



## US Senator John Cornyn Tours Laboratories in the College of Science, Engineering and Technology

On Friday, February 5, 2016, U.S. Senator John Cornyn and his wife Sandy toured several laboratories in the Leonard H.O. Spearman Technology Building of the College of Science, Engineering and Technology.

The Cornyn's were first greeted by TSU Board Chairman Derrick Mitchell and his wife Roslyn in front of the building. Then, they toured the Flight

Simulator Lab, Mini TranStar Lab, and the Air Traffic Control Lab. The tour was accompanied by Provost James Ward, and a number of TSU administrators, and staff member. COSET Dean Lei Yu, Captain Roscoe Edwards, director of flight operations, Mr. Vernon Baker, Aviation Science Management program coordinator, and Dr. Mahdi Azimi provided introductions of the labs.



Senator Cornyn with Captain Edwards in the Flight Simulator Lab

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## Aviation Science and Technology Program

### Minorities in Flight

On February 16, 2016, Aviation Science Management in partnership with Career Services participated in an event with the United States Coast Guard titled Minorities in Flight. U.S. Coast Guard Aviators visited Aviation Science classrooms and spoke about their careers as Coast Guard aviators. Students were able to interact and ask questions. A panel discussion was held in the atrium of the science building. The panel included Commander Ollie USGC, John Yourse (Lt Col USAF Ret.), Mr. Vernon J. Baker, Program Coordinator, and Mrs. Tasjah Hall.

### Houston Airport System: Aviation Club

The Aviation Science and Technology Department hosted the Houston Airport System's Aviation Club on Friday February 19, 2016. This is the 4th year that the Aviation Club has visited Texas Southern University. This year's students were from the Aldine School district's Benjamin O. Davis High School. Thirty two students participated

in this year's event which included overviews of the aviation science management program as well as the flight concentration and a visit from recruiter Britany Smith. Students toured the ATC lab, with its 8 desktop flight simulators as well as the flight simulator lab, where one lucky student actually got to fly the simulator.

### Summer Flight Academy

The Aviation Science and Technology Department will host the Black Pilots of America Summer

Flight Academy on July 9-23, 2016. This will be the eleventh year that TSU and AVST have hosted this academy.

## Jack Yates High School Students Visit Transportation Studies

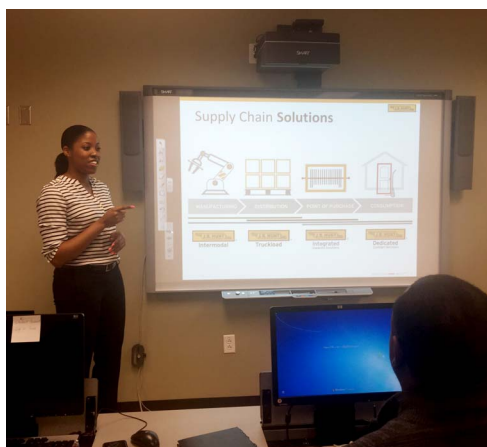


Students from Jack Yates High School in the Transportation Studies Department

Senior Students from the Jack Yates High School Maritime program visited the TSU Department of Transportation Studies on January 21, 2016. The purpose of the visit was to get Yates students interested in pursuing a Bachelor of Science degree in Maritime Transportation Management and Security (MTMS) at TSU. During the visit, the students learned about

the TSU Admissions process, MTMS degree requirements, TSU Maritime Scholarship, and Financial Aid. The students also heard about college success from Freshman Maritime Major and Jack Yates Alumna Brianna Ferrier. Graduate Student, Mr. Tyrie Goodman, told the students about the DHS Scientific Leadership Award Grant and college success.

## J B Hunts Visit TSU MTMS Program



J.B. Hunt Southwest Regional Human Resources Manager Tiffany Smith visited students in the TSU Maritime Transportation Management and Security program on February 4, 2016. Ms. Smith introduced students to the entry level professional positions and internship opportunities at J.B. Hunt. During the visit, the students learned about J.B. Hunt's primary business and its position as the #2 Transportation/Logistics company in the U.S.

