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the EXPLORER Newsletter

QUARTERLY PUBLICATION OF THE COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY AT TEXAS SOUTHERN UNIVERSITY

Photo courtesy Fox 2000 Pictures, Chernin Entertainment, and Levantine Films

Hidden Figures to Modern Figures

Texas Southern University College of Science, Engineering and Technology in collaboration with the National Aeronautics and Space Administration (NASA) will screen the movie "Hidden Figures" on November 15, 2017, 5:00 PM - 8:00 PM in Science Building Room 156. The screening will feature a panel discussion with guest panelist Dr. Douglas Terrier, NASA's Acting Chief Technologist in NASA Headquarters in Washington, DC along with other special guest panelists from NASA Johnson Space Center in Houston, and faculty and staff from TSU.

"Free screening to serve the cause of improving youth awareness in education and careers in the science, technology, engineering, and mathematics (STEM) fields"

The movie brings to life, the story of a team of female African-American mathematicians who served a vital role in NASA during the early years of the U.S. space program. The movie was nominated for 3 oscars and another 37 wins and 78 nominations. Among other awards, it won the 2017 Screen Actors Guild Award for outstanding performance by a cast in a motion picture.

INSIDE THIS ISSUE

Annual Open-House Alumni and Partnership Luncheon

The College of Science, Engineering and Technology (COSET) held its Annual Open House Alumni and Partnership Luncheon amidst the Homecoming Festivities on Thursday, October 12, 2017. Alumni, partners, friends and students took advantage of "Open Lab Day" and networking before the luncheon began. All of the COSET laboratories were open and hands-on demonstrations were given in the labs.

Everyone was welcomed to the luncheon "STEM STRONG- COSET's Commitment to Science" by Dr. Oscar H. Criner, Interim Associate Dean. Later, Miss LaTerrian Perkins, Senior Maritime Transportation Management and Security Major was introduced and officially crowned COSET Queen 2017.

Dr. John Sapp, Interim Dean, presented the State of the College Report and announced that the fall enrollment in the College has increased. He acclaimed to the audience that they would experience examples of "Excellence in Achievement" of the past and "Excellence in Achievement" today. He went on to say that the college has a legacy of research in all departments and we are determined to keep that legacy alive. He stated that throughout the years we have produced scholars that have shown eminence in their careers, and through a dedicated faculty we strive to continue to instill that confidence of excellence in our students today. Under the leadership of our current administration, the university is charged with meeting five goals and targets: 1. Student Success and Completion, 2. Academic Quality and Research, 3. Culture, 4. Partnerships, 5. Finances. He concluded that in COSET, we are on track to meet and exceed these goals, especially goal number one where we are responsible for assuring that every student in COSET leaves academically sound and destined for greatness.

The luncheon resumed with fantastic and informational presentations by students Adriana Rodriguez, Senior, Biology Major, Jericho Johnson, Senior, Chemistry Major, and Macklin Thomas, Junior, Computer Science Major. Mr. Shawn Williams, Alumni Liaison shared the perspective of the COSET Board of Advisors and Ms. LaKeisha Melton, President, COSET Chapter, TSUNAA gave an update of the alumni activities.

The final highlight of the Annual Open House Alumni and Partnership Luncheon was the presentation of the 2017 Distinguished Alumni Awards to alumni nominated by the departments in the College. This year's recipients were: Department of Biology- Zuri Dale, M.S., Texas Southern University, Houston, Texas; Department of Chemistry- Pamela Clarkson Ansley, M.S., President, Clarkson Systems & Analyses, Inc.; Department of Computer Science- Jeffrey Arthur, M.S., Fiat-Chrysler Automobiles, Detroit, Michigan; Department of Engineering- Janne Hall, M.S., Texas Southern University, Houston, Texas; Department of Environmental and Interdisciplinary Sciences-Pamela Denkins, Ph.D., NASA Johnson Space Center, Houston, Texas; Department of Industrial Technology- Patrick Alexander, M.S., Stantec/SHW Group, LLC, Houston, Texas; Department of Transportation Studies- Kenneth Brown, M.S., Houston Metro, Houston, Texas.

TSU Designated as a Beyond Traffic Innovation Center

Texas Southern University was recently designated by the U.S. Department of Transportation (DOT) as a Beyond Traffic Innovation Center (BTIC). The Center will be recognized by the U.S. DOT as a forward-thinking and influential institution that is capable of driving solutions to the challenges identified in Beyond Traffic by convening decision-makers in the Gulf Coast mega-region and coordinating related research, curriculum, outreach, and other activities.

