Rohli (ME'97, MS'99) and Danielle Marie Boudreaux were married on
March 17 in New Orleans. Daniel is employed as a mechanical engineer by Entergy Operations Inc. at Waterford 3 Nuclear Power Station and the couple reside in River Ridge, Louisiana.

Lolita M. Tillery (ChE’94) and Corey Lee Grant were married June 16, 2001 in New Orleans, Louisiana. She is employed by The Dow Chemical Company.

Mary Elizabeth Wallace (ME’97) and Jonathan Edward Green were married on November 18, 2000 in New Orleans. She is employed by Transocean Sedco Forex Inc. in Houston.

Marc Joseph Fouche (CpE’98) and Mary Elizabeth Huling were married December 30 in New Orleans. Marc is employed by JRL Enterprises Inc. as a senior project manager for 1 CAN LEARN educational software. The couple reside in River Ridge, Louisiana.

Mignon Marie Frey (CE’98, MS’00) and Craig Merritt Sweeney were married in early March in New Orleans. Mignon is employed by EDG Inc. as a process engineer and the couple reside in the New Orleans area.

Keith Andrew Kliebert (E’98) and Jennifer Ann Wollfarth were married on November 11, 2000 in Marrero, Louisiana. Keith is employed by URS Corporation as an electrical engineer and the couple reside in Marrero.

Paul Benjamin Brelow (ME’99), a graduate student in the mechanical engineering department, was selected to participate in the 51st Meeting of the Nobel Laureates in Lindau, Germany during the summer. He is one of approximately 40 doctoral students from across the U.S. selected to be a member of the Department of Energy Delegation by Oak Ridge Associated Universities.

Jeffrey R. Wemhoff (ChE’99) and Ashley Christine Roussel were married on April 28 in New Orleans. They will reside in Springfield, Illinois, where Jeffrey is an engineering consultant.

2000s

Noel Comrie (ME’01) recently finished third in the triple jump at the NCAA finals.

Nathan Junius (CE’01) recently finished third in the NCAA finals on the javelin.

Andrea N. Lay, a member of the Biomedical Engineering class of 2001 and a 5th year BS-MS student at Tulane, has won a “Rita Shaffer Award” from the Biomedical Engineering Society. This award is conferred each year to one undergraduate student from each of the ABET-accredited biomedical engineering programs. It was established to honor the memory of former BMES Executive Director Rita Schaffer, who passed away in 1998 and left her estate to BMES.

Biomedical Engineering Students’ Projects Help Disabled

The highlight of Dr. David Rice’s team design course in biomedical engineering takes place in March each year with the show of projects designed to aid people with disabilities. The group projects involve solving a problem and designing a solution for the needs of a handicapped client, with whom they’ve been working since September. Clients participating in the class are selected on two criteria: the client’s needs must not be fully met by an available commercial product, and the problems involved must fit within a team’s area of interest.

The display of designs and judging by a panel of eight judges is held in the lobby of the Lindy C. Boggs Center for Engineering and Biochemistry. This year’s first place winners were seniors Leander Taylor, Craig Campbell, Kimberly Bridges and Jennifer Skok known as Team 1784. For 46 years their client, Mrs. Alice Wahl of Metairie, Louisiana, has been a paraplegic and forced to use a wheelchair because of arthritis in her left shoulder. This disability makes it impossible to transfer herself independently between her bed and her wheelchair. The team designed a horizontal and vertically translating lift to allow her to move between her wheelchair and her bed on her own.

Dr. Rice has taught this course for the last 13 years and in 1991 the teams began designing for specific clients. The projects are funded by the generous donations of the Joe W. and Dorothy Dorsett Brown Foundation.

In Memoriam

Edward A. Adey III (CE’43)
Robert A. Arny (CE’30)
John E. Bayles (ME’46)
John H. Bryant (ME’45)
Henry George Buse, Jr. (EE’50)
Edwin F. Carrillo (CE’65)
James H. Collins (EE/ME’23)
Joseph G. Demarest III (CE’57)
Claude E. Dolhonde (EE/ME’32)
E. E. Donahue (non-grad’45)
Harold Elden Faller Jr. (ME’48)
Edgar B. Fontaine, Jr. (ME’38)
Engelbert W. Fritschi (MS’63, PhD’67 CE)
William Palmer Frommeyer Jr. (non-grad’57)
Alton S. Hall (ChE’48)

James S. Janssen (CE’31)
Everett P. McCloskey (ChE’34)
Albert E. McSwain (CE’52)
John E. Morehiser Jr. (ME’38)
Ralph C. Morgan IV (EE’54)
William J. Mouton Jr. (CE’53, MS’58)
Richard F. Muller Jr. (ME’47)
James F. O’Neil Jr. (non-grad’45)
John Joseph “Jack” Pastorek (ChE’43)
Milton E. Pick Sr. (EE/ME’38)
Daniel A. Pouwels (CE’55)
Pierre Cordell Reeh (CE’52)
Charles E. Reid (ChE’39)
Henry R. Richmond, Jr. (EE/ME’37)
John Taylor Roberts (ChE’43)
Charles O. Rogers (ME’39)
Irvin J. Rome (ME’38)
Clarence G. Ruther Jr. (ChE’44)
John C. Schmidt (MS’73)
George S. Schrenk (CE’35)
John Winfield Sharp (non-grad’44)
Herbert M. Shillstone Jr. (CE’32)
Emmanuel J. Stanton (ChE’38)
Peter N. Talluto Jr. (ME’58)
William D. Thurmond (EE’52)
Alfred J. Tricon (ME’50)
William E. Watkins (ME’49)
Marion Wellford (CE’47)
Clement W. Weston Jr. (EE’50)
Clyde Wiley (non-grad’45)
Harold E. Wright Jr. (CE’48)

Memorial donations are welcome.
Upcoming Events

**September 21, 2001**
* Tulane Engineering Forum
  Hilton Riverside and Towers
  New Orleans, Louisiana
  For registration information: www.eng.tulane.edu/tef
  or call Jenny Kottler, Coordinator (504) 835-8807

**October 12, 2001**
* Tulane Homecoming Luncheon
  Pontchartrain Hotel, 2031 St. Charles Ave.
  12:30 p.m. – $28.00 per person (Cash Bar)
  For information and reservations call 865-5901 or

**October 13, 2001**
* STE Jazz Brunch & Annual Meeting
  Hall of Fame Induction and Alumni Awards
  Hyatt Regency Hotel, Gentilly Room
  500 Poydras Plaza – 11:00 a.m. to 1:30 p.m.
  $20.00 per person (Cash Bar) – For information and
  reservations call (504) 865-5764 (spouses/guests welcome)

* Homecoming Game at the Louisiana Superdome
  *Tulane vs. Texas Christian University*
  2:30 p.m

* Postgame Homecoming Celebration
  Westfield Club – Superdome
  6:00 to 8:00 p.m. (Free with game ticket)

---

And the Palm Pilot Winner is...

**Louis Misko (CE’72) of San Diego, California.**

Fifty names were selected by a random drawing from the computer. Mr. Misko's name was then drawn from a hat for the palm pilot and the 49 remaining names received t-shirts.

Thanks again to all who responded to our alumni survey last summer.