## SCHOLOSCARS 2016

Achievement Awards and End of Year Celebration

Science Center Atrium

**APRIL 28, 2016**  
**11:30 AM**

## TEXAS A&M SYSTEM ENGINEERING TECHNOLOGY FORUM

Texas A&M System Engineering Technology Forum invited Dr. Abayomi Ajofoyinbo to the 2nd Engineering & Technology Forum which took place on February 12, 2016, at the Praire View A&M University. The Forum brought together participants from the academia, industry, and government. Dr. Ajofoyinbo, Engineering Department, represented TSU and gave a talk on "Systems Engineering versus Systems Engineering Technology: Similarity and Dissimilarity." The presentation was well received by the participants. The event resulted in several positive outcomes for COSET. Representatives from the Human Resources Department

of ExxonMobil Houston expressed readiness to make presentation to TSU's science, technology and engineering students on employment at ExxonMobil. Institute of Electrical and Electronics Engineers (IEEE), Houston, has offered to facilitate the IEEE Standards Education program at TSU. IEEE Standards Education is important as it enables faculty, staff and students recognize key role standards play in engineering, technology and computing fields. Moreover, knowledge of standards can help facilitate the transition from classroom to professional practice by aligning educational concepts with real-world



Dr. Abayomi Ajofoyinbo presenting at the Engineering Technology Forum

applications. The IEEE Standard Education Committee (SEC) offers grants for students project and faculty mentors to help complete senior, undergraduate or graduate projects.

## ARMY EDUCATION OUTREACH UNITE Summer Program

The Engineering Department was awarded a grant for \$56,000.00 from the Army Education Outreach Program to host the 2016 and 2017 Unite Summer Program. The award has been based on a keen national competition resulting in the selection of 16 sites nationwide, including the TSU award

which is the only one selected from Texas. The program is a four week pre-college summer engineering education experience for high school students from groups of historically under-represented and underserved in science, technology, engineering, and mathematics (STEM).

This program aims to encourage these students to pursue careers in engineering and STEM through hands-on rigorous academics, enrichment, and career exploration. The 2016 TSU UNITE Summer Pre-college Engineering program dates are from June 27 to July 22, 2016.

## MANVEL HIGH SCHOOL ENGINEERING WEEK

The Department of Engineering was represented at the Manvel High School Engineering Week on February 26th 2016. Dr. Abayomi Ajofoyinbo represented Texas Southern University

at the event. He participated on the program's professional and academic panel where he was able to highlight career opportunities available in Engineering. Following the program,

he also hosted a TSU booth where he was able to make one-on-one contact with the high school students; and he distributed departmental and university promotional brochure and material.

### COSET SUMMER UNDERGRADUATE RESEARCH PROGRAM

MAY 23 - JULY 29, 2016  
CONTACT

Hyun-Min Hwang, Coordinator  
Tel: 713 313 1028  
EMAIL: hwanghm@tsu.edu

### NSF RISE SUMMER RESEARCH PROGRAM

MAY 23 - JULY 29, 2016  
CONTACT

Shishir Shishodia, Coordinator  
Tel: 713 313 7912  
EMAIL: shishodias@tsu.edu

### NSF CREST CRCN STEM ENCHANTMENT V

JULY 18 - JULY 29, 2016  
CONTACT

Oscar Criner, Coordinator  
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EMAIL: criner\_oh@tsu.edu



# SPOTLIGHT

## Chris A. Hudson

COSET BOARD OF ADVISOR

Chris A. Hudson, AIA has been serving on the COSET Board of Advisors for more than fifteen years, holding the position of chairman from 2009 to 2011. During that time he has had the privilege of serving with many distinguished Board members and College Deans and witnessing many positive changes, including the re-introduction of engineering into the College.

Chris is the President of Morris Architects Inc., a seventy-eight year old architectural firm, founded in Houston that is now part of a larger multi-disciplined design firm of five hundred people - Huitt-Zollars, Inc. As the co-leader of the domestic and international buildings practice for Huitt-Zollars, Chris is responsible for the architectural and building engineering staff in 6 offices



in the United States and 3 international offices (Dubai, Rio de Janeiro, and Hong Kong). Buildings practice clients include healthcare, education, senior living, performing arts, civic, commercial and corporate office buildings, hospitality, multi-family residential, and retail.

Chris enjoys being engaged in a wide variety of project types, from

office buildings in the Houston Energy Corridor for MetroNational and Mac Haik Enterprises, to the Denton A. Cooley Building at the Texas Heart Institute at St. Luke's Episcopal Hospital, senior living communities in Texas and California for Belmont Village, and criminal justice facilities for Harris County.

Born on a farm in west-central Illinois, Chris received his Bachelor of Science in Architectural Studies and his Master of Architecture degrees from the University of Illinois, Urbana Champaign. He moved to Houston in 1976 and became active in many professional and non-profit organizations, including serving as the President of the American Institute of Architects and the President of the Texas Society of Architects.