The BTIC at TSU will be headed by Dr. Lei Yu, Professor of Transportation Studies and Director of Innovation Transportation Research Institute (ITRI). Dr. Yu was recently interviewed by the Houston Public Media regarding the BTIC at TSU. Among the 13 other BTI centers, TSU is the only HBCU.

The proposed BTIC at TSU has been equipped with state-of-the-art lab facilities, which are able to support the research on developing and optimizing comprehensive strategies for ITS development, traffic congestion mitigation, vehicle emissions reductions, traffic safety improvement, and connected vehicles in Gulf Coast Megaregion. The specific equipment and facilities available at TSU include: (1) Full-Motion DriveSafety DS-600c driving simulator that is fully integrated with high-performance and high-fidelity driving simulation for use in vehicle activity tracking and simulation, traffic safety studies, traffic control strategy simulation, vehicle research, and driving behavior studies; (2) Autoscope mobile traffic van, which is a state-of-the-art mobile traffic data collection system equipped with two Autoscope Solo Pro cameras mounted on a 42-foot telescoping mast to simultaneously record, store, and process real-time traffic data; (3) Real-time traffic monitoring system, MiniTranStar Lab, which allows TSU to access to all traffic monitoring video cameras and freeway speed data on highways from Houston TranStar.

NSF Targeted Infusion Grant to Increase STEM Retention of Underrepresented students

TSU was recently awarded a National Science Foundation Targeted Infusion Grant under PI, Dr. Alamelu Sundaresan, with Co-PI Dr. Mark Harvey and Co-Is Drs. John Sapp, Azime Saydam and Bernnell Peltier-Glaze. This project combines structured peer-mentor infused curricula coupled with faculty mentored summer research for the following courses within COSET: MATH 136, CHEM 131, PHYS 237 and BIOL 131. The main objective of the proposal is to increase retention of underrepresented STEM students by offering dedicated peer mentoring and supervised faculty research opportunities. We are excited about this first full-fledged project of its kind at TSU consisting of an active learning concept and associated peer-mentoring, which will benefit both TSU students and four COSET departments from June 2017 – May 2020. Peer mentors will be selected from upperclassmen in each of the departments and will be directly supervised by the PI, Co-PI and Co-Is.

Homecoming 2017

The College of Science, Engineering and Technology is excited to report that the COSET Horse drawn Cinderella carriage won a Second Place award in the parade competition!

The Texas Southern University Grand Tiger Parade was held on October 14, 2017 in its surrounding community of Third Ward. The community welcomed the parade with excitement and came out in great support. Hailing the theme "TIGER DYNASTY 90 Years In, The Reign Continues." The 2017-2018 Miss COSET was driven in a white Cinderella carriage with maroon seats, covered with red and white roses and green vines. The COSET Walking Unit were joined by staff members Mrs. Sharon Hudson and Mrs. Dolly Spencer as they chanted, cheered, and entertained the excited crowd.

Mrs. Tioka Freeman led the tailgating activities with an appetizing Old Fashion BBQ buffet that included fried fish, to delight the appetites of all the tailgaters.

Texas Southern University Research Team Advances Safety, Efficiency at NSLS-II

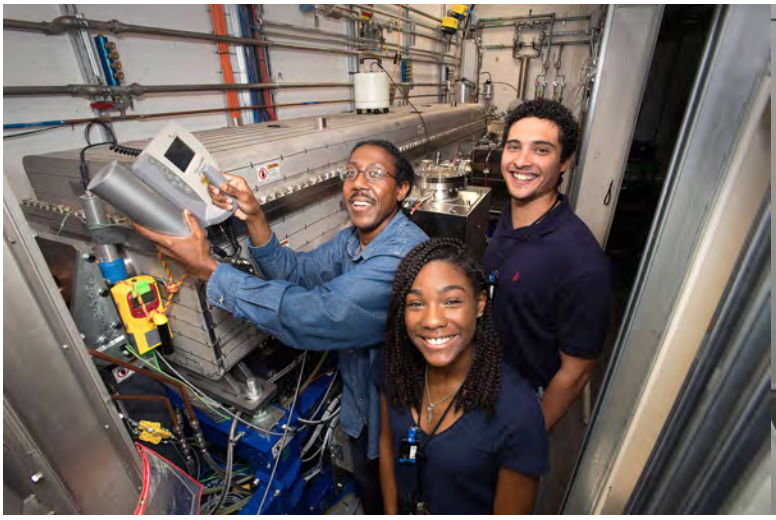
Jesse Zapata and Kalifa Kelly—two rising seniors at TSU along with their mentor, Dr. Mark Harvey, went to Brookhaven National Laboratory through the National Science Foundation, Louis Stokes Alliance for Minority Participation (NSF-LSAMP) program and Brookhaven's Office of Educational Programs (OEP).

