CELEBRATING A DECADE AS LYLE
HONORING THE PAST, LOOKING TO THE FUTURE

FALL 2018
Lyle actively engages with students in the community to encourage the pursuit of STEM education and degrees in engineering. This past spring, 200 Dallas ISD Rusk Middle School eighth-graders and their teachers took over SMU’s campus for an end-of-year field trip rewarding their academic success.

MESSAGE from THE DEAN

This fall, the Lyle School of Engineering celebrates the 10th anniversary of naming the school in honor of Dr. Bobby B. Lyle ’67, an SMU engineering alumnus, civic leader and philanthropist. Throughout this issue, you will see how Dr. Lyle’s dedication and influence continue to shape the culture, vision and direction of the school.

The feature story honors Dr. Lyle and his contributions over the years, not only to the engineering school, but to SMU and beyond. Look@Lyle is a timeline illustrating the growth and advancement made over the last 10 years.

In addition to Dr. Lyle, you'll also meet some of our faculty, staff, students and alumni, and learn about the work they are doing to solve some of the global challenges facing humanity. You’ll meet Electrical Engineering Professor Ping Gui, who uses her research in high-speed and lower power nanometer integrated circuit design to support devices for rapid communications and biomedical diagnosis and treatment. You’ll also get to know Dr. Mark Fontenot, a clinical professor in computer science, who goes beyond the classroom to pursue his research in engineering education and how it applies to a student’s leadership development. Further in the issue, you’ll become acquainted with alumnus Kevin Lavelle ’08, who utilized his engineering management skills developed at Lyle to start his own company, Mizzen+Main.

The Student Spotlights feature students working to become world changers, whether through using mathematical modeling and advanced analytics to find better power solutions for electric vehicles, or applying skills learned from mechanical engineering to make a difference in the defense industry.

The Lyle school has a unique ability to attract a highly collaborative and talented faculty, staff and students seeking innovative solutions to real-world problems.

As we reflect on the past 10 years since the naming of the school, there is definitely a lot to celebrate. With so much momentum, we are excited to see what the next 10 years hold for the Lyle school!

MARC P. CHRISTENSEN, PH.D., P.E.
Dean and Lyle Professor of Engineering Innovation
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Southern Methodist University (SMU) will not discriminate in any employment practice, education program, education activity or admissions on the basis of race, color, religion, national origin, sex, age, disability, genetic information or veteran status. SMU’s commitment to equal opportunity includes nondiscrimination on the basis of sexual orientation and gender identity and expression. The Executive Director for Access and Equity/Title IX Coordinator is designated to handle inquiries regarding the nondiscrimination policies, including the prohibition of sex discrimination under Title IX. The Executive Director/Title IX Coordinator may be reached at the Perkins Administration Building, Room 204, 6425 Boaz Lane, Dallas, TX 75205, 214-768-3601, accessequity@smu.edu. Inquiries regarding the application of Title IX may also be directed to the Assistant Secretary for Civil Rights of the U.S. Department of Education. Title IX of the Education Amendments of 1972, 20 U.S.C. §§ 1681-1688
Fourteen years ago, as Ping Gui prepared to complete her doctoral degree from the University of Delaware, she was aggressively recruited by several companies in California. Instead of encouraging her to accept one of these positions, her Ph.D. advisor suggested she consider a faculty position. Gui knew that being an engineering professor at a university would involve not only teaching, but would also entail developing research programs, securing grant funding and publishing papers.

“I never thought about going into academia. It would have been easier to join a company and work in research. But then I thought the challenge of being in academia would make it interesting. I was scared, but I wanted to give it a try,” Gui says.

The career path Gui chose in academia has yielded much success. She is now a professor of electrical engineering and the founder and director of the SMU Integrated Circuits and Systems Lab (SICSL). Her research includes analog, mixed-signal and RF/integrated circuit design for a variety of applications. She has received funding support from the Department of Energy (DoE), Defense Advanced Research Projects Agency (DARPA), National Science Foundation (NSF), Semiconductor Research Corporation (SRC), Texas Instruments, and the Retina Foundation of the Southwest.

The SICSL lab’s mission is to design smaller, faster, power-efficient microchips. These nanometer integrated circuits (ICs) are ubiquitous, improving the size, speed, functionality and power usage of instruments used in industry and personal technology devices we interact with daily.

“The research opportunities I’m looking for stay one step ahead of product development,” Gui says. “We want to go beyond what industry is working on and delve into areas with research value that can be transferred to industry a few years down the road.”

Gui and her team of doctoral students collaborate with the most esteemed particle physics labs in the world, including CERN (European Particle Physics Laboratory), Fermi National Accelerator Lab and Brookhaven National Laboratory. They explore techniques on the system, circuit and device level to enhance the reliability of circuits operating in radiation, extreme temperatures or other harsh environments. The focus of the lab is on innovative circuit-level design and implementation using commercially available technologies rather than expensive, specialized ones. At least one member of the SICSL lab has been visiting CERN, near Geneva, Switzerland, every summer since 2009, and Gui often meets with CERN collaborators at international conferences.
By taking advantage of the latest chip technology, the SICSL lab has also helped advance medical testing and treatment devices. When Texas Instruments wanted to reduce the size of ultrasound equipment, they joined forces with Gui’s team to design a chip for a more portable, wireless ultrasound wand. In addition, the lab’s partnership with the Retina Foundation led to the development of an ultra-low noise and low-power amplifier that can help doctors diagnose various retinal diseases.

Gui’s research also supports next-generation optical communications, improving the performance of cell phones and tablets—even the speed of downloading and streaming online content. “Data rates continue to evolve, from tens to hundreds of gigabits per second to meet the requirements of different applications,” Gui explains. “We can push more data onto fiber and deliver content instantaneously.”

Over her academic career, Gui has published more than 100 peer-reviewed journal and conference papers and won several awards. She is a recipient of the Scientific Associate Award from CERN, the IEEE Dallas Section Outstanding Service Award, and the SMU Gerald J. Ford Research Fellowship Award. She is a senior member of IEEE and serves on two technical program committees for conferences, the Radio Frequency Integrated Circuits Conference and the Custom Integrated Circuits Conference, where she has an opportunity to interact with top researchers in her field.
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Chances are you have met Dr. Mark Fontenot if you’ve been a first-year engineering student at Lyle in the past 13 years. Serving as one of the first Faculty-in-Residence (FiR) members with the engineering Living and Learning community, he was also a founding FiR for the new Residential Commons opened in fall 2014, giving him plenty of opportunities to interact with and mentor students, both in and out of the classroom.

Fontenot teaches classes on software development, software engineering and database systems. He serves as a CSE undergraduate academic advisor and as a member of the Undergraduate Curriculum Committee. Over the past four summers, Fontenot has taken a group of CSE students to a small town outside of Leipzig, Germany, where he teaches an Introduction to Computer Science course as part of the Study Abroad program, offering students the chance to experience other parts of the world.

“The ability to get to know students really well has been one of the most enjoyable aspects of my time at SMU. My classes aren’t so large that it’s just a room of anonymous faces,” Fontenot says. “Not to sound cliché, but the campus is beautiful too. That is nice when one needs to take a walk and clear his/her mind.”

