

CSET CONNECTION

THE COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY | WINTER EDITION



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**FIRST IN THE
WORLD GRANT**

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CSET CONNECTION

Editorial Committee

Alana Jackson
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College of Science Engineering and Technology

Alexander Kessie
 Web Designer
College of Science Engineering and Technology

Angela Getter
 Senior Director of Development
College of Science Engineering and Technology

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L.A. Warren
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University Communications

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Jackson State University College of Science, Engineering & Technology

JSU Box 18750
 1400 J.R. Lynch Street
 Jackson, MS 39217
 601-979-2153

To submit news for CSET Connection email: csetconnection@jsums.edu

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 @JSUMSCSET

MESSAGE FROM THE DEAN



Supporters,

Greetings and a warm welcome to our very first issue of CSET Connection!

We could not be more excited to share with you the accomplishments of the College of Science, Engineering and Technology at Jackson State University. We are honored to share the work of so many committed and thoughtful people at JSU and, specifically, in CSET.

What you will find in the pages of CSET Connection is a collection of articles of accomplishments from hardworking faculty, staff, students and alumni whose deliberate efforts are for the betterment of JSU, their local and global communities and for those who will follow in their footsteps.

We are dedicated to providing both the quality education and science leadership necessary to achieve the highest possible level of excellence. As we go forward in this millennium, we are redefining our College. We are confident that our commitment to recruiting highly motivated students and our faculty's dedication to nurturing and utilizing innovative tools to support these students will ultimately help to define our future.

We are pleased that you have taken the time to view our publication, and we are grateful to all of those whose contributions have made CSET Connection possible.

Sincerely,

Richard A. Aló, Ph.D., Dean
College of Science, Engineering and Technology



JACKSON STATE UNIVERSITY RECEIVES **FIRST IN THE WORLD GRANT**

Adapted from Jackson State University
September 21, 2015

Jackson State University is the recipient of a \$2.98 million “First in the World” (FITW) grant to promote and enhance science, technology, engineering and mathematics (STEM) experiences for JSU students. The award was announced by U.S. Secretary of Education Arne Duncan in Washington, D.C., where a total of \$60 million was awarded to 17 colleges, universities and organizations.

The goals of JSU’s Integrated STEM Experience for All project are to improve teaching and learning in STEM disciplines, increase retention and graduation rates, increase STEM literacy and stimulate enthusiasm about STEM education at JSU.

FITW supports postsecondary institutions’ efforts to develop new approaches that can expand college access and improve student learning while reducing costs. The program began in 2014 as part of [President Barack Obama’s agenda](#) to increase postsecondary access and completion. More than 300 applications were submitted for this year’s FITW grant competition.

All funded FITW projects address at least one of the following priorities: increasing college access and completion, increasing community college transfer rates, increasing STEM enrollment and completion, and reducing time to completion.

Over the next four years, teams of JSU students

and faculty will engage in multidisciplinary research, STEM workshops, course redesign and other activities accelerating discovery and innovation. A total of 160 faculty and 1,280 students from various disciplines will be impacted.

“This grant provides Jackson State University a unique opportunity to continue the great work we’ve begun in engaging more of our students in science, technology, engineering and mathematics,” said JSU President Carolyn W. Meyers, a mechanical engineer.

“This project is an extension of our efforts in cyberlearning and quality and innovation in effective teaching. JSU is uniquely poised to lead in these areas because of our commitment to addressing challenges facing underrepresented students in all disciplines, especially STEM fields.”

JSU has been designated as an Apple Distinguished School for 2013-2015 for innovation, leadership and educational excellence. Its iPad initiative provides iPads to all first-time, full-time freshmen, and the INNOVATE and CREATE centers allow faculty and students to engage in formal and informal digital learning opportunities.

The FITW grant will help JSU stimulate student creativity and inquiry across disciplines, said Dr. Loretta Moore, vice president for research and federal relations.

“While the highest concentration of majors who participate in undergraduate research

come from STEM, this project will afford students in all disciplines an opportunity to participate in research and other collaborative projects with faculty leads,” Moore said.

“This project aims to improve teaching and learning and student engagement in multidisciplinary research, innovation, education and engagement experiences in STEM.”

This award represents the culmination of months of work by JSU’s leadership, senior personnel and research development officers. The leadership team and Steering Committee consist of: President Meyers, Dr. Evelyn Leggette, provost and senior vice president for academic and student affairs and Dr. Moore, vice president for research and federal relations. Dr. Paul Tchounwou, associate dean of Graduate and International Program, served as Principal Investigator and Project Director.

U.S. Rep. Bennie Thompson (2nd Congressional District) said he’s thrilled that JSU received the grant to enhance STEM experiences.

“This project will work to improve both teaching and learning in STEM disciplines and transform the institutional culture at JSU to stimulate enthusiasm about science, technology, engineering and mathematics. I am so very proud that JSU was one of only 17 institutions nationwide to receive the grant,” he said.

MURPHY RECEIVES EXCELLENCE FOR WOMEN IN TECHNOLOGY AWARD



Dr. Jessica Murphy, associate professor in the Department of Industrial Systems and Technology, has been awarded the “Excellence for Women in Technology Award” by the Association of Technology, Management and Applied Engineering (ATMAE) at the annual ATMAE Conference in Pittsburgh, Pa. November 12, 2015. This award recognizes the superior performance and accomplishments of a woman demonstrating leadership and notable industry influence which largely impacts in their career field.

Murphy said she observed the numbers of women in her field at Jackson State University, and she is humbled to be recognized for her efforts. “Although women are merely 9.8 percent of faculty an even smaller percentage of the student body, this award shows how we are making more of a contribution to the field of industrial technology and technology as a whole. I am proud to be one of those contributors.”

She said those number are improving, and women are becoming more visible industrial technology. ATMAE serves as the premier leader in developing technology, management and applied engineering disciplines in academia and industry. Murphy has been a member of ATMAE since she was an undergraduate student.

In addition to the Excellence for Women in Technology Award, Murphy received the “Laureate Citation” from Epsilon Pi Tau International Technology Honor Society at the annual ATMAE Conference. Epsilon Pi Tau is the leading international honor society for technology and recognizes academic excellence in fields devoted to the study of technology and the preparation of practitioners for the technology professions. Murphy was recognized for her work as Student Division vice president (2010-2012), president of the Student Division (2012-2014), Epsilon Pi Tau Technology Honor Society Region 2 director (2014-present), International Association of Journals and Conference reviewer (2010-present) and her outstanding work at Jackson State University as a 2010 JSU Service Learning Fellow.

At JSU, Murphy engages both undergraduate and graduate students in service learning activities and research, which has led to students co-authoring peer-refereed conference proceedings and co-presenting at national and international conferences. In addition to some of her other contributions in the Technology discipline, she also worked with JSU professors Dr. Pao-Chiang Yuan and Dr. Hui-Ru Shih to establish an undergraduate concentration in Emergency Management Technology through funding from the U.S. Department of Homeland Security.

