Greetings from the Acting Chair

Greetings from the Civil and Environmental Engineering Department. It is indeed a pleasure to send greetings on behalf of the faculty, staff, and students of our department. It is also a pleasure to share with you a summary of our activities and successful stories of our CEE family during the past year.

Dr. J.P. Mohsen, who has been serving as the department chair since 2004, is now the interim Associate Dean of Administration, Planning, and Faculty Affairs of the Speed School of Engineering. I would like to invite everyone to join me to congratulate Dr. Mohsen on his new position. Under his leadership, the CEE department has kept growing in both research and teaching every year. It is really my honor to succeed Dr. Mohsen in this chair position. With the support of faculty, staff, students, and our alumni, I truly believe our department can continue to grow healthily.

2016-2017 was an exciting school year. The statistics data from the Associate Dean of Research and Facilities showed that the research expenditures of the CEE department continued to rank high among all Speed School departments. We also kept a good record of journal publications. A selected publication list is on page 9. We also created a new research lab, S°Trans, located in the lower level of WS Speed. The story of this lab can be found on page 6.

In the past year, we graduated five Ph.D. students, two in the structural area, two in the geotech area and one in the water resources area. We hope what they have learned at UofL are helpful to their future career. In this new school year, we recruited six new Ph.D. students to join in our family. The introduction of these new faces can be found on page 7.

We also developed two brand-new graduate certificate programs, one in Transportation Engineering and one in Structural Engineering. Both programs have been approved by the university and started taking applications in Spring 2017. This certificate provides an excellent opportunity for professionals with a B.S. degree in Civil Engineering who may have received job assignments that require knowledge in structural or transportation engineering. To accommodate the busy schedule of those civil engineers, the programs are 100% online. Please find the details of these two programs on page 4.

The job market for civil engineers is very strong. This year, we had 30 companies attend the Networking Recruiting Event (NRE), our thirteenth annual event! It took place on September 28 of this year. Among the 30 participants, we had quite a few new ones on the list. We sincerely hope to see you again next year at the event, and we are also hoping more and more companies will join us for this great event.

We will have an ABET accreditation visit in 2018 and are currently working on the self-study report. We need everyone’s input to review and provide feedback regarding the CE program Mission and CE Educational Objectives. They are listed on both page 3 of this newsletter and our departmental website. Please take a moment to read them. Any feedback or suggestions are very much appreciated.

Please stay in touch and thank you all very much.

Best Regards,

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TABLE OF CONTENTS

Networking & Recruiting Event......................... 3  Meet the Ph.D. Students ................................. 7
Accreditation Mission & Educational Objectives ... 3  Botswana Reflections ................................. 8
New Online Graduate Certificates ...................... 4  Faculty Journal Publications for 2016 .......... 9
Faculty Research Spotlight ............................. 5  Honors & Awards from Spring 2017 .......... 10
S°Trans Laboratory ........................................... 6  Professional Award in Civil Engineering .... 11
Dr. Richard Li, Assistant Professor with Department of Civil and Environmental Engineering received the Best Paper Award from the Transportation Research Board (TRB) Committee on Roundabouts during the 96th TRB Annual Meeting, taking place in Washington DC in January 2017. His winning paper is titled “Operational Evaluation of Two-lane Roundabouts at Freeway Ramp Terminals.” The TRB Committee on Roundabouts annually recognizes one paper for excellence from all of the papers submitted to the Committee for the TRB Annual Meeting. The TRB is one of seven program units of the National Academies of Sciences, Engineering, and Medicine.

More than 12,000 transportation professionals from around the world attended the 2017 TRB Annual Meeting. In addition, Dr. Li’s paper “Sensitivity Analysis of Project Level MOVES Running Emission Rates for Light and Heavy Duty Vehicles” won the 2014-2016 “Top Article” Award from Journal of Traffic and Transportation Engineering, a peer-review journal published by Elsevier.

The following companies attended the 2017 Civil Networking and recruiting event on Sept. 28 at the University Club.