As an SMU grad student and a TA in Computer Science, Fontenot discovered a love for teaching. He feels he was in the right place at the right time when a new faculty position was created in 2005. From the very beginning, his passion has been to educate the whole engineering student, teaching them not only the technical proficiencies, but also life skills and confidence to solve problems in the real world.

“Some examples of the types of questions that excite me are first, how can we foster innovative and creative problem-solving skills and behaviors in undergraduates they can use in industry? Second, how can we educate the next generation of computer science and engineering professionals to have the fundamental knowledge and skills to tackle the hardest problems — cybersecurity, internet of things, big data/data science/analytics?” Fontenot asks. “And third, how do we teach students to be independent learners and encourage them to teach themselves what they need to know in the face of an ambiguously defined problem?”

Putting his research into action, Fontenot helped create and was the first director of the Intro to Engineering Design course, informally known as KNW 2300, “Ways of Knowing,” which satisfies University curriculum requirements. During this multidisciplinary design experience, first-year students participate in teams, where each student provides basic engineering capabilities in mechanical, software, electrical, civil and environmental systems. Each team designs a robot which should be able to achieve stated design objectives while operating autonomously, with as little human interaction as possible.
Fontenot says the course is about helping students learn how to work well with others in a more intentional way than what they’ve experienced in high school. “It’s impossible for one student to do the robotics project alone while others sit back,” he says. “There are scheduled deliverables, and students learn the hard way that humans don’t always do exactly what they need to do when they need to do it, and because of the nature of robotics, the robot doesn’t either.” He believes students have the opportunity to reflect in a guided manner on how they, the humans on the team, have either positively or negatively affected the outcome, fostering a team-centered approach to solving a problem.

In 2017, Fontenot earned his Ph.D. in Applied Science with a dissertation based on engineering education and what behaviors are associated with innovativeness. The crux of his research was born out of the question, “If we have the Deason Innovation Gym and expose students to all the tools, materials and maker spaces, will it actually make them more innovative?” The answer is yes, if students are encouraged to develop the traits of innovative work behavior, which Fontenot says consists of three components: having creative ideas, the ability to communicate up the ladder to get buy-in from others, and the ability to take an idea from inception to prototype.

Fontenot is a strong educator and has received many accolades for his inventive teaching techniques. He earned the Frederick Terman Award in Computer Science in 2005 and the HOPE Professor of the Year Award in 2008, nominated by students and staff members as a professor who “has made a significant impact to our academic education both inside and outside of the classroom.” Fontenot was honored with the Rotunda Professor of the Year Award in 2012; was the inaugural recipient of the Provost’s Teaching Recognition Award in 2013, and earned the SMU “M” Award in 2015. In addition, he has been awarded the Outstanding Faculty Member-Department of Computer Science and Engineering award nine times.

Fontenot’s connection with students resonates the most with him and those that know him. He likes to show students that faculty members are human, too. He remembers a transformational moment during breakfast with one of his resident assistants when he was a FiR. “Somehow the conversation came around to the idea that I have dreams and fears and aspirations and hopes,” Fontenot recalls. He likes to open students’ eyes to his personal side by sharing a hobby he’s had since age 13: playing the piano. Since coming to Dallas 17 years ago, Fontenot has had a side job as a church organist at Saint Mark the Evangelist Catholic Church in Plano. It shocks students that he isn’t only living and breathing computer science.

“I think it’s essential for students, as they move through college and into the professional world, to see that people are not one-dimensional. I’m not just the person that stands up in front of a class and talks about data structures or algorithms; on the weekends I go to church and play the organ. It helps bring me out of what I do every day, to a different atmosphere and group of people.” In Fontenot’s opinion, this is an important life goal for every well-rounded engineer.
Gain marketable skills, increase your earning potential, or grow as a professional in the SMU Lyle School of Engineering’s Distance Education Program. Access a flexible, on-demand education that fits into your schedule—all delivered by a premier institution known for its long-standing success in online learning.

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Prior to the naming of the school, however, Dr. Lyle already had a vision for the school’s direction. Shortly after Dr. Geoffrey Orsak was named dean of engineering in 2004, Dr. Lyle listened to his ideas for the school and suggested they collaborate on a bold, comprehensive, forward-thinking strategic plan with very specific initiatives that would differentiate the SMU program from other engineering schools around the world. They initiated a planning process in which faculty, staff and members of the professional engineering community in Dallas and across the country provided insights into the attributes they believed were necessary to take engineering education to the next level.

The resulting strategic plan introduced several new initiatives, including expanding the school’s focus on technology leadership, engineering education, and social responsibility, which were further refined to incorporate leadership, innovation, teamwork, communication, and creativity. “We engaged in a process that resulted in what really was, in my opinion, a transformational plan, not only for the school of engineering at SMU, but one that spoke to the needs of engineering and STEM education across the country,” Dr. Lyle says.

Much of the school’s growth over the last 10 years can be directly attributed to this plan. With generous financial contributions from benefactors, donors and alumni, several new centers and institutes were created to address specific needs within SMU’s vision for engineering excellence. This period included the dedication of the new Caruth Hall, and the creation of the Caruth Institute for Engineering Education, the Hart Center for Engineering Leadership, the Hunter and Stephanie Hunt Institute for Engineering & Humanity, and the Innovation Gymnasium, later named in honor of the Deason family.

“The centers and institutes are windows into the community. Whether the focus is entrepreneurship, leadership or STEM education, they provide unique opportunities for in-depth exploration of a subject area for both students and faculty,” Dr. Lyle shares. “They are also a way to draw members of the community into the school. They provide opportunities for members of the technical community to engage with our students and faculty around common interests, and to reach out across disciplines to collaborate on the solutions to complex problems for the common good.”

What many may not know is that Dr. Lyle, an SMU engineering graduate, also served as the dean ad interim and executive dean of SMU’s Cox School of Business in the early 1970s. He is credited with creating one of the first MBA mentor programs in the country, a program that in 2018 celebrated its 48th anniversary. He has been a strong advocate for the creation of a similar program for the engineering school at SMU. A mentor program is now an integral part of the Hart Center for Engineering Leadership, with 85 mentors currently supporting Lyle students.
“Mentors aren’t people who provide answers. A good mentor will share experiences, offer perspectives, and help students frame questions and encourage them to find their own answers,” Dr. Lyle explains. “The opportunity to sit with a mentor, hear the mentor’s story, see the world through their eyes can be invaluable. But if you’re ever in a room with a mentor and they say, ‘Let me tell you what you need to do,’ try to excuse yourself as quickly as you can. That’s not what mentoring is about.”

Launching the strategic plan saw the creation of other programs to address pressing world challenges. The Bobby B. Lyle Endowed Centennial Distinguished Chair in Cyber Security was established to attract an international expert to tackle growing and complex issues in this area. World-renowned cyber security expert Dr. Fred Chang was named to the inaugural position. In 2014, the Darwin Deason Institute for Cyber Security followed, formed to advance the science, policy, application, and education of cyber security through basic and problem-driven, interdisciplinary research, with Dr. Chang serving in the role of executive director. Then, in 2016, the Bobby B. Lyle Endowed Centennial Chair in Engineering Entrepreneurship was created to advance engineering entrepreneurship education. Associate Dean for Engineering Entrepreneurship Duncan MacFarlane, a pioneering photonics engineer with a passion for ideas that become business opportunities, was selected to be the first to fill this very strategic role in the Lyle School.

