



## The 2016 COSET Summer Undergraduate Research Program

This summer, a total of 23 students from 7 departments participated in the 2016 COSET Summer Undergraduate Research Program (SURP). The 10-week program was designed to provide opportunities for talented undergraduates to gain hands-on experience on how to develop research projects, generate meaningful data, and disseminate them through oral presentation and research articles.

They conducted various unique research projects ranging from assessment of tree diversity in urban parks, contamination of tap water by lead pipes, better understand mechanisms of breast cancer cell proliferation, create rap music using mathematics, and examine interactions between species in biological networks using mathematical models. They also developed a low-cost wireless carbon

monoxide sensor, studied evolutionary history of birds using gene sequencing, investigated impacts of natural toxins in vegetables and fruits on gastrointestinal disturbance, and compiled database of major factors of large cargo truck crashes in Texas. Their oral presentation and manuscripts revealed that they successfully achieved the goals they set at the beginning of this program.

### INSIDE THIS ISSUE

- 2 NSF RISE Summer Internship Program Summer Maritime Academy
- 3 Dr. Bobby Wilson Appointed as Interim Provost
- 3 College of Science, Engineering and Technology Board of Advisors Retreat

- 3 NSF Targeted Infusion Grant to Develop Geospatial Certification Program
- 5 New Tenure-Track Faculty Members in the College
- 6 OSSIS Hires New Student Advisors and Technical Support Specialist

- 7 ECE Students Develop Concurrent Programming of Robots
- 7 Aviation Student's Attend Summer Internships
- 8 Faculty Publications, Theses, and Dissertations



## NSF RISE Summer Program

The National Science Foundation Research Infrastructure in Science and Engineering Program in the College of Science, Engineering and Technology recruited 10 students (5 rising senior high school students and 5 undergraduate students) to work with investigators for 10 weeks during the summer 2016. The Summer Research Program was held in the College from Monday, June 6 through Monday, August 8.

Participants in the summer program included students from DeBakey High

School for the Health Professions-Houston, Alief Elsik High School-Houston, Bellaire High School-Houston, Glenda Dawson High School-Pearland, St. Edward's University-Austin, University of Houston, and TSU.

Hands-on training in research principles, instrumentation, and techniques was provided to each participating student. Students participated in laboratory meetings where they formally/informally discussed research and current literature

related to research topics.

Each student submitted a written report at the end of the summer program detailing the research in which they participated, and how the experience has affected their plans for the future. The participants also submitted 8 manuscripts for publication.

The summer trainees showcased their research by making oral presentations to an audience comprising faculty, staff, and students.

## Summer Maritime Academy

The Department of Transportation Studies hosted the Summer Maritime Academy (SMA), a five day non-residential program designed to introduce students to the maritime industry. The program also introduced students to the Maritime Transportation Management and Security degree program and scholarship opportunities at TSU. During the week, the topics of logistics, security, and the environment (vehicle emissions) were covered and students enjoyed field trips to the Port of Houston Authority and U.S. Coast Guard facility. U.S. Customs and Border Protection Agency officials also

visited with students and demonstrated cargo screening techniques to detect contraband items in cargo. Students also learned transferable skills through sessions on leadership, dealing with change, and effective communication strategies.

For the fourth year, TSU Maritime partnered with the Project GRAD Houston organization to recruit students who will be first generation college students from the following high schools: Jack Yates, Sam Houston, John Reagan, and Jeff Davis. Other students that attended the SMA were



from the following Houston area high schools: Lamar, Mickey Leland Prep, Westside, Yes Prep, Provision Academy, Elkins, Northshore, Willowridge, and Kipp Generation.



## Dr. Bobby Wilson Appointed as the Interim Provost and Vice President for Academic Affairs

Texas Southern University recently announced the appointment of Dr. Bobby Wilson as the Interim Provost and Vice President for Academic Affairs. Dr. Wilson is L. Lloyd Woods Distinguished Professor of Chemistry and Shell Oil Endowed Chair Professor of Environmental Toxicology. Dr. Wilson is a nationally recognized and a well-respected scholar for his remarkable scientific achievements. He was instrumental in the establishment of the Environmental Toxicology Program at TSU, and his efforts over several decades have generated over 100

million dollars in research and training grants for the university. Dr. Wilson was recently honored by the American Association for the Advancement of Science (AAAS) for his extraordinary efforts to significantly increase the number of African Americans to obtain advanced degrees in STEM fields. The other TSU appointees are Dr. James Douglas as the Interim Dean of Law School, Dr. Michael Adams as the Interim Dean of School of Public Affairs and Mr. Wendell Williams as the Interim Vice President for Student Services/Dean of Students.