- AECOM
- American Engineers
- Black & Veatch
- Brasfield & Gorrie
- Building and Earth Sciences, Inc.
- Burgess & Niple, Inc.
- C&I Engineering
- Calhoun Construction
- Connico Incorporated
- Garney Construction
- Illinois Department of Transportation
- Indiana Department of Transportation
- Jacobi, Toombs & Lanz
- Kiewit Infrastructure Group
- LECGI INC.
- LGSE - KU
- MAC Construction & Excavating, Inc.
- Messer Construction Co.
- Mid Park Inc.
- Patriot Engineering and Environmental
- Pittsburg Tank & Tower Group
- Qk4
- Saegesser Engineering, Inc.
- Stantec
- Strand Associates
- Troyer Group
- Turner Construction
- U. S. Army Corps of Engineers
- U. S. Navy
- Wehr Constructors

ABET Accreditation Mission and Educational Objectives

The civil engineering bachelor’s degree and master of engineering programs are individually accredited by the Engineering Accreditation Commission of ABET.

Our Mission

The mission of the Department of Civil and Environmental Engineering is to serve the university, the Commonwealth of Kentucky, and the engineering profession by providing high quality educational programs to all students; engaging in research and scholarship that will extend knowledge; and assisting the economic development of the regional, state, and national economies through technology transfer.

Program Educational Objectives

In accordance with our mission statement, within three to five years of graduation;

- Our graduates will grow from technical competency to professional proficiency.
- Our graduates will engage in professional development and life-long learning.
- Our graduates will exhibit leadership and team-building skills.
- Our graduates will provide service to the profession, and to society.
As the U.S. economy continues to grow, the need for well-prepared professionals with specialized expertise is also increasing. ASCE’s 2017 Infrastructure Report Card indicates that the United States’ needs are significant and civil engineers must lead the charge to develop a more resilient and sustainable infrastructure. Raising the grades on the U.S. infrastructure will require a skilled workforce able to seek and adopt a wide range of solutions.

Civil engineering careers are poised to grow by 8% through 2024. This growth is mainly due to the aging domestic infrastructure. As of May 2015, the median annual salary for civil engineers was $82,220. (BLS.gov) To accommodate the increasing demand, our department began offering the following two new certificate programs in Spring 2017.

### Graduate Certificate in Structural Engineering

The Civil and Environmental Engineering Department at the J. B. Speed School of Engineering offers an online graduate certificate program in structural engineering to help professionals gain expertise in the field. This certificate provides an excellent opportunity for professionals with a B.S. in Civil Engineering degree who:

- May have received a job assignment that requires knowledge in structural engineering
- May have fundamental knowledge in civil engineering, but may need additional skills and formal education in the field of structural engineering
- May need a credential alternative to a full master’s degree
- May want to save time and money by choosing to complete a certificate program

The graduate certificate in structural engineering is comprised of 4 courses (3 required core courses and 1 elective) for a total of 12 credit hours. The online program can be completed within one year.

Credits earned may be applied to the Master’s in Civil Engineering. Students must apply and be admitted to the Master’s program separately.

Civil engineers trained in Structural Engineering may be employed in fields such as structural, forensic structural, project management, commercial/non-residential, structural design, public works, and many other areas.

For more information, please visit: [uofl.me/speedstructure](http://uofl.me/speedstructure)

### Graduate Certificate in Transportation Engineering

An online graduate certificate program to help professionals gain proficiencies in the field of transportation engineering is also available. This certificate provides an excellent educational opportunity for engineers with a B.S. in Civil Engineering degree who:

- May have received a job assignment that requires knowledge in transportation engineering
- May have fundamental knowledge in civil engineering, but may need additional skills and formal education in the field of transportation engineering
- May need an alternative to a full master’s degree
- May want to save time and money by choosing to complete a certificate program

The graduate certificate in transportation engineering is comprised of 4 courses (3 required core courses and 1 elective) for a total of 12 credit hours. The online program can be completed within one year.