JSU RECEIVES \$559,660 NSF GRANT TO PURCHASE DEVICE TO ASSIST SCIENCE, ENGINEERING FIELDS

Adapted from Jackson State University
October 15, 2015

Jackson State University's Department of Civil and Environmental Engineering has been awarded a \$559,660 grant from the National Science Foundation for the purchase of a 3D state-of-the-art microscope and beam for cutting and peering into layers of dense objects such as rocks.

The device known as a "scanning electron microscope" with a "focused-ion beam" (SEM/FIB) will support research in medicine, engineering and dentistry, for example.

Simply stated, matter unseen by the naked eye can be more easily manipulated and analyzed because of SEM/FIB's extraordinary molecular nanotechnology. Moreover, the device produces unparalleled 3D imaging to assist a variety of experts, such as in medicine to perform CT scans and by geologists to study inside rocks at different layers.

Dr. Lin Li, principal investigator and associate professor of civil engineering in the Department of Civil and Environmental Engineering, said, "This equipment is extremely powerful, with an ability for viewing material in a three-dimensional way for composing information. It can also determine various types of material."

The University of Mississippi Medical Center has expressed interest in using the device and Lin pointed to areas such as dentistry that would find the device valuable for oral examinations and cutting and inspecting layers of dense surfaces. Engineering and chemistry are other fields that

would benefit greatly from the molecular beam device for nanoparticle research. The technology measures microscopic material in nanometers on an atomic scale.

Lin said the device has helped JSU forge collaboration with the U.S. Army Corps of Engineers in Vicksburg for polymer and bio-material research. Other universities, such as Mississippi State, have also expressed interest. The device will be housed in the Nano Laboratory of JSU's engineering building.

Dr. Richard Aló, dean of the College of Science, Engineering and Technology (CSET) at JSU, said, "We are enthusiastic about the collaborative efforts in advancing research by making large amounts of data accessible to various science disciplines for the benefit of Mississippi and beyond."

Another benefit is that the equipment will aid in JSU's recruitment of top doctoral students, Lin said.

"We need more engineers in this country. We especially desire more African-Americans at the Ph.D. level. This equipment will lead to high-quality research and hopefully attract more students," he said.

The project's co-principal investigators include Dr. Farshad Amini, chair of the Department of Civil and Environmental Engineering; Dr. Ashton T. Hamme, professor, Department of Chemistry and Biochemistry; and Dr. Wilbur Walters, associate dean, CSET, Department of Physics, Atmospheric Sciences and Geoscience.



Dr. Lin Li
(PI) | Civil Engineering



Dr. Farshad Amini
(co-PI) | Civil Engineering



Dr. Ashton Hamme
(co-PI) | Chemistry



Dr. Wilbur Walters
(co-PI) | Physics



Yu Receives HBCU Pioneer Award at National Chemistry Conference

Adapted from Jackson State University
September 29, 2015

Jackson State University professor Hongtao Yu, chair of the Department of Chemistry and Biochemistry in the College of Science, Engineering and Technology, received the HBCU Pioneer Award from the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCHE) at their recent conference. The award is given annually to distinguished leadership in student recruitment, graduation and exceptional research. Yu was celebrated for his guidance of the department to national achievements including:

- A top-three producer of African-American chemists at all academic levels
- A top 100 chemistry department in federal funding
- Leading chemistry department in publishing, averaging seven peer-reviewed papers per faculty per year

Richard Aló, dean of the College of Science, Engineering and Technology at JSU, said, “Dr. Yu’s dedication and enthusiasm about our students’ success are evidence of exemplary service not only to Jackson State University but to the field of chemistry as well. We understand the importance of engaging students of color in today’s STEM fields, and we are proud that Dr. Yu is being honored for his hard work.”

Yu joined the JSU faculty in 1996 and is engaged in research focused on chemical toxicology, organic chemistry, photochemistry, environmental chemistry and biochemistry. Among the courses he teaches are

organic chemistry, special topics in biochemistry (photochemistry and photobiology) and introduction to scientific research. Yu has been recognized by the Mississippi Academy of Sciences and the American Chemical Society. Additionally, he serves as associate editor for the Journal of Environmental Science Health, Part C: Environmental Carcinogenesis and Ecotoxicology Reviews.

Yu said, “Receiving the HBCU Pioneer Award is a true testament to the hard-working, world-class faculty and staff of Jackson State University’s Department of Chemistry and Biochemistry and the strong leadership of the university’s administration over an extended period of time. I also attribute this award to two former department chairs, Drs. Richard Sullivan and James Perkins, for their outstanding leadership and unparalleled vision.”

NOBCCHE’s mission is to assist people of color in fully realizing their potential in academic, professional and entrepreneurial pursuits in chemistry, chemical engineering and related fields by encouraging college students to pursue graduate degrees in science, technology, engineering and mathematics (STEM) disciplines.

CONGRATULATIONS DEAN ALÓ!

Dr. Richard A. Dean Aló, Dean of the College of Science, Engineering and Technology has been invited to join the Governance Board of the Pacific Research Platform. This is a platform to help advance Minority Serving Institutions and highlights his role at Jackson State University nationally. Aló said, “I am excited about this opportunity. I am encouraged to continue to engage this generation in exhilarating STEM fields with the assistance of visualization tools.” Congratulations Dean Aló!



WOMEN IN STEM

JSU receives NSF grant to expand STEM opportunities for female faculty at other minority-serving institutions

Adapted from Jackson State University
September 28, 2015

Jackson State University has received a \$749,273 grant from the National Science Foundation to expand its ADVANCE Women of Color Summer Writing Retreat (SWR) to six other minority-serving institutions. The project will promote the scholarly activities of women of color faculty in science, technology, engineering and mathematics and the social and behavioral sciences.

The funding will support the creation of a five-year learning network among JSU, Tennessee State University, Tougaloo College, University of Texas Rio Grande Valley, Norfolk State University, Winston Salem State University and the University of the Virgin Islands.

“Our SWR has helped JSU’s female STEM faculty make scholarly writing and publishing a priority. The program has helped create a more inclusive academic environment and community of scholars for the university,” said Dr. Loretta Moore, vice president for research and federal relations.

“This grant will allow us to expand that work to our partnering universities to create an environment for women STEM faculty to be successful there.”

Moore worked with Dr. Evelyn Leggette, associate vice president for academic affairs, and Deidre L. Wheaton, assistant professor of continuing education, on the grant proposal.

Dr. Ala R. Qubbaj, vice provost for faculty affairs and diversity at University of Texas Rio Grande Valley (UTRGV), called the project an exciting partnership.

“This is an excellent opportunity for our STEM women faculty to network with their peers at the partner institutions, receive coaching and guidance in successful writing and complete a writing project. As an ADVANCE institution, UTRGV is committed to increasing the representation and advancement of STEM women and to the retention and success of all our faculty. This partnership will be key in achieving those goals.”