## COSET Board of Advisor's Retreat



The College of Science, Engineering and Technology Advisory Board Retreat was held on Tuesday, August 2, 2016, 8:45 AM – 5:00 PM at One Shell Plaza, Houston, Texas. Mr. Paul Simmons, Chair of the Board and Dr. Lei Yu, Dean, COSET, welcomed the participants. Dr. Yu presented the state of the college update. This was followed by updates from the department chairs.

The members brainstormed regarding the board expectations and roles. An hour long organizational SWOT analysis was done. The board concluded that it should facilitate a strong collaboration between the college and the industry partners to improve the marketability of the programs. The retreat was organized and facilitated by Mr. Scott Minnix and co-sponsored by Shell Corporation.

## NSF Targeted Infusion Grant to Develop Geospatial Certification Program

The National Science Foundation (NSF) announced a Targeted Infusion Project Award (TIP) award of \$399,999 over 3 years to Dr. Maruthi Sridhar Balaji Bhaskar (PI) of Department of Environmental and Interdisciplinary Sciences (EIS), Dr. Jason Rosenzweig (Co-PI) and Dr. Shishir Shishodia (Co-PI) of Department of Biology at Texas Southern University to support the project on "Infusion of Geospatial Informatics to Enhance Undergraduate

Biological Science Program." The goal of the project is to diversify the biology curriculum by enhancing existing courses, establishing new undergraduate courses, developing geospatial certification program and increasing summer undergraduate research and training opportunities at TSU. This project aims to enhance, and strengthen the interdisciplinary research skills of students by infusion of geospatial sciences into the biological

sciences curriculum and develop a diverse workforce in the College of Science Engineering and Technology. In this program, undergraduate students will be introduced to interdisciplinary teaching and research to meet the 21st century global challenges in the fields of geospatial information, environmental science, ecology, natural resource, human health management, business, and health care.

## SPOTLIGHT

## Scott Minnix

CHAIR, COSET BOARD OF ADVISORS

Scott Minnix has been the Director of the General Services Department (GSD) for the City of Houston since November 2010. Prior to joining the City of Houston, he held an executive position for the City of Seattle, as a director of facility operations in the Fleet and Facility Department. He has served in leadership roles in the private sector, university/academia and the public sector.

He has performed as a high-impact results oriented strategist throughout his 20-plus years of executive, operations, property management/real estate, community relations and HR leadership.

During his tenure with the City of Houston he has brought innovation and strategic planning to his department and the City. He worked to fund and implement a Facilities Condition Assessment and Security Assessment of city facilities. This was the first time the



City initiated a comprehensive evaluation of the physical condition of its facilities, which provided a strategic facility maintenance plan for the next 20 years. He has significantly enhanced the knowledge, skills, and ability of the entire GSD workforce as well as implemented Lean Six Sigma process improvement and management throughout the department.

He has been a leader amongst all City of Houston Department Directors. GSD was named- City of Houston Outstanding Department of the Year by the Mayor's Office of Business Opportunity. He received the "Pinnacle

Award" for Outstanding Business Advocate of the Year in 2014. The business community seeks his counsel on business development and strategic planning. He serves on many boards in the community including, Vice-President of International Facility Management Association (IFMA), Texas Southern University, College of Science, Engineering and Technology, American Institute of Architects (AIA), Rice Design Alliance (RDU), the Ensemble Theatre, and Houston C-STEM.

Director Minnix is a former officer in the U.S. Naval Reserve. He received a Master of Public Administration degree from the University of Washington and a Bachelor of Arts degree in Business Administration/Management from the University of Puget Sound.

## Reginald Taylor

ALUMNUS, DEPARTMENT OF MATHEMATICS

Reginald E. Taylor was born in Houston, Texas – the son of the first African-American male to earn a Ph.D in mathematics from the University of Houston, Willie E. Taylor and a female teacher whose teaching range spans regular education to special education, Gwendolyn L. Taylor. Coming from two educators, there was no doubt that he would also become an educator as well.