Credits earned may be applied to the Master’s in Civil Engineering. Students must apply and be admitted to the Master’s program separately.

Civil engineers trained in Transportation Engineering may be employed in fields related to transportation, public works, traffic engineering, traffic design, modeling, arterials, urban transportation, and many other areas.

For more information, please visit: [uofl.me/speedtransportation](http://uofl.me/speedtransportation)
Bridge is a critical element in a transportation system for three reasons (Baker and Puckett 2013):

- Traffic capacity is often controlled by a bridge
- Cost per mile is the highest
- When the bridge fails, the whole system often fails.

Thus, bridges are important infrastructure for everyone. Although very important, "56,007 -9.1% -of the nation’s bridges were structurally deficient in 2016 (American Society of Civil Engineers 2017 Infrastructure report card)." Moreover, the average of national bridges are 43 years old.

Current routine monitoring requires traffic closures and operational disruptions. Since the inception of inspection program in 1968, catastrophic collapses of infrastructure often occur. Access to local members of structures is often limited and impractical, if not impossible. In addition, infrastructure limits the accessibility of crews with sensors and systems. Because sensors have physical limitations, extreme weather conditions including high-speed wind loading, intensive heavy rain, and extreme temperatures can cause difficulty with data collection and interpretation. Thus, structural health monitoring faces numerous physical and environmental challenges, including stability and durability of sensors, power management, reliable data connection and interpretation, and inspector safety.

To address these challenges, a research team led by Dr. Kim at the Civil and Environmental Engineering (CEE) adopted the high-speed camera to identify and assess structural damage. The technology is originated from the work of Dr. Kielkopf in Physics and Astronomy Department and Dr. Hay (RDI Technologies). Since 2014, Dr. Kim and the scientists in optic science worked together to advance the technology toward the application of bridge engineering. As a result, a recently graduated CEE Ph.D. student, Li Yang has integrated non-contact based sensors and advanced structural health monitoring (SHM) algorithms. The performed work mainly consists of three steps:

- Step 1: Data collection using non-contact sensor (high-speed camera)
- Step 2: Application of SHM algorithms
- Step 3: Damage detection and quantification

When no prior information of original properties is given, the non-contact sensor can measure the displacement excited by normal traffic and ambient noises (Step 1). Even though the forces are unmeasured or unknown, structural properties may not be changed. Meaningful data from the vibration data at specific locations of structures using proposed algorithms can be obtained (Step 2). Finally, the damage location and severity can be identified (Step 3) (See figure below).

The approach doesn’t need any physical contact and obtains the displacement of objects from high-speed camera images. Therefore, the traffic closure is not required and more than one thousand image frames with a few minutes are sufficient to identify damage. The amount of image data contains more quantified information compared to traditional data obtained from traditional visual inspection.

A significant contribution of the CEE research team is to extract meaningful data to quantify structural properties. Applied algorithms cover from basics to advanced topics in the structural dynamics, finite element methods, and system identification.

The findings of laboratory testing demonstrated relatively accurate estimation of damage using proposed algorithms in conjunction with non-contact based sensors (See figure above). Traditionally, the original information of structural properties should be initially estimated from design drawings and measurements which typically requires physical contacts. However, the proposed algorithms do not rely on such information. The research team believes that the proposed algorithms allow obtaining information of severities of structural damage of many bridges that has not sufficient information to determine bridge conditions.

The outcomes of this research will result in a paradigm change in understanding structural health monitoring practices. The essential collaborative work with scientific (optic science) and field applications will increase the impact of the research outcomes. This research can contribute to enhanced effective public and private asset management, resulting in cost reduction, reliable decision making in real time, and improved public safety for users of public infrastructures. Currently, Dr. Kim is continuing to work on the next step toward the robust analysis of complex structures. Also, he will use research outcomes to educate the CEE graduate students to understand fundamentals through existing graduate courses including structural dynamics, finite elements in structural engineering, and bridge design.
Smart, Safer, Sustainable Transportation (S$^3$Trans) Lab, located in Room LL06B on the lower level of W.S. Speed Hall, was developed by Assistant Professor, Dr. Zhixia (Richard) Li in December 2016. The lab is used for both teaching and research activities in the transportation engineering program at the CEE Department.