To help achieve the new vision for the school, Dr. Lyle endowed two additional positions to address key areas of need: the Bobby B. Lyle Endowed Professor of Leadership and Global Entrepreneurship, currently held by Dr. Barbara Minsker, Chair of the Department of Civil and Environmental Engineering, and the Bobby B. Lyle Endowed Professor of Engineering Innovation, presently held by Lyle Dean Marc Christensen. Dr. Lyle regularly meets with each of these endowed chair faculty members to explore ways to advance the school toward its aspirational goals.

In addition to periodic meetings with endowed chair holders, Dr. Lyle and Dean Christensen meet bi-annually with all faculty and staff members in each of the school’s academic departments, institutes and centers to explore ways to improve programs and encourage interdisciplinary collaboration in an effort to make the Lyle learning experience the best it can be for all students. This type of collaboration is seldom found in other engineering schools.

Another way in which Lyle differentiates itself from its peers is in the area of gender parity, where it seeks to reach an equal distribution of male and female students within the engineering school. As the school continues to work toward this goal, Lyle recently celebrated more than 10 consecutive years of enrolling over 30 percent female undergraduate engineering students. This compares to a national average of approximately 18 percent. As a part of this effort, the Caruth Institute for Engineering Education and the Lyle recruitment office host several outreach events and activities each year for K-12 students to encourage more young women to engage in STEM education and pursue engineering careers.

Expanding research accessibility for both graduate and undergraduate students remains a top priority for the school. According to Dr. Lyle, students should be given the opportunity to conduct research early on in their academic careers by being provided with a safe place to try new ideas, experience failure, and learn from these trials. He credits Dean Christensen’s leadership in
successfully recruiting faculty members who, while actively engaged in their own research, are willing and eager to bring students along on the journey. Dr. Lyle believes meaningful scientific discoveries are made in a place where research, teaching and application intersect and allow creative exploration of new ideas in all areas of academia and the community.

In his experience, Dr. Lyle has observed that the best researchers are most often some of the best teachers. “The fun of engineering comes in getting outside of the walls and into the world where things really happen, where you can go and get your hands dirty, ‘feel’ the problem, and then return to the lab and classroom to formulate new theory and solutions for those problems,” he notes. “In order to make innovative advances in your field, you can’t just look at the finished product; you have to understand ‘how the sausage is made.’”

According to Dr. Lyle, the more collaborative and multidisciplinary the research, the better, whether it’s between engineering departments, with other schools and departments at SMU, or with community and industry partners outside of the university. “It starts with bringing very smart people together in the same room to have a conversation, sharing the wonderful research in which we are engaged, and finding ways to work together,” Dr. Lyle says. “That’s what we want to encourage among our faculty and students. That’s the type of culture we want to build. You don’t see that very often in engineering schools.”

Dr. Lyle is particularly proud of the flexibility the university affords students to customize their educational experiences, allowing them to explore multiple fields of study, inside and outside the school of engineering. He points out that many Lyle students move beyond the walls of the engineering school to double major or earn a minor in a complementary field, making for a more well-rounded education. It is not uncommon for a Lyle student to pursue a major in electrical engineering and a minor in music, or a major in both engineering and one of the natural sciences. “Our students are well-rounded campus leaders who are prepared to apply the leadership and technical skills they are developing at Lyle to help solve the ‘real-world’ problems that they will encounter after graduation,” Dr. Lyle states.

When he looks at the engineering school today, Dr. Lyle sees a strong, caring and compassionate network of not only faculty but also dedicated staff, committed to ensuring that students are supported throughout their educational journey. “From the very first engagement with our recruitment team to the close attention of our staff, to the first day in class, our students know they will get the right kind of support, in a timely manner, from everyone at Lyle. We aspire to be the most student-centric school of engineering in the world. If we achieve this goal, we will create the most effective learning environment possible. That in itself is a differentiator.”

Dr. Lyle also enjoys engaging with students and looks forward to attending student-focused events. Dean Christensen says it’s a sight to behold when students get a chance to mingle with Dr. Lyle. “It brings a smile to my face to see the students interact with him. They get so excited that they’re wearing a T-shirt with his name on it. At an early admitted students’ reception, some even asked Dr. Lyle if he was named after the school,” Christensen recalls. “He is right there with the students, not just some name that was put on a building years ago.”

As the engineering school’s greatest ambassador, Dr. Lyle praises the excellent job Lyle has done developing well-established relationships with a growing number of companies in the DFW metroplex, considered by many to be the third coast for high-tech employment. “SMU is optimally positioned right in the heart of this hub of innovation and technology, which gives our faculty and students fantastic opportunities for enhanced research, student internships, and jobs upon graduation,” he attests.

Moving forward, Dr. Lyle believes the school’s greatest potential for growth is through building more industry connections. Expanding relationships with existing companies and the flood of new organizations moving into the North Texas area will only strengthen the school’s ability to attract the best and brightest faculty and students from around the world. “We’re in a target-rich environment, and it is incumbent upon us to become the ‘go-to’ engineering school for research and highly qualified graduates as these companies seek to grow to meet the challenges and opportunities within their respective industries,” Dr. Lyle says. “If we could, we would accelerate the development of these relationships to ‘warp speed.’ The payoff would be so great for our students and faculty.”

“We’ve made such strides, but we should never become complacent, never stop working to become what we aspire to be. We should always explore ways to improve.”

Dr. Lyle now
Reflecting on the last 10 years, Dr. Lyle is proud of all the school has accomplished. “We’ve made such strides, but we should never become complacent, never stop working to become what we aspire to be. We should always explore ways to improve. We should be educational entrepreneurs, willing to take bold steps to advance the engineering disciplines in which we work and the educational methodologies we employ to develop ‘world leaders’ for tomorrow,” he asserts.

Dr. Lyle doesn’t want the school to be the biggest engineering school in the Southwest, but he does want the school to become the best at developing engineering leaders with a passion for solving the most important problems facing the world into which our students will emerge upon graduation. “Our students will graduate with an outstanding technical education in their field of choice. But beyond that, they will graduate with leadership experience and interpersonal skills seldom found in engineering graduates from other schools across the nation and around the world,” Dr. Lyle says. Feedback from employers proves this point, when they say, “We don’t know what you are doing at Lyle, but your graduates come out of the school technically prepared and ready to take on leadership roles the first day on the job. Whatever you are doing, don’t stop!”

“Wherever our students go to pursue their careers, whether it is in Dallas or locations around the world, I want those communities to say we are doing the best possible job preparing leaders to become world changers. And they just happened to be shaped right here at SMU.”