After weeks of detailed instruction by Harvey in radiation physics and safety, Zapata and Kelly, in collaboration with NSLS-II staff, designed an experiment to remotely measure radiation fields inside a first optical enclosure (FOE), where NSLS-II's bright and powerful x-ray light is focused at each beamline. Concrete, lead, and tungsten shielding are used to protect NSLS-II staff from this energy, but shielding the entire FOE with these materials is a costly endeavor.

The TSU team, with guidance from staff scientists at NSLS-II, sought to determine how shielding could be localized within the FOE, reducing the amount of material needed while maintaining its overall effectiveness.

By collecting and analyzing radiation detector data, the research team is helping to enhance the safety features and reduce the construction costs of future beamlines (experimental stations) built at NSLS-II. Harvey, Zapata, and Kelly are not only improving NSLS-II; the students are also gaining a novel skillset that could propel their careers into new and critical areas of science research.

(Original article by Stephanie Kossman, BNL Media and Communications Office)



SPOTLIGHT

new faculty

Erica Cassimere

DEPARTMENT OF BIOLOGY

Dr. Erica Cassimere, a native of Baltimore, MD, graduated summa cum laude with a Bachelor of Science degree in Biology from the University of Maryland Eastern Shore in 2001. As a MARC U*STAR fellow, she immediately moved on to pursue her graduate studies in cancer cell biology at Purdue University, where she earned a Ph.D. in Medicinal Chemistry and Molecular Pharmacology in 2008. Dr. Cassimere later joined the Department of Integrative Biology and Pharmacology at the University of Texas Health Science Center-Houston as a postdoctoral fellow while examining the regulation of cell cycle proteins in the DNA damage response in breast cancer. Her research over the years has been supported by the National Institutes of Health (F31 pre-doctoral fellowship) as well as the Susan G. Komen Foundation (postdoctoral fellowship) and she has published several of her findings in peer-reviewed journals. Dr. Cassimere became an Adjunct faculty member within the Department of Biology of Texas Southern University in 2013 and then served as a Visiting Assistant Professor for three years. While at TSU she has taught several introductory and upper level courses for biology majors and serves as an academic advisor for freshmen. Most recently, she earned a tenure-track position as an Assistant Professor within the department. Dr. Cassimere is firmly dedicated to the training of our STEM majors and hopes to continue to inspire our young scholars to pursue their academic goals. In her spare time, she enjoys spending time with her husband, Brant, and two children, Morgan and Nicholas.

distinguished alumni

Pamela Denkins

NASA JOHNSON SPACE CENTER

Dr. Pamela Denkins is a Life Sciences Researcher at the NASA/Lyndon Baines Johnson Space Center in Houston, Texas in the Human Health and Performance Directorate serving as the Lead Scientist on numerous research collaborations with Tier 2 and Tier 3 Universities across the United States. She currently serves as a Research Integration Manager as a part of the International Space Station Program.

Dr. Denkins' professional career, which spans more than 47 years, has evolved in both national and international environments. As a technical professional, she possesses experience in engineering, research, and management, which includes environmental analyses, communications, computer security project management, radiation research, policy development, and technical support services. Dr. Denkins holds three degrees – all from TSU - a Bachelor of Science in Physics, a Master of Science in Mathematics, and a Ph.D. in Environmental Toxicology. She and her graduate school colleagues established the Environmental Toxicology Graduate Students' Association (ETGSA) of which she was the first president. Recently (2014), in partnership with Texas Southern University, Dr. Denkins served as the NASA Technical Lead on biomedical research flown on the International Space Station. In June, she was recognized by the Association of Women in Science as their 2017 Outstanding Woman in Science.

She is a member and/or affiliate of the National Technical Association, NSBE, AIAA, National Congress of Black Women, & National Council of Negro Women; AAFEA; NoBCCHe, Black Physicists, Black Mathematicians; and volunteers for a number of local charitable organizations.