The S$^3$Trans Lab aims at tackling operational and safety challenges in the existing and future transportation systems via taking advantage of the emerging technologies in transportation and cyber industry. By harnessing innovations from information sciences, communication engineering, computing, traffic sensor technology, system engineering, connected and autonomous vehicles as well as social media, the Lab strives to contribute to a better transportation system that strengthens user safety and security, increases societal mobility, cuts down on massive traffic congestion, curbs energy consumption and vehicle emissions, boosts the environment sustainability, and ultimately reduces chance of health problems caused by traffic emission.

Particularly, as an interdisciplinary research hub, The S$^3$Trans Lab is targeted at blending technologies from various disciplines with harmony to optimize our transportation system. On the other hand, advancement of transportation in turn offers opportunities for improving urban planning and enriching social science with consideration of the new transportation modes, exploring driver’s/traffic psychology under vehicle-highway automation and connectivity, improving traffic law enforcement via data mining, and etc. In addition, The S$^3$Trans Lab owns two state-of-the-art microwave radar detector: Intersector. The detector is capable of tracking and collecting vehicle trajectories from as far as 600 feet. The data collection frequency can be up to 10 Hz. Additionally, the S$^3$Trans Lab has computers that have the most recent version of the standard microsimulation software VISSIM (Version 9) installed, which are capable of running large scale traffic simulation analysis and with distributed computing power.

To support human factors related research, The S$^3$Trans Lab has a NADS (National Advanced Driving Simulator) miniSim driving simulator, which is approved and currently also in use in US Department of Transportation labs, including NHTSA's miniSim Lab located at US DOT’s Turner-Fairbank Highway Research Center (TFHRC) in McLean, VA. NHTSA and NADS developed scenarios will run on the miniSim. miniSim records high fidelity data with more than 100 variables at 60Hz. As raw data is recorded, user can modify data reduction and measures after the drive is done. miniSim uses high-resolution tiles to create road networks, resulting in very realistic, immersive environments that can be quickly assembled by the user. miniSim comes with the ‘Springfield’ environment that contains 230 miles of roadway, 178 intersections, 143 traffic signals, and 1362 signs.

Rooted in the CEE Department, the S$^3$Trans Lab conducts cutting-edge research via initiating interdisciplinary research to promote smart, safer and sustainable transportation. Currently, the lab staff has three Ph.D. research assistants, and two undergraduate research assistants. The S$^3$Trans Lab has secured research funds from Kentucky NSF EPSCoR, NSF I/UCRC for Efficient Vehicles and Sustainable Transportation Systems (EV-STS), UofL’s Cooperative Consortium for Transdisciplinary Social Justice Research (CCTSJR), and UofL’s EVPRI’s Office. As an interdisciplinary research facility, the Lab is working closely with Speed School faculties, and facilities from College of Arts and Sciences, Kent School of Social Work, School of Public Health and Information Sciences, and UofL Human Trafficking Research Initiative. The S$^3$Trans Lab has been seeking collaboration with Louisville Metro Government, Kentucky Transportation Cabinet, Kentucky Transportation Center, US Department of Transportation, and other State DOTs to continue to promote smart, safer, and sustainable transportation.
**Ph.D. Students**

**Majeed Algomaiah** is a native of Riyadh, Saudi Arabia. He earned a B.S. in Civil Engineering from Queensland University of Technology (Brisbane, Australia) and a M.S. in Civil Engineering from UofL. His main area of research is improving transport network via Connected and Autonomous Vehicles (CV and AV). By using CV and AV, zipper merge strategy can be applied to increase the capacity of work zones on highways. Also, interchanges can be optimized to provide higher capacity using AV technology. Dr. Richard Li is his mentor.