During his distinguished and multifaceted professional career, Dr. Lyle has helped create numerous private companies and joint ventures, many of which became leaders in their fields. In Dallas, in addition to founding Lyco Energy Corporation, a leader in oil and gas exploration innovation, he was instrumental in the development of the Dallas Galleria and InterFirst Bank-Galleria. Personal & Professional Highlights include:

**EDUCATION**

**BSME**
Louisiana Tech University

**MSEA**
Southern Methodist University

**ED.D.**
University of Massachusetts Amherst. Dissertation: Strategic Planning & Leadership in Higher Education

**CAREER**

1963–1966
Engineer with General Dynamics and Teledyne-Geotech

1967–1975
Dean ad interim, Associate Professor and Executive Dean, SMU School of Business, now Cox

1981–2005
Founder, Chairman & CEO, Lyco Energy Corporation, petroleum and natural gas leader

2005–PRESENT
Lyco Holdings, Inc., a private investment firm

**LEADERSHIP ROLES AT SMU**

- SMU Board of Trustees (30 years)
- Lyle Engineering Executive Board (Vice Chair)
- Cox School of Business Executive Board (Vice Chair)
- Cox Associate Board (Co-Founder)
- Hart Global Leaders Forum
- Institute for the Study of Earth and Man, Dedman College
- Maguire Energy Institute, Cox (Vice Chair)
- Maguire Center for Ethics and Public Responsibility (Vice Chair)
- SMU Alumni Association (President)

**LEADERSHIP ROLES IN THE COMMUNITY**

- Center for Nonprofit Management (Chair, President)
- Circle Ten Council, Boy Scouts of America (President)
- Circle Ten Council Foundation
- Communities Foundation of Dallas (Vice Chair)
- Communities Foundation of Texas (Vice Chair)
- W. W. Caruth, Jr. Foundation (Vice Chair)
- Dallas Assembly (President)
- Dallas Assembly Foundation (Chair)
- Center for Nonprofit Management (Chair)
- Lovers Lane United Methodist Church Administrative Board (Chair)
- Lovers Lane United Methodist Church Foundation (Chair)
- Kindness Foundation (Chair)
- Volunteer Now
- The Salvation Army Advisory Boards (Dallas-Fort Worth and National, Vice Chair)
- Texas Business Hall of Fame Foundation (Chair, President)
- Trinity Trust Foundation (Vice Chair)
- Texas Trees Foundation (Chair)

**AWARDS**

- Dallas Business Hall of Fame, Junior Achievement of Dallas, Inc.
- J. Erik Jonsson Ethics Award, SMU Cary M. Maguire Center for Ethics and Public Responsibility
- Lyle School of Engineering Hall of Leaders
- Robert S. Folsom Leadership Award, Methodist Health System
- SMU Distinguished Alumni Award
- William Booth Award, The Salvation Army
- Honorary Colonel Award, The Salvation Army
- Louisiana Tech University Distinguished Alumni Award
- Louisiana Tech University Tower Award
- SMU Mustang Award
- C.E. Byrd High School Distinguished Alumni Award
- Dallas Historical Society—Outstanding Philanthropy Award
- Boys and Girls Club – Lifetime Achievement Award
- Boy Scouts of America Silver Beaver Award
- SMU Student Senate Outstanding Trustee Award (three-time honoree)
- SMU Volunteer of the Year Award
- Volunteer Now, Lifetime Achievement Award
- American Jewish Committee, Human Relations Award
A talented student body lies at the heart of a great university. The best students enrich the quality of the classroom experience, inspire their peers, challenge their professors, and contribute to a university’s academic reputation. In addition, they bring vitality and energy to every aspect of campus life.

The Lyle Engineering Scholars Program, which provides merit-based scholarships of $5,000 annually for four years, will greatly improve the school’s ability to attract these brilliant minds by providing scholarships to top students interested in pursuing an engineering degree. The program will help ensure that the school remains competitive in recruiting the best and brightest students. Scholarships are offered to students who meet rigorous admission standards and have earned both high grades and SAT scores.

Your gift will underscore Lyle’s commitment to developing future leaders equipped with the engineering and innovation skills to solve pressing problems and change the world.

STRENGTHEN SMU LYLE TODAY
To discuss the many giving options available, contact the SMU Lyle development team at (214)768-4136 or email lylegiving@smu.edu
SMU’s Engineering School was founded in 1925, graduating many successful and prominent leaders in its 93 years. The school wasn’t officially named until 2008, after engineering alumnus, civic leader and philanthropist, Dr. Bobby B. Lyle ’67. Since then, using a strategic plan as a blueprint, the school has initiated new academic programs, strengthened research initiatives, emphasized student leadership training and added new academic buildings to form the Lyle Engineering quad, all to ensure that SMU will continue to make an impact on engineering education well into the future.

CELEBRATING 10 YEARS AS LYLE

SEPTEMBER 1995

R. GERALD TURNER INSTALLED AS SMU’S 10TH PRESIDENT

“In the area of engineering, this means that telecommunications, computing, software and systems engineering must be of the highest quality. Everyone should hear these remarks as a ringing assurance that engineering will occupy a permanent and proper role at our University. Our goal to provide leadership in academic areas crucial to our region, and thus the world, absolutely requires SMU to offer a focused, first-rate engineering program.”

R. GERALD TURNER
Inaugural Presidential Address, September 9, 1995

PRE-2008

SMU ENGINEERING LAUNCHES NEW STRATEGIC PLAN

Under the leadership of Geoffrey Orsak, former engineering dean, and in collaboration with Dr. Bobby B. Lyle, the executive board, faculty and staff, the engineering school developed and introduced a ground-breaking strategic plan for engineering education. The plan included several new major initiatives expanding the school’s focus on technology leadership, engineering activism and social responsibility. This set the engineering school on its upward trajectory, attracting world-class faculty, staff and students.
Bobby B. Lyle School of Engineering Dedication

The university community came together to celebrate the naming of the Bobby B. Lyle School of Engineering at SMU.

OCTOBER 17, 2008

LYLE ENGINEERING SUMMER CAMP FOR GIRLS

The camp was started by administrators to engage female students in the field of engineering. It complements the Gender Parity Initiative, aimed at bolstering matriculation of women in SMU’s engineering program to ultimately achieve a 50:50 male to female ratio of degree-seeking students.

JULY 2008

TEDxSMU

TEDx is a program of local, self-organized events that bring people together to share a TED-like experience. TEDxSMU, TEDxKids@SMU and TEDxSMUWomen connect ideas and notable individuals from around the world to the SMU and Dallas communities for year-round activities and rich conversations. In 2009, SMU was the first university to develop and introduce TEDxKids, and this year is celebrating its 10th year of the event.

OCTOBER 2009

BOBBY B. LYLE SCHOOL OF ENGINEERING DEDICATION

The university community came together to celebrate the naming of the Bobby B. Lyle School of Engineering at SMU.
**HUNTER & STEPHANIE HUNT INSTITUTE FOR ENGINEERING & HUMANITY**

The Hunt Institute for Engineering and Humanity, founded by Hunter and Stephanie Hunt, serves as a national and international hub to partner with leaders in business, academia, non-government organizations and government, to develop and scale sustainable and affordable technologies and solutions to challenges facing people locally and globally.

**DECEMBER 2009**

**INNOVATION GYMNASIUM (NOW DEASON INNOVATION GYM)**

Opened as the Innovation Gymnasium and later named in honor of the Deason family in 2014, the Deason Innovation Gym (DIG) is a student-centered innovation space filled with both high-tech and common tools and materials. The DIG’s primary mission is to enhance engineering education through hands-on learning. The facility combines a design studio, machine shop and garage. The DIG provides engineering students, as well as those in other SMU disciplines, the tools and space to work together. The DIG’s immersion design projects and competitions accelerate leadership development through teamwork and create a framework for innovation.