OFFICE OF STUDENT SERVICES AND INSTRUCTIONAL SUPPORT

OSSIS

Fall 2017 Mid-Term Madness

In an effort to increase persistence and completion rates among students, the College of Science, Engineering and Technology (COSET) in collaboration with the College of Pharmacy and Health Sciences (COPHS), Student Academic Support Services (SASS), and TRIO Student Support Services hosted the eighth Mid-Term Madness Study Session event for TSU students. The focus was to provide help for on mathematics, biology, physics, chemistry, political science, history, psychology, computer science, foreign languages, and english among many other subjects that are offered. The purpose of this even is to encourage all students to study for midterms but with special attention on freshman students. Students receive extra help with perceived difficult subject areas. The event offers an extended/additional quiet time and place for supervised study within a warm and inviting atmosphere.

A total of 573 students ranging from freshmen to seniors, athletes to band members, participated in the Midterm Madness study session in the Atrium of the Science Building from 5:00 PM-10:00 PM on Wednesday, October 18.

Instructors and tutors from COSET, COPHS, SASS, and TRIO shared their knowledge through individual and group study sessions designed to help students become better perepared for their examinations, all while enjoying generous refreshments and coffee.

Each semester, COSET and sponsors host a "Midterm Madness" and a "Final Frenzy" study session for students to finish out the semester on a positive and successful note. Final Frenzy will be held on Wednesday, December 6, 2017 from 5:00 - 10:00 PM in the Science Building Atrium.

For additional information, please contact the Office of Student Services and Instructional Support, TECH 150, or call 713-313-7753/1860.

COSET 101 Monthly Advisement Meeting: Internships, Fellowships, Jobs and more with Ms. Andreaus Boise-Fontenont, TSU Office of Career Services

STUDENTS

BioMedHER CodeHER RoboHER 2017

CODEHER, ROBOHER, and BIOMEDHER are three parts of a summer camp program where mostly female students aged 9-11 are introduced to the interesting world of computer science, biology, and robotics by learning code and other programing. This program is led by Director Paula Ware and Assistant Director Ms. Shawn.

These girls are given an opportunity to work in the TSU COSET computer and biology labs and get a head start into a promising career field.
BioMedHER is similar to CodeHER. Instead of focussing on coding and robotics, the instructor teaches these young students about the biology aspects of the medical world.

HackHouston 2017

HackHouston 2017, Texas Southern University's first ever hackathon, took place in Houston, Texas on April 22 – 23, 2017. It was all about collaboration and how the students can help "Innovate The Future," and the whole event was a success!

HackHouston was founded and organized by the TSU Computer Society. It was an event designed to help gather students who are very creative, ambitious and talented from all over the country, to come build software and hardware projects, with the goal of bringing innovative ideas to life, in asupportive, collaborative and more inclusive environment for all who love the field of technology no matter their background.

With over 100 attendees taking part in this first edition, came people from all around the country, mostly from the Texas area but also from distant locations such as California, Mississippi, Oregon, and Arizona. HackHouston First Edition partnered with Major League Hacking (MLH) and had many notable sponsors including Bytecamp, GitHub, HEB, Intuitive Machines, JetBrains, Pine Place Development, LLC, Roku and Tech Domains. With the feedback we have received, we now know that this was a much needed event for Texas Southern University and we hope to achieve more next year with HackHouston 2018 as plans are already in progress.

ICTPA Exemplary Achievement in Transportation Award

Dr. Qing Li (Right), a postdoctoral fellow in the Department of Transportation Studies at TSU represented Dr. Fengxiang Qiao, International President of International Chinese Transportation Professionals Association (ICTPA), to present US Secretary of Transportation Elaine Chao (middle) with the ICTPA "Exemplary Achievement in Transportation Award" on August 19, 2017. The ICTPA 30th Annual Conference was held in Houston during May 19-21, 2017. Another recipient of the Exemplary Achievement in Transportation Award was Mr. Jimmy Lim, the Mayor of the City of Diamond Bar in California.

FACULTY

Journal Articles

Bado M, Kwende S, Shishodia S, Rosenzweig JA. Impact of dust exposure on mixed bacterial cultures and during eukaryotic cell co-culture infections. Appl Microbiol Biotechnol. 2017 Aug 3. PMID: 28776099.

Jennifer S. Raj, Khaled Kamel, and Joy Long-Zong Chen Editors, "Inventive Research in Biomedical Technologies for Wireless Patient Monitoring", Inderscience Enterprises Ltd, International journal of Biomedical Engineering and Technology, Volume 23, 24 and 25, 2017.