JSU technology professor served as panelist at White House conference

Adapted from Jackson State University
September 16, 2015

Jackson State University technology professor Dr. Francis Tuluri joined a nationally selected panel on Sept. 22 to discuss opportunities and best practices to improve learning for future STEM leaders. The Equity and Access in STEM: P-20 Educational Opportunities at HBCUs panel was sponsored by the White House Initiative on Educational Excellence for African Americans as part of the 2015 National HBCU Week Conference, HBCUs Innovators for Future Success: STEM, Partnerships and Entrepreneurship.

“We are experiencing a shortage of STEM workers, and the need for those workers from diverse backgrounds grows daily. Dr. Francis Tuluri has been an integral part of assisting JSU in meeting this need, and we are proud that he is a part of the systemic conversation surrounding HBCU student’s emergence into STEM arenas,” said Dr. Richard Aló, dean of the JSU College of Science, Engineering and Technology (CSET), commenting on the importance of meeting the nation’s need for more qualified STEM leaders.

Tuluri, was selected for his dedication to educational equity for African-American students as a Program Coordinator for UNITE at JSU, a pre-collegiate, academic summer program for high school students from historically unrepresented and underserved groups in STEM.

According to the U.S. Department of Education, “The Initiative is a cross-agency effort aimed at identifying evidence-based practices that

improve student achievement and developing a national network that shares these best practices.” JSU’s nationally recognized STEM programs are at the forefront of innovation receiving the 2015 Campus Technology Innovators award in the Teaching and Learning category this July.

Tuluri’s work helps to prepare students to pursue college-level studies and, ultimately, careers in engineering and related STEM fields. As an advocate for these underrepresented students in STEM, Tuluri believes “HBCUs must be promoted in response to equity and access of technological education and opportunity for students within their respective communities.”

Tuluri has spent more than 30 years teaching physics, engineering and technology courses on both the graduate and undergraduate levels. Additionally, he conducts research in materials science, energy and computer modeling simulations in the United States and overseas. In the past five years, he has received funding to broaden participation of K-12 students to pursue STEM disciplines. As Mississippi’s only urban institution of higher education, JSU’s nationally recognized STEM programs are at the forefront of innovation receiving the 2015 Campus Technology Innovators award in the Teaching and Learning category this July.



New Chair of the Department of Physics, Atmospheric Sciences and Geoscience

Mehri Fadavi, Ph.D. was named chair of the Department of Physics, Atmospheric Sciences and Geoscience, College of Science, Engineering and Technology in fall 2015.

Fadavi's research interests include solar activities and their relation to climate change, searches for super nova and asteroids, and observation technology. She has also devoted her attention to building instructional and research infrastructure in astronomy for Jackson State University students and enhancing teaching effectiveness and integration of technology in the classroom of K-12 science teachers.

Currently, she is the project director of two major grants: Project IC FAIM – Institutional Change through Faculty Advancement in Instruction and Mentoring (National NSF HBCU-UP) and Project MAT-PD – Mathematics Advancement in Teaching through Professional Development (MDE). Fadavi has served as principal investigator or co-principal investigator on grants funded by the National Science Foundation, Mississippi Department of Education, the U.S. Department of Education, the David and Lucile Packard Foundation, and the NASA.



Dr. Afrachanna Butler selected as winner of the 2016 BEYA-STEM Achievement Award in Community Service

Dr. Afrachanna Butler, a research physical scientist in ERDC's (U.S. Army Engineer Research and Development Center) Environmental Laboratory, was selected as the winner of the 2016 BEYA-STEM Achievement Award in Community Service.

As a subject matter expert in the field of phytoremediation, she frequently finds time to work with student hires and seek out leadership opportunities to mentor, inspire and give back to the community. She has directly mentored high school students from surrounding communities and spends numerous weekend and off-duty hours reaching out to others through community activities. Butler has also provided vigorous support to local and national colleges and universities through outreach activities.

BEYA-STEM Community Award recipients have demonstrated leadership in STEM through contributions and volunteer work not included in their job duties.



▲ L-R: **Dr. Abdul K. Mohamed**, dean emeritus; **Dr. George Washington**, retired biology professor; **Dr. Timothy Turner**, chair of Department of Biology; **Dr. Paul Tchounwou**, associate dean of Graduate and International Programs; and **Dr. Ramzi M. Kafoury**, associate professor of biology

Turner takes reigns as CSET new biology chair

Adapted from Jackson State University August 7, 2015

The College of Science, Engineering and Technology (CSET) of Jackson State University welcomes alumnus Dr. Timothy Turner as its new chair of biology.

Turner, who earned his Bachelor of Science degree in biology from JSU in 1981, began his new role July 1.

Dr. Richard Aló, dean of CSET said, “Dr. Turner’s passion is in alignment with our mission to develop students who are forward-looking and learner-centered through intellectually stimulating educational experiences. This will help them reach the highest levels of academic attainment and growth. We are happy to have Dr. Turner join our team.”

Previously, Turner worked for Tuskegee University, where he served six years as deputy director of Research and Training for its National Center for Bioethics in Research and Health Care. Also, he was program director of the Center for Biomedical Research/Research Centers in Minority Institutions for five years. He also was lead principal investigator for Morehouse School of Medicine/Tuskegee University/University of Alabama at Birmingham Comprehensive Cancer Center Partnership for 11 years.

The historically significant National Center for Bioethics was established in 1999 after President Clinton apologized for an untreated syphilis study by the U.S. Public Health Service on African-American men in Macon County, Ala.

Turner said, “My desire to serve in this position is simple: I want to give back to the university and department what was given to me. Jackson State University and its biology department are responsible for building

the foundation leading to all of my subsequent career and personal successes in life. In order to build the biology program in terms of curriculum and research, we need to establish and build collaborations and partnerships with a variety of institutions. This will allow us to expand our capacity and capabilities and positively affect our students, faculty, staff and community.”

Furthermore, Turner said, “Being able to expose our students to more opportunities will allow them to step outside their comfort zones and either create their own novel and unique professions or excel in established professions.”

Turner’s work at Tuskegee University facilitated interdisciplinary and cross-disciplinary research and training in humanities, social sciences and the life and biomedical sciences. As well, his work addressed biomedical research specific to minority health and disparities. He has worked to prepare the next generation of scientists.

Turner received a doctorate in endocrinology/tumor biology from University of California Berkeley. He completed his postdoctoral fellowship in developmental biology from University of California, San Francisco, and a postdoctoral fellowship in molecular and cellular biology from University of Alabama. In addition, he has more than 30 years of field experience and is a distinguished researcher and scholar.

Turner’s wife, Dr. Rita Harvey-Turner, is also a JSU alum. She is chief of physical medicine and rehabilitation in the Central Alabama Veterans Health Care System in Tuskegee and Montgomery, Ala.