**APRIL 2010**

**CARUTH HALL**

The reimagined Caruth Hall opened in 2010, completing the engineering quad. Two new engineering buildings were dedicated prior to 2008. The Jerry Junkins Building, named in memory of the late Jerry R. Junkins, former chief executive officer of Texas Instruments and SMU trustee, was dedicated in 2002. The Embrey building opened in 2006 and was named in honor of J. Lindsay Embrey ’45. It was the first LEED (Leadership in Energy and Environmental Design) Gold status building at SMU. Caruth Hall was also awarded LEED Gold status in November 2010. All three buildings include not only classrooms, but also state-of-the-art research labs and events spaces.

**APRIL 2010**

**CARUTH INSTITUTE FOR ENGINEERING EDUCATION**

The W.W. Caruth, Jr. Fund of the Communities Foundation of Texas officially endowed the Caruth Institute for Engineering Education (CIIE) in April 2010. The CIIE’s mission is to be a national center of excellence in researching, developing, delivering, and evaluating new and innovative K-16 engineering education programs. The institute plays a key role in engineering education policy research, educating and informing the public on viable solutions to issues associated with engineering education and science, technology, engineering, and math (STEM) initiatives.
HART CENTER FOR ENGINEERING LEADERSHIP
The Hart Center for Engineering Leadership provides leadership and professional development training for engineering students. The Hart Center’s assessment, challenge, and support approach to leadership development helps prepare Lyle students for the real world of engineering, by giving them the tools they need for college to career transition and lifelong personal and professional growth.

MARC P. CHRISTENSEN NAMED DEAN OF LYLE SCHOOL OF ENGINEERING
Marc P. Christensen is a nationally recognized leader in photonics—the science and technology of light. He served as chair of the Electrical Engineering department and as interim dean before being named dean of Lyle. Christensen is the inaugural Bobby B. Lyle Professor of Engineering Innovation, and was recognized in 2008 for outstanding research with the Gerald J. Ford Research Fellowship and in 2011 for outstanding and innovative teaching as a recipient of the Altshuler Distinguished Teaching Professor Award.

DARWIN DEASON INSTITUTE FOR CYBER SECURITY
The mission of the Darwin Deason Institute for Cyber Security is to advance the science, policy, application, and education of cyber security through basic and problem-driven, interdisciplinary research. The institute was the result of a major gift from Darwin Deason, founder of Dallas-based Affiliated Computer Services Inc. Executive Director Fred Chang holds the inaugural Bobby B. Lyle Centennial Distinguished Chair in Cyber Security and is a member of the prestigious National Academy of Engineering.

MASTER OF SCIENCE IN DATACENTER SYSTEMS ENGINEERING DEGREE
Lyle offers this unique multidisciplinary master’s degree program to address the design and maintenance of datacenters and their mission-critical facility subsystems, providing students an opportunity to gain working knowledge and the skill sets necessary to enter this field. The program graduated its first students in December 2015.
In Fall 2015, Lyle celebrated its 10th year of enrolling more than 30 percent women undergraduate engineering students. Nationally, enrollment of undergraduate women in engineering schools averages 18 percent. Based on continuing and incoming student enrollment data for Fall 2018, the Lyle undergraduate student population is approximately 34.3 percent women. Not only is the school recruiting strong women, but it is also accomplishing the more difficult challenge of retaining these students in the engineering disciplines.

A Master of Arts in Design and Innovation Degree

Grounded in the concept of human-centered design, Lyle offers a Master of Arts in Design and Innovation (MADI), teaching students to solve human needs by combining the nearly limitless possibilities of technology with the economic requirements for business success through design research, idea generation and rapid prototyping. The program graduated its first students in May 2017.

Bobby B. Lyle Centennial Chair in Engineering Entrepreneurship

Associate Dean for Engineering Entrepreneurship and Professor of Electrical Engineering Duncan MacFarlane holds the inaugural Bobby B. Lyle Centennial Chair in Engineering Entrepreneurship. He is a pioneering photonics engineer who helps members of the SMU community transform ideas into business opportunities, and is furthering entrepreneurial education with the Master of Science in Engineering Entrepreneurship degree. MacFarlane also initiated the Distinguished Lecture Series in Engineering Entrepreneurship, which features guest speakers and brings together all members of the university community and industry to share their entrepreneurial spirit and passion for technological innovation.
MASTER OF SCIENCE IN ENGINEERING ENTREPRENEURSHIP DEGREE
A first-of-its-kind master’s degree in Engineering Entrepreneurship was created to combine the entrepreneurial experience of SMU’s Lyle School of Engineering and Cox School of Business for high-tech product managers and engineering entrepreneurs who want to bring new technology to market. The program graduated its first student in May 2018.

LYLE WEAT (WATER ENVIRONMENT ASSOCIATION OF TEXAS) TEAM WINS STATE DESIGN COMPETITION FOR 10TH CONSECUTIVE YEAR
Lyle Civil and Environmental Engineering students Amber Long, Rachel Rogers and Krislyn Welch competed against eight other teams from universities in Texas and Louisiana in a student design competition sponsored by WEAT, and won first place for an SMU team for the 10th consecutive year.

MASTER OF SCIENCE IN TELECOMMUNICATIONS AND NETWORK ENGINEERING WINS ITERA 2018 PROGRAM OF THE YEAR
The Information and Telecommunications Education and Research Association (ITERA) presented its annual “Program of the Year” award to Lyle’s graduate program in telecommunications and network engineering. The Lyle M.S. in Telecommunications and Network Engineering program also won this award in 2015.
Dr. Richard A. Duschl, a leader known for his continuing contributions to science education through research, joined the Caruth Institute for Engineering Education (CIEE) in the SMU Lyle School of Engineering as Executive Director and TI Distinguished Chair in Engineering Education.

In this role, Duschl will oversee the Institute’s mission to become a national center of excellence in researching, developing, delivering, and evaluating new and innovative K-16 STEM and engineering education programs. The Institute plays a key role in engineering education policy research, educating and informing the public on viable solutions to issues associated with engineering education and science, technology, engineering, and mathematics (STEM) initiatives.

As an expert in STEM education, Duschl’s research focuses on establishing and understanding science learning environments and the roles of teachers and students during inquiry and argumentation processes. Duschl was honored with the National Association for Research in Science Education (NARST) Distinguished Career in Research Award in 2015, and has twice received the Journal of Research in Science Teaching (JRST) Award for best article, in 2003 and 1989.

Duschl’s multifaceted career is defined by numerous collaborations and scholarly interactions. He previously served as president of NARST and as director, Division for Research on Learning at the National Science Foundation (NSF), and chaired the National Research Council (NRC) research synthesis report Taking Science to School: Learning and Teaching Science in Grades K-8 (National Academies Press, 2007). He has held prominent academic positions at several universities around the world, most recently the Kenneth B. Waterbury Chair at Penn State University’s College of Education.