There are innovative teachers and then there are inventive teachers. And then there is Reginald, who is a bit of both. His teaching leadership is best exemplified in his innovative and

creative methods he uses to help students of all ages understand mathematics. He calls his methods "edutainment," keeping it fun for students while they are deeply engaged in the learning process of various concepts in mathematics. His ability to relate the math to real world situations really develops the learning for students. One walks into Reginald's classroom and finds the environment alive with excitement from the students, passion from the teacher and a "Wow!" factor from his choice of delivery methods.

Reginald's approach to learning is a



true inspiration to his students and will no doubt result in many of his students doing great things in the future. This inspiration not only reaches his students, but also his family as well. Reginald is married to Brandy H. Taylor, a preschool teacher. Together, they have 3 sons- William E. Taylor, 10 and twins Daniel E. and David E. Taylor, 8.

# SPOTLIGHT

## new faculty

Dr. Ismet Sahin received his B.S. degree in Electrical and Electronics Engineering from Cukurova University, Adana, Turkey, in 1996. He then proceeded to the University of Florida where he received his M.S. degree in Electrical and Computer Engineering in 2000. He went further to pursue a Ph.D. degree in Electrical and Computer Engineering which he received from the University of Pittsburgh in 2006. Between July 2003 and July 2004, he worked as a Research Engineer for developing novel laser- and radar-based security systems at Robert Bosch Corporation Research and Technology Center, North America, Pittsburgh, PA. He then joined the Communication Systems Division, Compunetix, Inc., Pittsburgh, where he designed and developed embedded telecommunication systems until 2007.



From 2007 to 2009, he was a Research Associate within the Department of Biomedical Informatics, University of Pittsburgh. During the following four years he worked for the National Institute of Standards and Technology (NIST), Gaithersburg, MD where he developed novel stochastic optimization algorithms for neutron reflectivity applications at

NIST Center for Neutron Research. As a NIST-ARRA Senior Fellowship recipient, he continued his research at the NIST Mathematical Analysis and Modeling Group.

In early 2015 Dr. Sahin became a Visiting Assistant Professor at the Electrical Engineering and Computer Science Department at Texas A&M University – Kingsville, where he taught undergraduate and graduate courses. In Fall 2016, he joined Department of Engineering at Texas Southern University as an Assistant Professor. His current research focuses on developing novel algorithms for image and signal processing for biomedical applications. For this purpose he has developed several collaborations with the Texas Medical Center.



Dr. Ilija Jegdic joined the Department of Mathematics at Texas Southern University as an Assistant Professor in Fall 2016. He received his B.S. in Mathematics (2006) and M.S. in Applied Mathematics (2008) from the University of Novi Sad, Serbia. In fall of 2008 he moved to US to pursue the graduate studies at the University of Houston. He received M.S. in Mathematics in 2013 and Ph.D. in Mathematics in 2014. Dr. Jegdic's main research interests are in development and convergence of

numerical methods for a class of partial differential equations called hyperbolic conservation laws. These equations have various applications in engineering and industry. In particular, Dr. Jegdic is interested in applications to aerospace engineering, traffic flow, and secondary oil recovery. He is also interested in computational mathematics, and he is collaborating with faculty from University of Houston, University of Houston – Downtown, and Rice University. During the academic year 2015-2016 he was a postdoc/lecturer at the University of California, Merced studying about exponential integrators and working on software package EPIC which is used to

solve general stiff systems of ordinary differential equations. Dr. Jegdic has presented his research achievements at several conferences and seminars. Dr. Jegdic is committed to excellence in teaching. He has taught as an adjunct instructor at Lone Star College-CyFair, Houston Baptist University, University of Houston – Downtown, and as a postdoc/lecturer at the University of California, Merced. He looks forward to introduce his research area to TSU students as the computational skills are essential for the industry needs of the 21st century and help students become more competitive on the job market.

### Ismet Sahin

DEPARTMENT OF ENGINEERING

### Ilija Jegdic

DEPARTMENT OF MATHEMATICS



# OSSIS

OFFICE OF STUDENT SERVICES AND INSTRUCTIONAL SUPPORT

## OSSIS Expands its Capability by Adding 2 New Academic Advisors and Technical Support Specialist

### Sharon H. Hudson, Academic Advisor



"To be nobody but yourself in a world which is doing its best, night and day, to make you everybody else means to fight the hardest battle which any human being can

fight; and never stop fighting." By education being her first love, returning to pursue a higher degree has become a priority in order to become a change agent in the advancement of education.