Adapted from Jackson State University
November 23, 2015

The number 40 represents a generation. In November a generation of graduates from Jackson State University's Department of Physics, Atmospheric Sciences and Geoscience celebrated the meteorology program's 40th anniversary. To underscore the significance and impact of that program, consider these numbers:

- Nationally, the JSU atmospheric science program has produced one of every three African-Americans who hold B.S. degrees in meteorology.
- Thirty percent of African-American meteorologists employed by the National Weather Service are graduates of JSU.

Dr. J. Marshall Shepherd, host of The Weather Channel's Sunday talk show, "Weather Geeks," and former president of the American Meteorological Society, was one of the keynote speakers for the anniversary luncheon event. He challenged the audience to think what those numbers would look like if the meteorology program at Jackson State did not exist.

"You always carry a badge with you; when you leave here you carry the badge of JSU's Atmospheric Sciences program

with you. Carry this badge with pride," said Shepherd, encouraging students to push themselves past mediocrity and accept future challenges.

He further urged students to value their experiences at JSU and to know that they have a great deal to offer professionally. Shepherd also told students that meteorology programs have been closing at other institutions, making their degrees even more valuable.

Deirdre Jones, director of the Office of Facilities of the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS), spoke to the importance of women in STEM and challenged the audience to keep girls interested in STEM opportunities.

"NOAA values women in technology; women play an integral role in STEM. Although women make up 50 percent of the civilian labor force, only 20 percent are represented in the National Weather Service (NWS) and only 12 percent are minorities," she said.

Dr. Richard Aló, dean of the College of Science, Engineering and Technology at JSU, said, "We actively seek bright, talented and dedicated students to meet the national priority of developing more STEM leaders."

The meteorology program encompasses training students to be successful in operational, research and broadcast meteorology. The programs' pioneers and pathfinders were honored for their dedication and forethought.

"It was a pleasure honoring those trailblazers whose invaluable vision for this program has emphatically benefited our students today," Aló added.

Program steering committee chair and honoree Cindy Woods was one of the first graduates of the meteorology program. She said, "I am a proud graduate of this program, and I am honored and humbled to be recognized in the inaugural class of the JSU Meteorology Hall of Fame."

Woods serves as the chief of the Operations Division for NOAA's NWS and said the conference was an extremely successful and rewarding experience.

Dr. Mehri Fadavi, chair of Physics, Atmospheric Sciences and Geoscience Department at JSU, said, "We were excited to celebrate our distinguished alumni and their accomplishments." "Our focus is on sustaining excellence in our meteorology programs by equipping our students for today's opportunities," she said.

JSU is the only Historically Black College or University offering a degree in earth system science. According to NOAA's Office of Education, Jackson State is a leader in awarding doctoral and graduate degrees in environmental sciences.

JSU's meteorology graduates hold highly visible positions within various government agencies, such as NOAA, where they hold positions including: operational forecasters, research meteorologists, oceanographers and hydrologists. Other positions include, program administrators; on television as broadcast meteorologists with The Weather Channel and with many local broadcast outlets; and in academia as professors and researchers at a number of institutions throughout the nation.

The Nov. 5 - 7 events included workshops and professional development sessions for students and featured panels hosted by alumni. On hand were The Weather Channel's former broadcaster Vivian Brown, Shepherd and JSU alumni employed by the federal government, state government and private industry. A professional broadcast panel featuring Yolanda Amadeo (WALB-TV10, Albany, Ga.), David Tillman (KTRK-TV13, Houston) and Ken South (WJTV-TV, Jackson, Miss.) was especially enjoyed by students.



▲ L-R: **Vivian Brown**, a meteorology program graduate and former Weather Channel broadcaster for over 30 years; **Barry Johnson**, son of Dr. Keith W. Johnson, who was the first professor and mentor of JSU meteorology students; **Cindy Woods**, a meteorology program graduate and chief of the Operations Division - Office of Chief Operating Officer for NOAA - NWS; **Dr. John A. Peoples**, former JSU president and the visionary of the JSU meteorology program; **Dr. Charlie J. Smith**, the architect of the JSU meteorology program; **Dr. Lonzy J. Lewis**, first meteorology professor to chair the Department of Physics and Atmospheric Sciences & original constructor of the JSU meteorology program; and **Patricia Brown**, first meteorology program graduate and senior service hydrologist for NOAA -NWS-WFO in Louisiana



▲ L-R: Groundbreaking participants included representatives from Cook Douglass Farr Lemons and Thrash Commercial; Dr. Alfred McNair, a trustee with Mississippi Institutions of Higher Learning; JSU President Dr. Carolyn W. Meyers; Rep. Angela Cockerham, a JSU alum, who was instrumental in helping secure funding for the expansion of the College of Science, Engineering and Technology building at JSU; Dr. Brian Pugh, a JSU alum, chief fiscal director from the Office of the Governor; Phillip Gunn, Mississippi Speaker of the House; Dr. Richard Aló, dean of the College of Science Engineering and Technology; Ryan Moore, computer science student; and Rep. Alyce Clarke, member of the Mississippi State House for over 30 years

CSET'S GROWTH SHAKES UP EARTH DURING CAMPUS GROUNDBREAKING CEREMONY

Adapted from Jackson State University
June 19, 2015

With an influx in enrollment and additional degree programs, the College of Science, Engineering and Technology (CSET) at Jackson State University hosted a groundbreaking ceremony Thursday, June 18, for a new 24,000 square-foot, two-story wing to its structure on the main campus.

JSU President Carolyn W. Meyers welcomed state and local government officials and corporate supporters to the event. Others joining the celebration included faculty, staff, alumni and students.

The new building, slated to open in late 2016, will house classrooms, laboratories and faculty offices to accommodate the university's growth in teaching and research activities in science, technology, engineering and mathematics (STEM).

Before an audience of more than 250 people, Meyers described the occasion as a special moment. "This event enhances the realization about the future of tomorrow's leaders, who will impact the entire world."

Promise for our students

Meyers said the groundbreaking "holds much promise for our students and Mississippi's future. We must have a place for faculty and students to do their best work. This enables us to give every student the best education possible."

State Speaker of the House Philip Gunn, commended JSU for its remarkable successes. As well, the legislator acknowledged the extraordinary work of state Rep. Angela Cockerham, a JSU alum who helped secure funding for the proposed facility. Also, Gunn said the expansion project "overlays perfectly for the future of America because engineering is a vital part of Mississippi."

The existing engineering building houses the civil and environmental engineering programs, along with computer and electrical engineering and shared laboratories and classrooms. However, as the largest- and fastest-growing academy on campus, the facility has reached its maximum capacity.

Another phase of growth

The Phase II addition will accommodate student areas of the Department of Computer Science and the newly renamed Industrial Systems and Technology Department.

In fall 2014, CSET added new baccalaureate degree programs in statistical science and biomedical engineering. Also, it gained doctoral programs in engineering and computational and data-enabled science and engineering. As a result, CSET experienced record-breaking enrollment.

JSU's CSET Dean Richard A. Aló said, "The new edifice will help support efforts to boost Mississippi's economy with colossal opportunities for the state. It will help nurture the unceasing curiosity of our students who will help shape the 21st century by maintaining the security and longevity of our world."