For 10 years, Duschl served as the editor of Science Education, an international journal of research and scholarship, and was the editor of the Teachers College Press book series “Ways of Knowing in Science.” Duschl’s authorship on the subject of science education includes nine books and reports, five handbook chapters, 27 chapters in edited volumes, 46 journal articles, and 26 keynotes and invited speaking engagements. Duschl has secured more than $15.6 million in research studying various topics related to science education.

For more information about the Caruth Institute for Engineering Education, call 214-768-2070 or email ciee@smu.edu
Burke has frequently been recognized as an up-and-coming engineer during her time as an undergraduate. In 2018, she was named the ASME North Texas Section Undergraduate Mechanical Engineering Student of the Year, and also received an honorable mention for the Barry Goldwater Scholarship and Excellence in Education Foundation, based on her summer brain tumor research at UT Southwestern. In 2017, Burke was one of only 11 students to be selected for DiscoverE’s sixth annual New Faces of Engineering, College Edition. Students selected for this honor exemplify the vision, innovation and leadership skills necessary for a successful engineering career.

Burke sharpens her soft skills through the Hart Center for Engineering Leadership by attending a variety of seminars, workshops, mock interviews and career fairs. “For me, the Hart Center epitomizes SMU’s slogan, ‘World Changers Shaped Here.’ With the Hart Center’s support, students learn essential leadership skills, foster those skills, and then apply them outside of the university,” she shares.

An aspect Burke particularly values about the center is the Hart Leadership Assessment, which gauges a student’s strengths and identifies areas for improvement. “I found ways to apply this knowledge, not only in my engineering and other academic classes but also in a broader sense — it has changed the way I work and connect with people,” Burke says.

Burke is actively involved in many clubs and activities across campus. Her long list of accomplishments includes being a Hunt Scholar, an honors mentor in Armstrong Residential Commons, an ambassador for both Lyle and Meadows School of the Arts, the treasurer for SMU’s Ballroom Dance Team, and the incoming president of Mustang Rocketry Club. As a member of the “Hub of SMU Spirit,” Burke plays the piccolo and is a section leader in the Mustang Band.

“What sets SMU apart from other schools is the ability to pursue multiple majors and experience a strong academic program while exploring various interests. I’ve found SMU is the perfect sized school where undergraduate students feel supported and encouraged to have a multidimensional college education,” she states.

Burke used her Engaged Learning Fellowship, in which select undergraduate students receive funding to engage in capstone-level scholarly research, to design and build a toaster that can launch a piece of toast greater than 20 feet. She is currently building a circuit to heat the bread. This summer, Burke interned at Raytheon and hopes to use her knowledge of materials and heat to work in the defense industry. Meanwhile, she expects to break the Guinness World Record for the highest-popping toaster and use that experience to encourage young women to consider an engineering career. “If I am successful in breaking the world record, I would like to visit local schools and Girl Scout troops to show them the fun, inventive power of engineering.”

Senior Meredith Burke is a third-generation Mustang who thrives on taking on challenges, like juggling a hectic academic and extracurricular schedule. She is triple-majoring to earn bachelor’s degrees in Mechanical Engineering (ME), Art and Math, and working toward her master’s degree in ME. “Fusing these majors cultivates my creativity and ingenuity from a fresh interdisciplinary perspective,” Burke explains. “The way I see it, engineering and art have a ying-yang relationship. There’s a crossover between a Ceramics in Technology class and an Engineering Materials class, because they both involve hands-on learning with similar materials.”
When Mamdouh Mubarak, a mechanical engineer from Damascus, Syria, decided to further his education, he applied for and was awarded a Fulbright Scholarship to pursue a master’s degree in engineering management in the United States. Through the Fulbright Scholar process, students are notified of their award and must then choose four universities they would like to attend. From there, the Fulbright Commission handles the admissions process and informs the student which university they will be attending.

“SMU was one of the schools on my list. I was looking for a university that had a balance of great academics and location, in a city that could offer me a great cultural exchange experience,” he says.

Mubarak had never heard of operations research (OR) until his first class in the subject. “I was hooked right then and there. All my master’s electives were in OR,” he says. During two summer internships at BNSF Railway in Fort Worth, Texas, his passion for operations research grew. The OR team he worked with all had Ph.D.’s, which inspired him to pursue a doctoral degree.

From the beginning of his Ph.D., Mubarak was looking for an OR project related to new technology. “In a nutshell, operations research is the science of using mathematical modeling and advanced analytics to help make better decisions. Operations research can be heavily applied when it comes to implementing new technologies,” he says.

Mubarak’s advisor and mentor, Professor Halit Üster, offered him the opportunity to join an interdisciplinary group researching solutions for in-motion wireless charging of electric vehicles in urban traffic networks.

“SMU and the Lyle School of Engineering is the opportunity to conduct interdisciplinary research,” Mubarak says. The interdisciplinary group is a collaboration with Professor Khaled Abdelghany, Civil Engineering, and Assistant Professor Mohammad Khodayar, Electrical Engineering, with Üster and Mubarak bringing the EMIS and OR perspective to the table.

According to Mubarak, the demand for wireless charging capabilities in electric vehicles (EV) is driven by many big-name auto manufacturers who are looking for solutions to increase consumer acceptance of electric vehicles. Benefits of wireless charging to the EV driver include eliminating range anxiety, reducing battery size, decreasing pollution, and ultimately lowering the car’s purchase and operation costs.

The group’s research objective is to optimize the urban network design, the locations and capacities of wireless charging stations, and analyze different parameters of the implementation cost to support product design. The initial seed money for this project was provided by SMU, and it is currently funded by the National Science Foundation.

Mubarak presented his contribution to the project during a poster session at the 2017 Global Grand Challenges Summit (GGCS) in Washington, D.C. As a result of his presentation, Mubarak was the graduate-level winner for original research, awarded by the National Academy of Engineering (NAE), the UK Royal Academy of Engineering, and the Chinese Academy of Engineering.

Mubarak’s research efforts have yielded many Lyle honors and awards, including the 2017 Frederick E. Terman Award for scholastic attainments and contributions, and the 2018 Outstanding Graduate Student Award. He has also served as vice president of SMU INFORMS, the student chapter of the professional society for practicing management scientists and OR professionals. After his December graduation, he plans to join Exxon Mobil Corp. in Houston as part of their value chain optimization team, acting as an internal consultant to solve business problems using the mathematical modeling, advanced analytics and leadership skills he learned to become a world changer at SMU.
This fall, SMU became the first private university in Texas to adopt the National Academy of Engineering (NAE) Grand Challenges Scholars Program (GCSP). This combined curricular and extra-curricular program is designed to prepare students to be the next generation that solves the grand challenges facing society. GCSP students must fulfill five key competencies to be designated as Grand Challenges Scholars, including: talent through mentored research and creative experience; multidisciplinary teamwork practice; viable business/entrepreneurship skills; multicultural awareness; and social consciousness.

There are 14 Grand Challenges defined by the NAE, and Lyle has an inaugural cohort of select engineering students and faculty members from all five engineering departments, with relevant, ground-breaking research expertise who are ready to solve them.

TO GET INVOLVED
Become a mentor, provide internships or have your company partner with the Grand Challenge Scholars Program at Lyle.