**Reza Boushehri** is from Sary, Mazandaran, Iran. He received his B.S. from Babol Noshirvani University of Technology (NIT), Babol, Iran, in 2013; and a M.S. from Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran in 2016. His current area of Research: Developing the idea to exploit low enthalpy geothermal energy in order to reduce street temperature fluctuations throughout the year and avoid ice formation during the winter season. In order to analyze the performance of these anti-icing systems, long-term dynamic simulations, by using the finite element discretization technique will be carried out. Dr. Omid Ghasemi-Fare is his mentor.

**Mohammad Reza Mir Tamiz Doust** is from Lahijan City, Guilan Province, Iran. He earned a B.S. (2013) and M.S. (2016) at the University of Guilan. His current area of research is constitutive modeling of unsaturated soils and the effect of different constitutive parameters (e.g. Thermal parameters) on deformation and failure of such soils. Dr. Omid Ghasemi-Fare is his mentor.

**Li Liu** is from Wuhan, Hubei, China. He earned a B.S. from Huazhong University of Science and Technology in 2012 and a M.S. from UofL in summer 2017. His research is focused on pre- and post-crack behavior of fiber-reinforced mortar & concrete; green engineering, sustainability and energy efficiency of structures; and thermal engineering. His mentor is Dr. W. Mark McGinley.

**Muting Ma** is a native of Shenyang, China. He received a B.S. from Liaoning Police College, in 2014, and a M.S. from People’s Public Security University of China, 2017. His current area of research is connected autonomous vehicles based on reservation-based simulation with interchange manager optimization; traffic data collection, mining, processing and analysis based on vehicle simulator; and traffic network optimization with linear programming. Dr. Richard Li is his mentor.

**Jice Zeng** is a native of Neijiang Longchang, Sichuan Province in China. With a B.S. from XiHua University, Chengdu, China, 2013, and a M.S. from Chongqing Jiaotong University, Chongqing, China, 2016, his current area of research is structural health monitoring. This research is about damage detecting and damage quantification by using non-contact based sensor (high speed camera). His mentor is Dr. Young Hoon Kim.

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**Classroom Renovation:**

**WS Speed 108**

The $40K renovation to Classroom WS108 is complete. The new space has been renovated with a modernized look, a distinct change from the 1970’s look it has featured throughout the years. The ceiling and lighting has been updated to include a far more welcoming atmosphere combined with highlighted columns and accentuated shades. The room is now equipped with awesome glass boards and four HDMI-ready, 65-inch TV monitors for presentations with the capability of dual content being displayed on the TVs (Content 1 on TV 1 & 3; and Content 2 on TV 2 & 4). The instructor’s desk has motorized height adjustment and is tethered with AC power and HDMI connections right on the desktop, doing away with all the unsightly cords. The student desks are the new node desks (mobile) for easy cluster learning and group projects.

Take a moment to visit the new room to see more details.
On April 30, 2017, civil engineering and other students left Louisville International Airport for a 16-hour flight and the adventure of a lifetime. The students traveled with the UofL International Service Learning Program (ISLP) to Botswana, Africa for a 10-day trip both teaching and exploring. The program aims to promote student learning and awareness through immersion in a foreign culture. The program is designed to allow students to teach in a local school, to serve as positive role models, and share interactive activities to spur interest in engineering as well as other disciplines. This year students Meredith Cooksey, Kyle McMahon, and Josh Saylor collaborated to recount their amazing experiences in Botswana.

As part of the program, we spent the semester studying the culture of Botswana while preparing lesson plans. We decided to plan themes for each day and base lesson plans around unifying important concepts. The themes we chose were team building, sustainability, and personal health/growth.

The earthquake-proof buildings lesson was started by teaching the students some basics about statics. We were very impressed with how quickly the students picked up the concepts! The earthquake experiment was an immediate hit, and we were all impressed by the creativity and strength of the buildings that the students made. This lesson was more important than others because a large earthquake had occurred in Botswana not long before our trip. For the calorie counter experiment we taught the students a formula that would tell them how many calories were in 5 grams of Cheetos! We would burn the cheetos over a soda can filled with water. The soda can heated up and the difference in the water temperature before and after the burning would tell us how many calories were in the cheetos. This experiment taught students not only about the importance of understanding calories and their effect on their bodies, but also taught math and science experiment concepts. The students enjoyed the fire too!