Speaking on behalf of the governor's office, chief fiscal director Dr. Brian Pugh, a JSU alum, shared Gov. Phil Bryant's support of JSU's expansion efforts, saying, "The governor recognizes the importance of this institution and has always been impressed with its ability to innovate," even expressing the governor's aura over CSET's exhibition of its programmed drones during a previous campus visit.

Finally, before the ceremonial groundbreaking with luminaries donning hard hats and hoisting shovels, Myers said, "None of this would be possible without people from all levels: state and local government officials, industry partners, professors and friends of Jackson State University."



To see construction on the new Engineering Building wing visit:
www.jsums.edu/science



▲ L-R: **Eloise Liddell**, ('85); **Dr. Barbara Ousby**, ('97); **Cheryl Pollard** ('07); **Kenneth Archer** ('85); **Dr. Earlexia Norwood** ('84); **Yolanda Owens**, president of JSU's National Alumni Association, **Dr. Ehidanmegbe Akharume** ('04); dean **Dr. Richard Aló**; **Dr. Loretta Moore** ('85), vice president for research and federal relations; **Dr. Hongtao Yu**, chair of the department of chemistry and biochemistry; **Dr. Dexter Lee** ('92); **Dr. De'Jonnette Grantham King** ('14); **Dr. April Idleburg** ('89); **Angela Getter**, senior director of development; **Samuel Patton** ('82); **Dr. Vernon Ross** ('82), director of Diversity and Inclusion, Science Applications International Corporation; and **Dr. Tim Turner**, chair of the department of biology

CSET HOSTS 3RD ANNUAL NOTABLE ALUMNI PANEL SESSION

Sounding the alarm for relevancy in the 21st century, successful professional alumni from Jackson State University returned to their alma mater to trumpet the school's elite programs and wax philosophical about careers and skills during a series of forums held by each of the five academic colleges. In the College of Science Engineering and Technology, our notable alumni share the following words of wisdom with our students.

Panel contributors who gathered with JSU personnel included

Dr. Ehidanmegbe Akharume, '04
General Dentist
Kool Smiles of Baton Rouge

- Embrace your resources.

Kenneth Archer, '85
Deputy Director Climate and Health
National Center for Environmental Health
Centers for Disease Control and Prevention

"... We are going to relentlessly chase perfection, knowing full well we will not catch it, because nothing is perfect. But we are going to relentlessly chase it, because in the process we will catch excellence. I am not remotely interested in just being good..."
--Vince Lombardi

Dr. April Idleburg, '89
Systems Analyst
U.S. Drug Enforcement Agency

- Work until it works!
- Chart your accomplishments.
- Be able to tell people exactly what you've done.

Dr. De'Jonnette Grantham King, '14
President/CEO Advanced
Environmental Consultants, Inc.

- It doesn't matter where you start, it's where you end.
- Think outside the box!

Dr. Dexter Lee, '92
Associate Professor
College of Medicine Howard University

- Seize the moment, and enjoy the journey.

Eloise Liddell, '85
Global Customer Relationship
Marketing (CRM) Manager
Ford Motor Credit Company

- Set goals and put a plan in place to reach those goals.
- Continue to build your network.

Dr. Loretta Moore, '85
Vice President for Research and Federal
Relations
Jackson State University

- Don't be afraid of failure; embrace it.

Dr. Earlexia Norwood, '84
Service Chief of Family Medicine
Henry Ford West Bloomfield Hospital
Director of Practice Development &
Community Health Education
Henry Ford Medical Group

- Don't discount who you are.
- Small thinking begets small results.
- Find something you enjoy.

Dr. Barbara Ousby, '97
Project Manager/Environmental
Scientist
C&B Enterprise Incorporated
Adjunct Professor - Science/Biology
Department
Hinds Community College

- On your journey build relationships; work within your community. Find your support system.

Samuel Patton, '82
Senior Quality Systems Consultant

- Cultivate your soft skills; persuade through writing and speaking.
- Know your brand.
- Be conscious of your social footprint.
- Have a social conscience.

Cheryl Pollard, '07
Senior Systems Engineer
Aeronautics Division
Lockheed Martin

- Don't give up!
- Don't compromise your values; have integrity.

Students were also encouraged to:

- Be able to speak and write well.
- Know how to manage people and complete projects within budget.
- The professors know more than you do; learn from them.
- Look and dress like you are going somewhere important.
- Come out of your comfort zone.

FACULTY AND STUDENTS VISIT THE BLUE WATERS SUPERCOMPUTER NATIONAL PETASCALE COMPUTING FACILITY

Representatives with JSU's NSF Funded Project "Expeditions in Training, Research and Education for Mathematics and Statistics through Quantitative Exploration of Data" (EXTREEMS-QED) visited the Blue Waters Supercomputer National Petascale Computing Facility, in August.

Faculty mentors and students (mathematics, physics, meteorology and statistics majors) toured the facility to understand how the petascale computing center space allocations enable projects to advance petascale computational and data analysis and foster projects that are visionary and national in scope.

In computing a flop is used to measure floating-point operations per second. This is one of the basic operations of computers. A petascale uses more than one petaflop-which is like a drop of water to the Mississippi River.

The department of Mathematics and Statistical Sciences students learned how the facility engages with research groups and individuals in science, engineering and scholarly research.



▲ Image provided by the Blue Waters Supercomputer National Petascale Computing Facility



▲ Faculty and students in front of the National Petascale Facility, Champaign, Ill.



▲ Directors of the facility describe the functioning petascale clusters to participants.





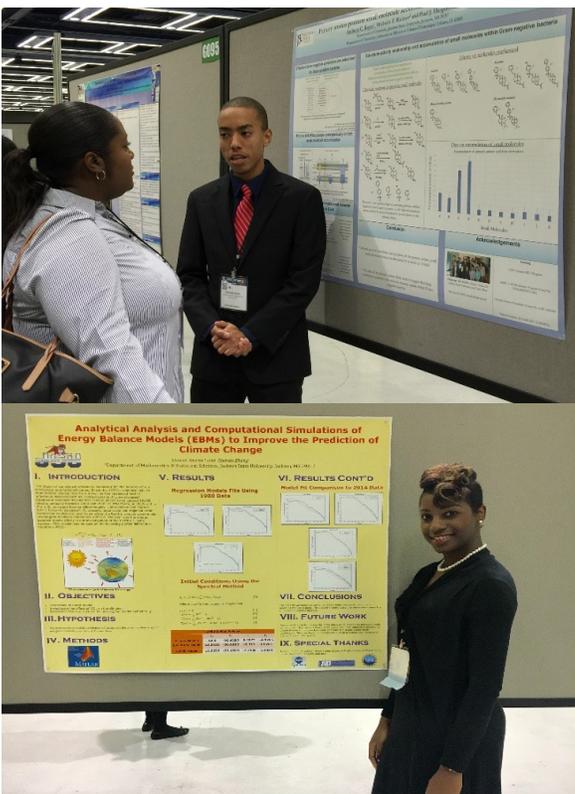
JSU Meets with UC, Berkeley to Discuss SMART Cities Initiative

Professor and chair of Industrial Systems and Technology, Dr. Kamal Ali and development officer Angela Getter spent time at the University of California, Berkeley October, 2015 to explore a potential collaboration on a Smart City initiative. A smart city uses various technologies to advance the quality and performance of city services by reducing costs and resource consumption. These efforts have been proven to effectively and actively engage citizens in other cities across the country.