## Roben Armstrong

ALUMNA, DEPARTMENT OF TRANSPORTATION STUDIES

Ms. Roben L. Armstrong is an Associate and Transportation Planner with HDR Engineering Inc., responsible for a myriad of transportation projects throughout the nation. Ms. Armstrong has nearly fifteen years of industry experience and has recently added Aviation Program Manager to her resume, responsible for developing the Aviation Market sector for HDR within the Gulf Coast area.

Prior to joining HDR, Ms. Armstrong received a Bachelor of Science in Airway Science Management, and a Master of Science in Transportation Planning and Management; both degrees were



obtained from TSU. Ms. Armstrong began her career as an intern with the Metropolitan Transit Authority of Harris County (METRO) and progressively came

to hold the Senior Environmental Planner position. In this role, she was responsible for ensuring environmental compliance on several of METRO's projects. Ms. Armstrong's commitment to excellence is standard in every aspect of her life and she abides by the scripture, for unto whomsoever much is given, of him shall be much required.

Ms. Armstrong is a founding member of the Houston Chapter of Women's Transportation Seminar, and was just recently elected to serve as Director of Membership for the upcoming 2016 calendar year.

# SPOTLIGHT

## Abate T. Wolde-Kirkos

DEPARTMENT OF ENGINEERING

With a Ph.D. degree in Environmental Engineering and Professional Engineering licensure (PE), Dr. Abate T. Wolde-Kirkos comes to TSU with over twenty years of teaching, research, and consulting experience in civil and environmental engineering. He started teaching at TSU in 2014 as adjunct faculty and later as Visiting Assistant Professor in the Department of Engineering. His tenure-track assistant professorship started in the Spring of 2016. While working as an engineering consultant, Dr. Wolde-Kirkos has volunteered at several of TSU's programs which included summer youth programs designed to promote engineering, science, and math. He has also taught as adjunct faculty at other higher educational institutions.

Dr. Wolde-Kirkos's professional engineering consulting experience has



enabled him to have close association with major municipalities in their development of civil infrastructure projects. He has utilized his long time relationships, education and experiences to encourage and mentor students to do research work as related to emerging water quality and treatment issues facing municipalities. Dr. Wolde-Kirkos believes in the importance of students' exposure

to real life civil engineering practices. This is consistent with his department's co-op program. In this regard, he has coordinated several educational field trips for his students in environmental engineering courses to visit water purification and wastewater treatment plants and a major solid waste landfill site. His main interest of research is in the area of water resources and environmental engineering.

Dr. Wolde-Kirkos is an active member of American Society of Civil Engineers (ASCE), Engineers Without Borders (EWB), and American Water Works Association (AWWA). He has held various leadership responsibilities in such associations. Dr. Wolde-Kirkos is eager to benefit his students through exposure to these experiences as well.

## Latisha Clark

CENTER FOR TRANSPORTATION TRAINING AND RESEARCH

Latisha "Tish" Clark, a Research Assistant at the Center for Transportation Training and Research (CTTR) is a two time graduate of TSU earning a BS in Airway Science Management (2007) and a MS in Transportation Planning and Research (2010).

As a senior and post baccalaureate, she participated in the Summer Intern Engineering Technician, sponsored by the US Air Force Research Laboratory (AFRL). Her work involved Simulated Battlefield Tactics. Ms. Clark's research focused on Transportation Security and Petrochemicals. Her thesis was entitled



"Analysis of Petrochemical Incidents: A Case Study on Houston." Eventually, her research transitioned into a position as

Coordinator for the National Transportation Security Center of Excellence – Petrochemicals. Latisha's research brings comprehensive knowledge in numerous areas of transportation: homeland security, transportation policy, proposal submittals, and geographical information systems (GIS). Latisha utilizes the "think outside the box" method applying her research skill to recognize and recommend solutions. In her spare time, Latisha enjoys sports, tinkering with computers, and attending festivals.

## RESEARCH

## Virtual and Remote Laboratory

DEPARTMENT OF ENGINEERING

Nowadays, Internet technology has advanced teaching and learning experiences greatly with online education. According to the 2014 Sloan Survey of Online Learning, the number of students taking at least one online course increased by over 411,000 during the Fall 2014 semester, totaling to 7.1 millions. A particular challenge for online education in engineering is how to extend the traditional hands-on laboratories to the Internet.