Sharon wants to develop and advocate educational policy decisions that will benefit students as a whole, not just a few. She wants to uncover the objective truth of issues and tackle them in the best interests of the nation.

Sharon is a native Houstonian and proud alumnus of Texas Southern University, where she has completed her Bachelor's and Master's degrees. Currently she is completing her doctorate in the College of Education. She has been

employed in the field of medicine for over twenty-three years in the Methodist, and St. Luke's Episcopal Hospitals in the Texas Medical Center. Sharon has also been employed in Retail Management, for Fortune 500 Company, Follett Higher Education Group as Bookstore Manager here at TSU for over 10 years. Previously, she has served in the Department of Aviation Science and Technology as an Academic Advisor.

### Donald Gary, Academic Advisor



Donald Gary has been employed with Texas Southern University since 2013. He has worked as a Recruitment Counselor at TSU. Since September 1, 2016, he began working for the College of Science Engineering and Technology as an Academic Advisor.

As an Advisor, Mr. Gary is responsible for helping with student registration, enrollment, counseling, recruitment, and ensuring there is a direct and seamless

navigational track for the students, ensuring college success from entry throughout graduation.

Originally, from El Campo, Texas, Mr. Donald Gary has been in Houston for 23 years. He earned his M.A. in Counseling from Prairie View A&M University, and B.S in Social Work from Texas A&M University, Kingsville, TX. Donald also serves as an Adjunct Professor with Lone Star College, where he teaches Education 1300/ Freshman Seminar. Prior to that, he served as a Recruitment Manager, Counselor, and Academic Advisor

with the Houston Community College Systems. Also, he has worked in Iraq, Kuwait, and Afghanistan alongside the United States Armed Services, as a contractor from 2008 - 2012.

It is his passion to help others succeed. His motto is "It's all about you." referring to his students. His favorite quote is "If everyone in world were just like me, what kind of world would this be?" Why not ask yourself that very same question? Together through education and humbleness, we can make this world a better place.

### Donald Gordon, Technical Support Specialist

Donald Gordon has earned his undergraduate and Master's degree in Management Information Systems at Texas Southern University. He has worked with TSU's Office of Information Technology User Support for two years while completing his Master's degree program.

After graduation, Donald taught Technology Applications at an elementary school in the Houston Independent School District. After successfully completing a year of teaching, he worked with Apple, Inc. before returning back to TSU, where he looks forward to supporting COSET and the OSSIS team.



## STUDENTS

## ECE Students Successfully Implemented a Concurrent Program

Spring semester of 2016 was very exciting to a lot of Electrical and Computer Engineering (ECE) students in Department of Engineering. With the newly purchased mobile robots, AmigoBot, students can apply what they learned in classroom to real applications. One of concepts students learned in the Real-Time Embedded System (ECE 339) is the concurrent programming. In a concurrent program, two or more sequential programs may execute concurrently. During the

execution, the sequential program may communicate and interfere with one another. This programming technology has been widely used in operating systems, real-time systems, and simulations etc. A team with five students that was led by Mr. John Michael Laroza has successfully implemented the concurrent programming concept to control two AmigoBots concurrently in the Real-Time Embedded System lab (ECE 319). The course lecture and lab were taught by Dr. Xuemin Chen.



## Students Attend National Technical Association Conference in Washington, DC

Student members of the TSU student chapter of National Technical Association (NTA), Matthew Fiala, Boya You, and Mahreen Labeeba Nabi attended the National Conference hosted by Howard University in Washington, DC on September 22 &

23 to present their research to other students and scientists from across the country. Students participated in networking opportunities and previewed research presented by other students and professionals. All TSU students received travel awards from

NTA which covered costs associated with attendance including travel, hotel, and meals. For more information about becoming a student member of the TSU student chapter of NTA, contact Qing "Kiekie" Li at [LiQ@TSU.edu](mailto:LiQ@TSU.edu) or Dr. Fengxiang Qiao at [Qiao\\_FG@tsu.edu](mailto:Qiao_FG@tsu.edu).

## American Association of Airport Executives Summer Internships



Aviation Science Management student Christopher Crutch completed a summer internship with the American Association of Airport Executives (AAAE) this summer at their national headquarters in Washington, D.C.

Mr. Crutch is an outstanding student with a current GPA of 3.61 and has worked in the office of Airport Training and Development from June 6 to July 29, 2016.

Aviation Science student Jade Starr completed an internship at Morristown, New Jersey Municipal Airport.

Tel| 713 313 7009