The visit included identifying several areas for research collaboration. The research areas included, smart/autonomous vehicles and human machine interface.

Jackson State University's students have already left a positive impression at Berkeley through summer internships. Discussions also focused on ways to strengthen student participation in Berkeley's summer research activities by increasing the number of JSU participants.

◀ L-R: Aimee Tabor, director of education, TRUST/FORCES at University of California, Berkeley and Dr. Kamal Ali, professor and chair of Industrial Systems and Technology



Students Attend Annual Biomedical Research Conference for Minority Students (ABRCMS) in Washington

The Annual Biomedical Conference for Minority Students is assists in showcasing student research and creating networking opportunities with institutions interested in recruiting. The conference was held in Seattle, Wash., November 11 - 15 showcasing bio-medical research conducted by students and their faculty mentor. There were over 3,500 students in attendance; 38 were from JSU and 22 presented. Anthony Keys a chemistry student and a member of the Maximizing Access to Research Careers (MARC) training program won an award for his presentation.

▲ Anthony Keys, a undergraduate student, presenting his research at ABRCMS

◀ Shanah Sharpe a graduate student from the the Louis Stokes Mississippi Alliance for Minority Participation (LSMAMP) and Bridge to the Doctorate program presents her research



▲ L-R: JSU President Dr. Carolyn W. Meyers conversing with Mississippi Gov. Phil Bryant and Dr. Paul B. Tchounwou, associate dean of graduate and international programs

JACKSON STATE UNIVERSITY WELCOMES 22 NATIONS TO ITS ANNUAL INTERNATIONAL SYMPOSIUM

Adapted from Jackson State University
September 14, 2015

Representatives from 22 countries joined dignitaries at the 12th annual International Symposium on Recent Advances in Environmental Health Research sponsored by Jackson State University at the downtown Marriott Hotel.

The event, Sept. 13-16, was a gathering of environmental and biomedical scientists and public health specialists, whose aim is to develop global solutions to complex challenges of the 21st century.

Paul B. Tchounwou, symposium chair and JSU's associate dean of the College of Science, Engineering and Technology, said, "We expect to have a very productive gathering this week because what we discuss here is important for the city, state and nation. We're trying to address issues of interest to the general public. Researchers from 22 countries shared their new discoveries in environmental and public health." As visitors prepared for presentations from five continents, Tchounwou emphasized that government, too, plays a critical role in addressing health issues.

JSU President Carolyn W. Meyers also extended greetings.

"The promise that each of you brings with new technology will help Mississippi and the rest of world live comfortably on this planet. This symposium will also benefit our students, who are our next generation of leaders. It's a great opportunity for them to meet distinguished scientists, researchers and big thinkers. You will inspire and push them to go even further. That's what we do at Jackson State University. We challenge minds and change lives."

Mississippi Gov. Phil Bryant expressed delight that the event could have major implications for the state, particularly with the medical environment and public health system.

"Mississippi is not lagging behind. We put \$2 million into this great urban university because medicine is such a dynamic part of Jackson. We hope to have a medical center corridor that will rival Knoxville, Tenn., or Houston. We have the capability," he said.

Bryant also touted the success of the state's 175 telemedicine locations, citing the innovation as one of only seven states in the nation with an A-rating and a successful method for providing health care to rural areas. Also, he said with the

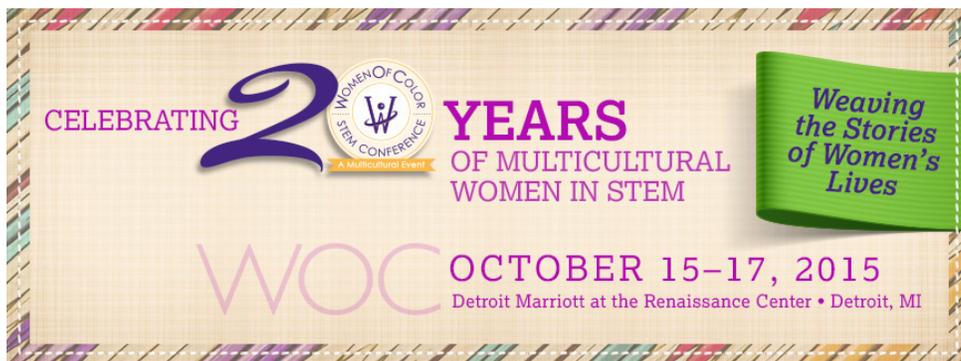
aging baby-boomer population, health care is ever so vital.

"Our success with telemedicine may surprise some people because that's not the typical narrative for Mississippi, but we're among the leaders. ... Mississippi should not be held back by the bigotry of low expectations."

As for addressing environmental issues, Jackson Mayor Tony Yarber told conferees, "Our city really needs you to do well ... We have not made the necessary advancements in technology. As it relates to environmental justice, we need to be in front of needle."

As well, Yarber said, "We've got some real issues, so we need you to be the best and the brightest so that people understand that Jackson, Mississippi, is a place where people can invest their time, talent and resources. If you can solve the problems in Jackson, you can solve problems anywhere."

Among other topics being explored by the experts include the causes of human cancer, blood levels in pre- and post-Katrina New Orleans, treatment of diabetes, HIV pathogenesis and health effects of low-dose radiation.



Women of Color Conference Introduces Companies to Future Leaders in STEM

The Women of Color Conference in Detroit, Mich., was on Oct. 15-17. The conference was geared towards engaging the next generation of minority women leaders in STEM. Several companies and institutions were there recruiting and hiring seniors preparing for graduation. The purpose of the conference was to create a platform for employers and minority students to network. Jackson State University also utilized the conference to introduce potential students to the College of Science, Engineering and Technology.