We also taught colloidal suspensions with cornstarch and water, while this mostly just allowed them to make a mess, we also spent time teaching them about physical properties, how to take scientific notes, and about colloids and states of matter. The last engineering lesson we taught was about rockets and they were supposed to design their rockets for the highest and best take-off. The baking soda and vinegar sent rockets flying into the sky. Our students were so excited to see who had the best rocket.

In addition to engineering lessons, we also taught our students geography, yoga, proper personal hygiene, confidence and anti-bullying, and the importance on how to be an effective team.

At the end of the three days we finally got to play some traditional “football” (soccer) which was an incredibly fun experience. Usually the girls don’t play with the boys but our lesson on teamwork must have made a good impact on them because by the end of the game the girls felt comfortable enough joining in. After the game, it was time for our goodbyes… the hardest part of the week! So many hugs and an hour later we left with 100 more friends halfway across the world.

In addition to the teaching experience gained through the ISLP program, we were able to experience, first-hand, the culture of Botswana. We spent a day traveling around the city, appreciating their 50 years of independence, learning about the history, and values of the people. As part of the traveling we visited The Three Dikgos (Chiefs) monument; while there we learned about the entire Botswana history, starting with natives and colonization, and moving on to their independence. We then visited a local mall and village where we saw traditional customs.

While traveling around we visited a military zoo and stood just inches away from cheetahs, lions, wild dogs and leopards as well as some of the most dangerous snakes in Africa. Of course, no trip to Africa is complete without an African safari! We traveled to the Etali Safari Lodge - Madikwe in South Africa to search for “The Big Five”. It was a breathtaking experience seeing animals in their natural habitats.

Overall, our experience was shaped not only by being able to travel to a new country, but also by being able to be fully immersed in the culture and traditions of the country. We were sad to hop back on the plane home, leaving behind a place we quickly fell in love with, but we knew we weren’t leaving empty handed but with so many memories and friends.
Algomaiah captures 3rd place

Please join us in congratulating our M.S. student (now Ph.D. student) in the transportation engineering program, Mr. Abdulmaged (Majeed) Algomaiah, for winning the 3rd Place Award in the 2016 International Highway Engineering Exchange Program (HEEP) Educator and Student Participation (ESP) Student Competition.

This competition followed a two-round rule. Students from different educational institutions across the U.S. and other countries first submitted abstracts of their research to the HEEP program. Five students were selected as finalists to attend the HEEP annual meeting and make presentations about their research. A selected judging used the ESP Evaluation Guidelines to evaluate the presentations. The top three students won the 1st, 2nd, and 3rd Place Awards respectively. Majeed’s research is under the advisement of Dr. Zhixia (Richard) Li.

We wish Mr. Algomaiah all the best for his future endeavor in the Ph.D. program of the CEE Department.

Chi Epsilon is recruiting new members

Hello, Alumni of Civil Engineering at the University of Louisville, this message is to provide a brief update on the Chi Epsilon (XE) Chapter at the University of Louisville.

Chi Epsilon is The Civil Engineering National Honor Society and the University of Louisville XE Chapter President is Austin Connor (BS 2013, MEng 2014, PhD 2018, XE 2015) and Dr. Mark French (XE 1985) is XE Faculty Advisor.

Right now, during the 2017-2018 academic year, a recruitment drive is taking place. You may receive an invitation to join Chi Epsilon in the Fall 2017 or Spring 2018 term.

For more information on Chi Epsilon membership, please contact Dr. French at mark.french@louisville.edu.
2017 Honors & Awards

Civil Departmental Alumni Award
Tom Jones
This cash award and certificate is presented by the Speed School Alumni Association to outstanding Graduate/Professional Students nominated by each department.