FOR MORE INFORMATION
Contact Kathy Hubbard, Director, Hart Center for Engineering Leadership:
khubbard@smu.edu
Florida native Kevin Lavelle was a promising student scholar who had his choice of schools when he first came to Dallas to visit SMU. “I looked at universities across the country, but SMU felt special and different from everywhere else. There’s east coast, there’s west coast, but there’s nothing that rivals Dallas,” Lavelle says. “There’s so much opportunity here. I knew this would be a great school to get the best education, for networking opportunities and to start my professional career.”

During Lavelle’s time at SMU, he excelled in his pursuits both inside and outside the classroom. He earned a B.S. in Management Science, graduated summa cum laude, and was a President’s Scholar and an SMU cheerleader. Lavelle was also a student co-chair of Emerging Leaders, a leadership development program where selected students have the opportunity to network with SMU students, faculty, staff and influential leaders within the Dallas community.

It was through Lyle donor and alumni events that Lavelle met some of his greatest mentors, including Hunter Hunt, Chairman and CEO of Hunt Consolidated Energy, Inc., and Linda and Mitch Hart, who founded, supported and enhanced many business and educational ventures at SMU. “These mentors opened a lot of doors on my career path, and that’s something truly exceptional. It wasn’t just an education in the classroom for me; it was making connections to business leaders who took a very specific interest in helping me grow in life,” he says.
After graduation, Lavelle worked for global management consulting firm Oliver Wyman and at the venture capital group of Hunt Consolidated, focusing on emerging energy technologies, but his enterprising spirit eventually led him down another path.

Today, Lavelle is the founder and CEO of Mizzen+Main, a menswear apparel company whose signature product is a dress shirt made of athletic, moisture-wicking performance fabric that has four-way stretch and doesn’t need to be ironed or dry cleaned. The idea came to him one summer when he was a college intern for a political organization in Washington, D.C. “I watched a guy run into a building soaked in sweat and thought, ‘why not make a dress shirt out of performance fabrics?’” he says.

Kevin launched the company in July 2012 to create the “next great American brand.” The dress shirt and performance polos have become a favorite among professional athletes, with Phil Mickelson and J.J. Watt serving as faces of the brand. Mizzen+Main is carried in over 450 retail locations, as well as online.

Lavelle credits his engineering management skills learned at SMU to help him get through the early stages of the company. He chose engineering management over majoring in business or a more specific engineering discipline because it seemed like the perfect blend of both worlds. “I use the engineering management approach for problem-solving and a broad spectrum of other challenges,” Lavelle says. “If you understand how other people do their jobs — whether it’s accounting, engineering, computer programming, operations research — you will be infinitely more effective as a business leader,” he says.

Lavelle is a world changer who strives to make a difference in the lives of veterans. His entrepreneurship resulted in an invitation to speak at the 2012 TEDxSMU event, where he discussed the social responsibility of Mizzen+Main, whose products are made in the United States with several efforts to make a positive impact on the veteran community. The company makes donations and partners with several veteran service organizations, such as the Adaptive Training Foundation, a nonprofit that transforms wounded veterans’ lives through exercise, adapted sports and community. The company donates to the Navy SEAL Foundation, which provides support and assistance to the Naval Special Warfare community and its families. Mizzen+Main also sponsors “Game Time Gratitude” spotlights at SMU home football and basketball games, honoring and recognizing veterans for their service. “We just tell a little bit of their story, and it’s quite an experience to see,” Lavelle says.

For all of these worthy endeavors, Lavelle was named to the 2013 “40 Under 40” list by the Dallas Business Journal and was the 2016 E&Y Entrepreneur of the Year in the Southwest. But the most meaningful recognition was being honored by the SMU community as the 2016 Distinguished Alumni Emerging Leader. “That was a very special moment, to be selected by SMU for my contributions to the community, to philanthropy and to business,” he says.
LYLE CIVIL & ENVIRONMENTAL ENGINEERING STUDENTS WIN STATE DESIGN COMPETITION FOR 10TH CONSECUTIVE YEAR

Lyle Civil and Environmental Engineering students Amber Long, Rachel Rogers and Krislyn Welch have experienced quite a year. This past April, the students competed against eight other teams from universities in Texas and Louisiana in a student design competition sponsored by the Water Environment Association of Texas (WEAT), and won first place for an SMU team for the 10th consecutive year.

With a regional win, the team advanced to the national student design competition at the 91st Annual Water Environmental Federation Technical Exhibit and Conference (WEFTEC), which was held recently in New Orleans. At both competitions, the team presented their project titled “Alligator Creek Wastewater Treatment Plant.” The project was a fictional facility based on an actual plant in Texas of similar size and capacity. The proposed design solution increased the size of the plant and updated the water flow to meet the demands caused by increased population, while reducing phosphorous levels.

Student Amber Long believes the team’s competitive edge was in beginning work on the project as soon as the prompt was released last fall. “We started earlier than everybody else. Other teams told us they waited for the site visit and didn’t start working on the project until the second semester. At that point, we’d already visited the site and come up with three separate design options. That made a huge difference,” she says. The group also credits much of their success to adjunct professor and faculty advisor Patricia Taylor, P.E., a water information and analysis team leader in the surface water center for the U.S. Environmental Protection Agency (EPA).

Professor Taylor, who also teaches a Project Management class, spends a lot of time helping students write professional-level design reports. “She had us go through several editing steps, to produce different iterations of the project from a high level down to the finished product,” Long shares. This year’s detailed, 200-page design report covered the scope of the project, reviewed alternative design methods, recommended solutions, and proposed both construction costs and sequencing schedules. To ensure that the proposed design solutions were correctly calculated, the report included approximately 40 pages of hand calculations that were triple-checked for accuracy.
In addition, Taylor also required the team to present their work several times during the year. By the time of the competition, the team had the advantage of being more prepared, polished and professional than their competitors. For good measure, Taylor brings in the Civil and Environmental advisory board and other industry consultants to provide constructive feedback.

“You see them present at the very beginning and again at the end, and you realize how far they’ve come. The students are very receptive to feedback and will keep pushing to get the information they need,” observes Julie Ellis, the departmental coordinator for the Civil and Environmental Engineering Department. Serving as staff advisor and chaperone for each SMU WEAT team for the last decade and accompanying the students to regional and national competitions, she has seen the teams grow and improve to be among the strongest in the competition.

Ellis is convinced it’s a combination of the hard work the students put in and their willingness to reach out to faculty and their industry mentor for support that makes them so successful. For the past several years, SMU teams have been fortunate to have wastewater treatment specialist Paul Roach, an associate and senior project manager at CP&Y, Inc., advise the team.

“We treat each year’s WEAT team the same,” Ellis states. “It’s a collaborative effort of faculty, staff and industry advisors to support the team so they are prepared for competition.” Student Rachel Rogers agrees: “What helps separate us from other teams is SMU’s culture. Lyle strives to make students social engineers rather than just good at math and engineering. This diverse approach helps us because we know how to present our work, not just do the work.” This effort and support shows each year in the team’s success.

At this year’s regional WEAT competition, the SMU team proposed a solution for increasing the water flow from 3.5 million gallons to 6 million gallons per day. The plan also addressed new phosphorous limitations required by the Texas Pollutant Discharge Elimination System (TPDES), by implementing a monthly average effluent discharge limit of 1 mg/L. Environmental aesthetics, including a way to reduce odor, were also considered, as the facility is located in a residential area.