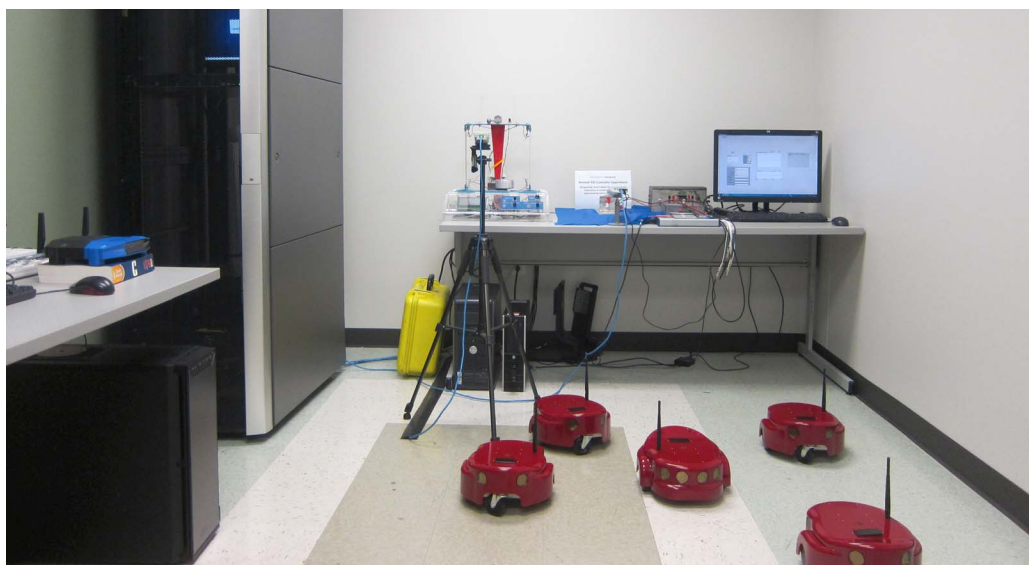
Currently, there are two approaches to conduct labs online, virtual and

remote labs. Virtual lab is based on software to simulate the lab environment while remote lab, by definition, is an experiment conducted and controlled remotely through the Internet. The remote experiments use real components or instrumentation at a different location from where they are being controlled or conducted.

A large amount of research on virtual and remote laboratory technologies has been recently reported. However, there are several critical issues such as firewall, three party plugin, global scheduling,

security, mobility and scalability, etc., existing in current online laboratory development especially for remote laboratory development. To address these issues, the Virtual and Remote Laboratory (VR-Lab) funding director, Dr. Xuemin Chen, together with his collaborators and students proposed and implemented a novel unified framework for remote laboratory development. This unified framework is designed based on the Browser-Server architecture with Web 2.0 technology and applied to several remote control engineering experiments successfully. Now, the VR-Lab website (<http://vr-lab.engineeringtech.tsu.edu/>) is serving as a portal for the students to perform virtual and remote experiments.

The new Electrical and Computer Engineering (ECE) program students are using remote experiments at TSU to learn control concepts (ECE 335 and ECE 315) in spring semester of 2016. The VR-Lab was sponsored by NSF and currently is supported by Qatar National Research Fund (QNRF) project.



## National Cooperative Highway Research Program

The Center for Transportation Training and Research (CTTR) is pleased to have received the first task order from a 5 year award from the National Cooperative Highway Research Program (NCHRP) to investigate the emerging area of Automated and Connected Vehicles. A component of

Automated Vehicles is the commonly referred to self-driving cars. The award is in partnership with the Kimley-Horn Engineering Company. CTTR is pleased to welcome as Research Assistant Professor, J. Sam Lott, who will serve as Principal Investigator on the Project.



## STUDENTS

## Chidera Ilomechine

UNDERGRADUATE STUDENT, PRE-NURSING PROGRAM

Chidera is a native of Delta State, Nigeria where she earned her high school diploma from Federal Government Girls College in 2013. She is an outgoing, charismatic individual who has a passion for singing and dancing. Her desire to pursue a career in nursing brought her to the U.S. and also to Texas Southern University in the fall of 2014. During her tenure at TSU she has maintained a cumulative GPA of 3.68 for which she has been recognized

at TSU's Honors Day Convocation in 2015. In 2016, she became the president of TSU's Pre-Nursing Association. As president, she made an effort to help members acquire more information about nursing school requirements and assist them with their studies in order to ensure a successful transfer to a nursing school. She is currently a COSET Student Ambassador and a dancer for TSU's African Student Association.