Co-op of the Year Award in Civil Engineering
Lauren Tallio
This award recognizes an outstanding student who has successfully completed a co-op and nominated by his employer and/or a faculty. Evaluation is based on student’s statement about the co-op experience and the student contribution to the employer.

Steve V. Bilyeu Scholarship
Michael McCarty
This endowment supports a renewable scholarship for students seeking a civil engineering degree at the J. B. Speed School of Engineering. Preference is given to students classified as sophomore or higher and who demonstrate financial need.

Hazelet & Erdal Scholarship
Maria Kolisnichenko
The Hazelet & Erdal consulting firm (now BRW) established an endowment for this scholarship for a student majoring in Civil Engineering. It is awarded on the basis of academic merit and/or financial need.

Kentucky Section ASCE Scholarship
Zachary Boston
The Kentucky Section of the American Society of Civil Engineers presents this scholarship to a professional school student in Civil Engineering who demonstrates superior service to the student community.

Kentucky Section ASCE Scholarship
Kathleen Rasmussen
The Kentucky Section of the American Society of Civil Engineers presents this scholarship to a professional school student in Civil Engineering who demonstrates superior service to the student community.

F. W. Schoettler Scholarship
Durbin Richardson
The F. W. Schoettler endowment provides a scholarship to the Civil Engineering student with the highest G.P.A. entering the Master of Engineering program.

CEE Undergraduate Recognition Award
Matthew Miller
This award recognizes the graduating honor student earning the Bachelor of Science in Civil Engineering and takes due consideration of academic excellence, contributions to the department and the school, and potential for future achievement.

Charles Cunningham Scholarship
Cody Lile
The Charles Cunningham Endowment provides a scholarship to a Civil and Environmental Engineering student who exemplifies values and qualities promoted by the benefactor.

Master of Science in Civil Engineering
NEW! Certificate in Structural and Transportation Engineering
Learn more at uofl.me/speedstructure and uofl.me/speedtransportation
UNIVERSITY OF LOUISVILLE
Jorge Lanz was presented the Professional Award in Engineering (PAE) for Civil Engineering during the 2016 Speed School Homecoming celebration held October 21 at the Brown Hotel.

The award is based on outstanding career performance in engineering, exceptional efforts by an individual to foster the professional development of young engineering college students, exceptional ability in the planning and direction of significant and important projects in technical engineering, and individual contributions to technical engineering knowledge.

Jorge was born in Havana, Cuba, but was raised in Colombia as a child and in Ponce, Puerto Rico as an adolescent. In 1973, he came to Louisville, Kentucky with a life-long friend that had studied in Louisville. That same year, Jorge enrolled at the University of Louisville’s Speed School of Engineering and by 1979 had obtained a Bachelor’s and Master’s degree in Civil Engineering.

Jorge started working for a small local civil engineering and land surveying firm, Jacobi, Toombs, Inc., following graduation in 1977. He became a partner in the firm in 1987 and the firm’s name was changed to Jacobi, Toombs and Lanz, Inc. In 1998, Jorge became the firm’s president and continues in that role to this day. Under Jorge’s direction, the firm has grown from 8 to 45 employees with offices in Louisville, New Albany and Indianapolis, and has expanded its service area through the states of Indiana and Kentucky. Jorge is a licensed professional engineer in the states of Indiana and Kentucky.

Jorge is committed to encouraging and supporting Hispanic and other minority engineering students. He is the past president of GLI’s Hispanic Latino Business Council, and remains a supporter of the University of Louisville’s Foundation, targeting funds in promoting Speed School’s advancement of minority students. He also served on the board of directors of One Southern Indiana, Goodwill Bridge Point Services, and the Community Foundation of Southern Indiana.

In his spare time, Jorge enjoys his 37-year marriage to his wife Teresa, is an avid golfer, enjoys playing music, exercising, supporting UofL sports, and spending time with family and friends.
Life Takes Engineering
louisville.edu/speed/civil