Oyagbemi AA, Omobowale TO, Ola-Davies OE, Adejumobi OA, Asenuga ER, Adeniji FK, Adedapo AA, Yakubu MA. Protective Effect of Azadirachta indica and Vitamin E Against Arsenic Acid-Induced Genotoxicity and Apoptosis in Rats. J Diet Suppl. 2017 Aug 4:1-18.

Omobowale TO, Oyagbemi AA, Ajufo UE, Adejumobi OA, Ola-Davies OE, Adedapo AA, Yakubu MA. Ameliorative Effect of Gallic Acid in Doxorubicin-Induced Hepatotoxicity in Wistar Rats Through Antioxidant Defense System. J Diet Suppl. 2017 Jul 18:1-14.

Oyagbemi AA, Omobowale TO, Asenuga ER, Ochigbo GO, Adejumobi AO, Adedapo AA, Yakubu MA. Sodium arsenite-induced cardiovascular and renal dysfunction in rat via oxidative stress and protein kinase B (Akt/PKB) signaling pathway. Redox Rep. 2017 Apr 2:1-11.

Oyagbemi AA, Omobowale TO, Asenuga ER, Ochigbo GO, Adejumobi AO, Adedapo AA, Yakubu MA. Sodium arsenite-induced cardiovascular and renal dysfunction in rat via oxidative stress and protein kinase B (Akt/PKB) signaling pathway. Redox Rep. 2017 Apr 2:1-11.

Oyagbemi AA, Omobowale TO, Asenuga ER, Adejumobi AO, Ajibade TO, Ige TM, Ogunpolu BS, Adedapo AA, Yakubu MA. Sodium fluoride induces hypertension and cardiac complications through generation of reactive oxygen species and activation of nuclear factor kappa beta. Environ Toxicol. 2017 Apr;32(4):1089-1101.

Player A, Abraham N, Burrell K, Bengone IO, Harris A, Nunez L, Willaims T, Kwende S, Walls W. Identification of candidate genes associated with triple negative breast cancer. Genes Cancer. 2017 Jul;8(7-8):659-672.

Tenure and Promotion

Dr. Shodimu-Emmanuel Olufemi, Assistant Professor, Department of Biology, received tenure and was promoted to the rank of Associate Professor.

Dr. Audrey Player, Assistant Professor, Department of Biology, received tenure and was promoted to the rank of Associate Professor.

Dr. Erica Cassimere, Visiting Assistant Professor, Department of Biology, was appointed as Tenure-Track Assistant Professor.

Dr. Sonya Good, Associate Professor, Department of Chemistry, was promoted to the rank of Professor.

Dr. Jade Q. Clement, Associate Professor, Department of Chemistry, was promoted to the rank of Professor.

Dr. Tuan Phan, Assistant Professor, Department of Chemistry, received tenure and was promoted to the rank of Associate Professor.

Dr. Lila Ghemri, Associate Professor, Department of Computer Science, was promoted to the rank of Professor.

Dr. Li Ma, hired as Visiting Instructor in the Department of Computer Science.

Dr. Xuemin Chen, Associate Professor, Department of Engineering, was promoted to the rank of Professor.

Dr. Hyun-Min Hwang, Assistant Professor, Department of Environmental and Interdisciplinary Sciences, received tenure and was promoted to the rank of Associate Professor.

Dr. Maruthi Sridhar Balaji Bhaskar, Assistant Professor, Department of Environmental and Interdisciplinary Sciences, received tenure and was promoted to the rank of Associate Professor.

Dr. Mark Harvey, Assistant Professor, Department of Physics, received tenure and was promoted to the rank of Associate Professor.

Dr. Fengxiang Qiao Invited to Speak at Rice University

Dr. Fengxiang Qiao, Professor, Department of Transportation Studies was invited to present at a seminar in the Kinder Institute for Urban Research at Rice University, entitled with: "Impacts of Transportation on Environment and Public Health Issues in Houston". The seminar was held on September 18, 2017 in the Bioscience Research Collaborative Center at Rice University. Dr. Qiao introduced the recent research findings at Texas Southern University, which include the testing, data analyses, and recommendations to decision makers on the importance to introduce environment and public health factors at the design stage of transportation systems.

METRO Next

The Metropolitan Transit Authority (METRO) is planning for the future of transportation in the region with its METRONext initiative. The process started summer 2017 with public meetings throughout the region. CTTR's Dr. Carol Abel Lewis and Dr. Gwen Goodwin were part of the METRO team attending more than 20 meetings to solicit ideas and input from area residents. CTTR coded more than 2000 responses from attendees.