Upcoming Events

Big Data Colloquium Series

Jackson State University
January - March 2016

Mississippi Academy of Sciences Conference

University of Southern Mississippi
February 18-20 2016

Black Engineer of the Year STEM Conference

Philadelphia, Pa.
February 18-20 2016

National Society of Black Engineers Conference

Boston, Mass.
March 23-26 2016

National Engineering Week

February 22-25 2016

West Point Leadership Ethics and Diversity in STEM Conference (WPLEC)

February 26, 2016
9:30 am - 4:30 pm
Jackson State University
Engineering Building

TECHNOLOGY

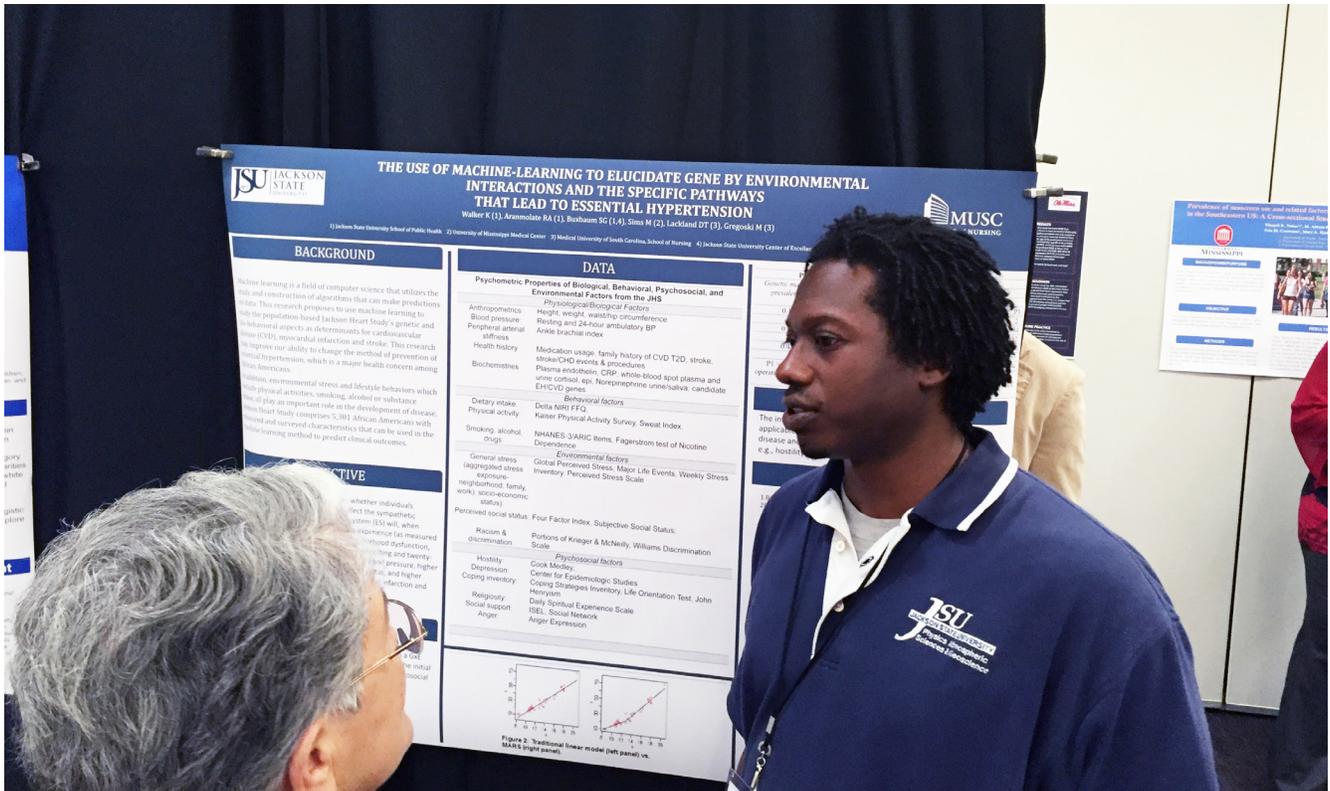


Distinguished School

Jackson State University has been selected as an Apple Distinguished School for 2015-2017, a two-year designation. Congratulations, JSU on being recognized as an exemplary learning environment for innovation, leadership and educational excellence!



CyberLearning@JSU was selected for a 2015 Campus Technology Innovators Award in the Teaching and Learning category. Jackson State University was recognized at the conference July 27-30, 2015, in Boston, Mass. and featured in the July issue of Campus Technology magazine. Dr. Robert Blaine, dean of JSU's Undergraduate Studies and CyberLearning, submitted the winning proposal and accepted the award on behalf of JSU



▲ Kendrick M. Walker, CDS&E Ph.D. student presents at Mississippi Public Health Association's 78th public health conference & annual meeting

CDS&E Student Shows How Big Data Addresses Public Health at MPHA Conference

Jackson State University Computational and Data Enabled Science & Engineering (CDS&E) Ph.D. student Kendrick M. Walker had the opportunity to present his research at the Mississippi Public Health Association's (MPHA) 78th public health conference & annual meeting, October 28, 2015, in Jackson, Miss. The MPHA strives to strengthen public health in Mississippi through leadership, advocacy and education. CDS&E students come from a variety of backgrounds and undertake a rigorous interdisciplinary curriculum and training in preparation to become Big Data scientists. Though his major is public health science, Walker is applying computational models and advanced statistical data to find novel ways to prevent and positively impact hypertension. His research mentor is Sarah Buxbaum, Ph.D., assistant professor for the health policy and management concentration in the school of health sciences.



▲ Students and undergraduate programs coordinator, CSET attended the GMIS Conference L-R: **Kristy Love**, program coordinator; **Danielle Gaines**, electrical and computer engineering student; **Meron Asnke**, civil engineering student; and **Toneca Pickens**, mathematics student

Great Minds in STEM 27th Annual HENAAC Conference

On Oct.15-17, 2015, Jackson State University's College of Science Engineering and Technology students attended the Great Minds in STEM (GMIS) Conference and Awards in Pasadena, Calif.

GMIS is considered a national leader in keeping America technologically strong by promoting Science, Technology, Engineering and Math careers specifically in under served communities since 1989. The rising demand for STEM talent is critical toward preparing the next generation of innovators and leaders who will be equipped with technology skills needed for success.

The Conference provides students an opportunity to engage and network with corporate leaders, workshops on career placement, resume writing, interview skills and a protégé/mentoring program. Corporations in attendance included: Boeing, Northrop Grumman, Lockheed Martin, Chevron, Verizon, Raytheon, Oracle, IBM, Shell, EMC, GMC, Cummins, U.S. Department of Energy, Sandia National Laboratories and others.



▲ CDS&E Students and CSET dean at GMIS Conference are L-R: **Kendrick Walker**, **Dr. Richard A. Aló**, **Carlos Martinez** and **Duber Gomez-Fonseca**

JSU/CSET's BIG DATA | SPRING 2016

Thought Leaders Colloquium

Hosted by Jackson State University's College of Science, Engineering and Technology

Join CSET for presentations by the experts and leaders in Computational and Data Enabled Science and Engineering (CDS&E) In support of JSU/CSET's PhD and MS programs in CDS&E.

Dr. Tom DeFanti: January 21, 2016

Research scientist at the California Institute for Telecommunications and Information Technology (Calit2) at the University of California, San Diego, Research Professor at University of Illinois at Chicago

Focus Areas: Big Data Visualization, Digital Cinema (supplying Hollywood with current animation technology), Applications to Visual Arts.