The team used data analytics to consider multiple treatment alternatives and select their recommended design, Enhanced Biological Phosphorus Removal (EBPR), which allows phosphorus-accumulating organisms (PAOs) to grow and remove large amounts of phosphorus from the waste stream using an anaerobic/oxic (A/O) system.

The students’ thorough approach yielded a fully viable solution, at a reasonable cost and construction turnaround time, that the facility operators could use in real life. “We really maximized what WEAT wanted from us. The fact that we saw the scope and hit all the numbers set us apart. A lot of other teams just went above or outside the numbers and seemed to have their own priorities,” Long explains.

As a result, SMU has become the team to beat. Every year, competitors take notes, ask questions, and have tried various tactics to defeat the SMU team. Lyle’s continued success at the WEAT Competition has drawn a lot of attention, to the point industry professionals at the conference, including some SMU alumni, make sure to attend their presentation. “It was just amazing to see how many people came out to watch and cheer us on,” Krislyn Welch recalls. Afterward, the team members were approached to answer questions and field inquiries on future employment. “We received a lot of business cards, with potential employers asking us to email our resumes and indicating they’d love to talk about working for their company,” Welch adds.

All three women have their future plans set. Long will be completing graduate school while working at Huitt-Zollars, Inc. in the water resources department. Rogers is finalizing two master’s degrees, one in Environmental Engineering and an MBA in the Cox School of Business, while interning at Kimley-Horn, working on wastewater treatment. Welch moved to Charlotte, North Carolina, to work at Ernst & Young in technology-based financial consulting. No doubt, these women will go on to solve great challenges in the world.

“Student Rachel Rogers
M.S. Environmental Engineering Student

“What helps separate us from other teams is SMU’s culture. Lyle strives to make students social engineers rather than just good at math and engineering.”
Take a Sustainable Approach to Global Urban Development

Earn Your M.A. with a Major in Sustainability and Development and Help Design More Accessible Urban Landscapes for the Future

Over the last half-century, the global population has exploded and resources are dwindling, adding strain to the enormous economic, environmental and technological shifts taking place in cities around the world. Providing future access to clean water and air, housing, and transportation requires a more robust pool of skilled professionals to take action.

SMU’s Master of Arts program with a major in Sustainability and Development (MASD) approaches global development through a prism of core sustainable development perspectives: ecological, economic and social. This degree is focused on creative approaches to the design and development of the built environment, including aspects of transport, energy, natural resources, water, landscape, building and infrastructure systems. The program’s multidisciplinary approach embeds the study of environmental science and energy within the context of global development, urban planning, transportation, and sustainable construction.

Fully project-based, the program takes advantage of its location in the DFW metroplex to leverage the expertise of local professionals and government bodies, and to re-envision complex urban sites both locally and internationally with viable solutions. The goal is to seek strategies that counterbalance long-term trends toward environmental inequality and spatial fragmentation.

The MASD program, offered by Lyle and aligned with the Hunt Institute for Engineering & Humanity, is for both engineers and non-engineers who wish to operate on an expert level related to globally sustainable practices, bringing together aspects of environmental justice, urbanization and resilience.

To request more information, contact:
P.O. BOX 750335, DALLAS, TEXAS 75275 | ENGINEERINGLEADERS@SMU.EDU | 214-768-2002 | 800-601-4040
SMU’s faculty and students join forces as co-creators of knowledge that spans the arts, business, engineering, the humanities and sciences. Even in their first year, students become hands-on contributors to significant discoveries. In collaboration with industry, nonprofit organizations and other institutions, our researchers forge paths to results that can be applied ethically on a local, national and global scale. Powered by the vast potential of data science and high-speed computing, they unlock new insights about critical problems. SMU researchers shape these discoveries into economic opportunities, stronger communities and a better world.

**TEMPLETON ENDOwed RESEARCH EXCELLENCE FUND**

Mary and Richard Templeton have committed $5 million to enhance the quality of research at SMU’s Bobby B. Lyle School of Engineering with the creation of the Templeton Endowed Research Excellence Fund. The fund is flexible, allowing for support of the most pressing and important research needs in the Lyle School at any given time. It covers a range of project essentials, including postdoctoral researchers, doctoral and graduate student stipends, equipment and supplies. Working in collaboration with SMU’s Office of Research and Graduate Studies, the Lyle School will select projects that benefit the University’s research portfolio, along with faculty who have strong track records for significant external research funding and success in recruiting elite graduate students. Metrics of success will be defined by the school and the research teams.
Upcoming EVENTS

Cox/Lyle Red Zone Football Tailgate Experience
Join us each fall at the Red Zone, our home game tailgating plaza that opens three hours before kickoff. We welcome Cox and Lyle alumni, students, parents, faculty and staff. Click here for more information on the Red Zone. See you on The Boulevard!

Deason Innovation Gym
This 24/7 makerspace, located in Lyle’s Caruth Hall, is open to all SMU students. For more information about events, visit thedig.org/calendar or email us at: hello@theDIG.org

Lyle Lecture Series
DOWNLOAD@LYLE
Join us on the first Wednesday of every month during the academic year for feature presentations on current research and initiatives. Spring 2019 dates include Feb. 6, March 6 and April 3. Speaker lineup and registration will open approximately two weeks before the date of each event. Click here for more information.

DISTINGUISHED LECTURE SERIES IN ENGINEERING ENTREPRENEURSHIP
Calling all engineering students, faculty, staff, early entrepreneurs, and members of the university community with an entrepreneurial spirit and passion for technological innovation. Events will feature four guest speakers, two in the fall and two in the spring during the academic year. Click here for more information.

DATACENTER SYSTEMS ENGINEERING SPEAKER SERIES
Join industry experts once a semester who discuss the evolving technologies, challenges and opportunities in the industry. Click here for more information.

Hunt Institute
The Hunter & Stephanie Hunt Institute for Engineering & Humanity hosts several events over the academic year. Learn more here or email HuntInstitute@smu.edu

Lyle Undergraduate Prospective Student Events
The Office of Undergraduate Recruitment and Retention offers special events throughout the year to showcase the variety of opportunities available for engineering students at Lyle. Email enrollment@lyle.smu.edu for more information.

Lyle Graduate Prospective Student Events
Lyle offers graduate programs in delivery formats designed to cater to student needs. If you or your employees are interested in more information or registration for upcoming events, visit the links below or email Lylegrad@smu.edu

• Domestic Graduate Student Events
• International Graduate Student Events

Lyle Student/Industry Events
Lyle and the Hart Center for Engineering Leadership offer a variety of events for engineering students to interact with industry contacts throughout the year. Click here for more information on how you can participate, or email thehartcenter@smu.edu
On the 10th anniversary of the official naming of the Lyle School of Engineering, we extend our gratitude to Dr. Lyle, for touching countless lives in a positive way, not only through many years of dedication, service, support and commitment to SMU and to Lyle, but also throughout the city of Dallas and around the world.

“I want my legacy to be that people would say, ‘He touched my life in a positive way.’” – Dr. Bobby B. Lyle