Upon finishing her pre-requisites, she plans to obtain a Bachelor of Science in nursing at a prominent nursing school.

## The National Technical Association Student Chapter at TSU

On January 22, 2016, Dr. Ambrose Jearld, the president of the National Technical Association (NTA) issued a letter to establish a student chapter at Texas Southern University. Dr. Fengxiang Qiao and Mr. Khosro Godazi are the founding advisors, while the founding officers include: president Ms. Qing Li (Ph.D. candidate in Environmental Toxicology), vice presidents Ms. Grace

Asanaenyi (graduate student in Transportation Studies) and Mr. Matthew Fiala (Ph.D. candidate in Environmental Toxicology), and Secretary Ms. Velyjha Southern (graduate student in Transportation Studies). NTA is committed to serving women and minorities to help them increase their participation and contribute to the advancement of

science, technology, mathematics, and architecture. Since 1926, NTA has maintained a strong relationship with Historically Black Colleges and Universities. In September 2015, NTA conducted its annual meeting at TSU, which attracted a lot of student participants who eventually initiated the establishment of a student chapter at Texas Southern University.

## TSU Student Chapter of Society for Environmental Toxicology and Chemistry

TSU Student Chapter of Society for Environmental Toxicology and Chemistry (SETAC) was formed in February 2016, to provide opportunities for students to connect with environmental scientists at the local, national, and global level. The purpose of TSU-SETAC is to promote research and development, environmental education, information exchange on the analysis and solution of environmental

problems and management and regulation of natural resources. The Chapter desires to learn and solve environmental dilemmas by encouraging dialogue, cooperation, and collaboration between fellow students, faculty, and other environmental scientists representing government and industry.

TSU-SETAC will hold two meetings per semester to discuss upcoming

scientific meetings, share ongoing research and discuss recent publications. It will provide a venue and audience for students to practice presentations prior to upcoming regional, national, or international SETAC meetings. Additionally, It will hold fundraising events to help cover expenses of traveling to scientific meetings, and invite guest lecturers. Contact: matthew.fiala@gmail.com.



# FACULTY

## Dr. Fengxiang Qiao Interviewed by Houston Public Media FM 88.7

Dr. Fengxiang Qiao (Associate Professor and co-director of Innovative Transportation Research Institute) was interviewed with his student Qing Li (a Ph.D. candidate in Environmental Toxicology) by Houston Public Media FM 88.7 on a research product co-authored with Dr. Lei Yu. This research characterized the impacts of highway pavement types on in-vehicle noises and drivers' heart rate, which has been recently published in the Journal of Air & Waste Management Association (AWMA). Their research indicates that, a safe passage in a car that run-of-the-mill everyday drives in urban traffic could be

hazardous to his/her health even without any incident. The research team monitored drivers' heart rates and stress levels along highway I-69 at midnight to see if they went up or down based on the type and roughness of the pavement below them, and the noise that pavement made inside the car. They sought to learn what's better for drivers' health – driving along noisy or quiet roads, bumpy or smooth roads, concrete or asphalt. This interview was first broadcasted on January 27, 2016 and can be accessed via: <https://soundcloud.com/houstonmatters/are-houston-roads-trying-to-kill-us>.



Dr. Fengxiang Qiao and his Ph.D. student Qing Li at Houston Public Media FM 88.7

## Transportation Research Board Annual Meeting

The faculty and students in the Department of Transportation Studies attended the TRB Annual Meeting in Washington, D.C. during the week of January 10-14, 2016. The Department of Transportation Studies at TSU achieved a dynamic presence in this

conference with 10 presentations, 6 conference publications, and 1 award.

Researchers at the Center for Transportation Training & Research made several impressive presentations. Among them, Graduate Research Assistant, Ms. Grace Asanaenyi's

presentation on "Assessment of Future Distribution Needs of the Houston to Dallas/Fort-Worth Metroplex High-Speed Rail" won the 'Best Poster Presentation' for the Dwight David Eisenhower Transportation Fellowship 2016.

## German Space Agency Collaboration

Dr. Sonja Brungs from the German Space Agency, DLR, Cologne, Germany visited the Osteoimmunology and Integrative Physiology Laboratory at TSU from February 15 - 22. Dr. Brungs will work under the mentorship of Dr.

Alamelu Sundaresan on a joint collaborative project on Spaceflight Immunology on a three month fellowship from Aug 1 - Oct 31, 2016.

Dr. Sonja Brungs with Dr. Alamelu Sundaresan and students



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