Dr. Geoffrey Fox: February 4, 2016

Professor of Computer Science, Informatics, and Physics at Indiana University, director of the Community Grids Laboratory of the Pervasive Technology Laboratories

Focus areas: Big Data Analytics, Visualization, Big Data Computing Grand Challenges, MSI Outreach

Mr. Nathan Slater: February 25, 2016

Vice President of Cloud Services/Data Center Solutions at CSpire, software development and project management in IT, JSU alumnus of Computer Science

Dr. Maxine Brown: March 10, 2016

Director of the Electronic Visualization Lab at University of Illinois at Chicago

Focus Areas: 3D Big Data Visualization, Developing new technologies for single camera use

Dr. Sastry Pantula: March 11, 2016

Dean of the College of Science at Oregon State University, Served as director of the National Science Foundation's Division of Mathematical Sciences

Focus Areas: Time Series Analysis and Econometric Modeling, with a broad range of applications

Dr. Malek Adjouadi: March 31, 2016

Professor of Electrical and Computer Engineering and Biomedical Engineering at Florida International University, founding director of Center for Advanced Technology and Education, Co-leader of the joint Neuro-engineering program between Florida International University and Miami Children's Hospital

Focus Areas: Vision-based Guidance Systems, Machine Vision Applications, Biomedical Imaging and Diagnostics

Dr. Falko Kuester: TBA

Professor for Visualization and Virtual Reality at the California Institute for Telecommunications and Information Technology (Calit2) at the University of California, San Diego, Director, Calit2 Center of Graphics, Visualization and Virtual Reality (GRAVITY)

Focus Areas: Big Data Analytics (Integration, Volume, Visualization, Validity, Variety and Veracity)

Dr. Larry Smarr: TBA

Distinguished Professor of Physics, founding director of California Institute of Information Technology (Calit2)

Focus Areas: Telecommunications and Developer of Cyber Infrastructure, Telemedicine, Applications to Public Health, Personalized Health Management, Personalized Genomic

BIG DATA: THE POWER TO CREATE

S.C.O.P.E. Grant

(Scalable Omnipresent Environments)

Visualization Laboratories are essential components of current programs where students apply theory learned in an applied, real-world environment. S.C.O.P.E. GRANT PARTNERS: UC San Diego, University of Texas Medical Branch at Galveston, and California Institute Telecommunications and Information Technology



Award MRI:
Advance Visualization-634A99

EXTREEMS-QED Project

(Expeditions in Training, Research and Education in Mathematics and Statistics through Quantitative Exploration of Data)

This interdisciplinary project designs efficient ways to utilize big data



NSF Grant:
DMS: 1330801

CSET INTRODUCES NEW DEGREE PROGRAMS IN 2016

In 2016, Jackson State University will offer two new degree programs in its College of Science, Engineering and Technology (CSET), one of which is exclusive in Mississippi to JSU.

The Mississippi Board of Trustees of State Institutions of Higher Learning approved JSU's proposals during the November meeting to offer a Bachelor of Science in Biotechnology and a Master of Science in Computational/Data Enabled Science and Engineering (CDS&E).

The B.S. in Biotechnology will be the only such undergraduate program offered in the state. The U.S. Department of Labor indicates that the need for biological technicians will grow, with a projected increase of 11 percent from 2012 to 2022. The national trend indicates a need for highly educated and trained bio-technicians with terminal degrees that can either directly enter the workforce to support this need or utilize their degree to further their careers in various professional schools. Chair of the Department of Biology, Dr. Timothy Turner, said, "Expanding our degree programs under the umbrella of the Biology Department will help us to better address the STEM job market needs for more biotechnology technicians. We are up for this challenge and so are our students."

The M.S. in CDS&E emphasis areas include computer engineering, industrial engineering, electrical engineering, computational engineering, civil engineering, environmental and geological engineering and public health.

The CDS&E program includes several disciplines: biology, chemistry, computer engineering, computer science, civil and environmental engineering,

industrial engineering, manufacturing engineering, materials science and engineering, physics, mathematics, technology, public health, economics, finance and other non-STEM disciplines.

Enhancing the capabilities to create knowledge from vast and rich data resources is a White House Big Data Priority for government and the nation. Dr. Gordon Skelton, director of the CDS&E programs at JSU said, "This strategy of applying Big Data will lead to major societal benefits such as cancer cures, new engineering designs, advances in cyber security and better weather prediction for example."

The M.S. in CDS&E will help increase the number of students seeking degrees in the STEM academic fields and the number receiving STEM degrees. This program improves the potential for JSU graduates to land high paying jobs in the data sciences, said Dr. Richard A. Aló, Dean of JSU's College of Science, Engineering and Technology.

"A comprehensive foundation in computational, mathematical and statistical methodologies is what our students acquire in the CDS&E program," Aló said. "The program will provide courses that prepare students for careers in academic, business, government and private industry as data scientists and data engineers for graduate training in statistics and related fields."

The newly established degrees will provide fundamental training and prepares students for rigorous advanced degree work and job opportunities.

COLLEGE OF SCIENCE, ENGINEERING & TECHNOLOGY

JACKSON STATE UNIVERSITY

NEWLY ESTABLISHED DEGREES

**Ph.D. Computational / Data Enabled
Science & Engineering**
CDS&E (2014-2015)

**M.S. Computational / Data Enabled
Science & Engineering**
CDS&E (2016)

Engineering

Ph.D. Engineering (2013-2014)
B.S. Biomedical Engineering (2014-2015)
B.S. Statistics Engineering (2014-2015)
B.S. Electrical Engineering (2013-2014)

Biology

B.S. Biotechnology (2016)

WHAT ARE THEY?

The convergence of
Data Engineering,
Mathematics, Statistics,
Advanced Computing and
Computational Infrastructure,
Scientific Methods and
Subject Matter Expertise

FOCUS

The collection, management
and transformation of
“Big Data” into actionable
information that can answer
some of the world’s most
pressing problems

NEED

Data science/engineer
experts who efficiently
interpret data into useful
information for strategic
decision-making.
Properly Leveraged- Data
can be driver to millions of
solutions, cures and better
processes

Intervention, Retention and Persistence

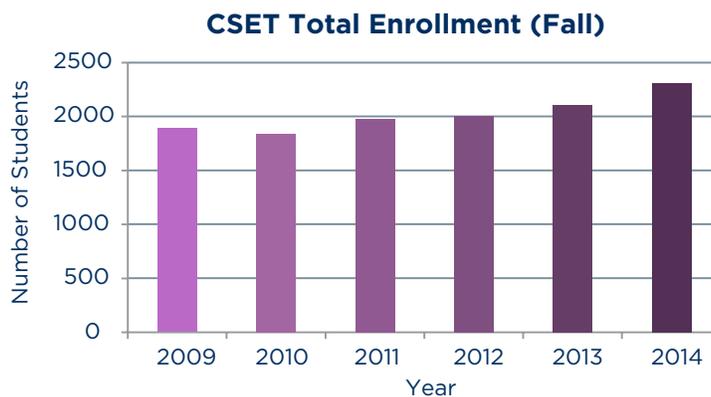
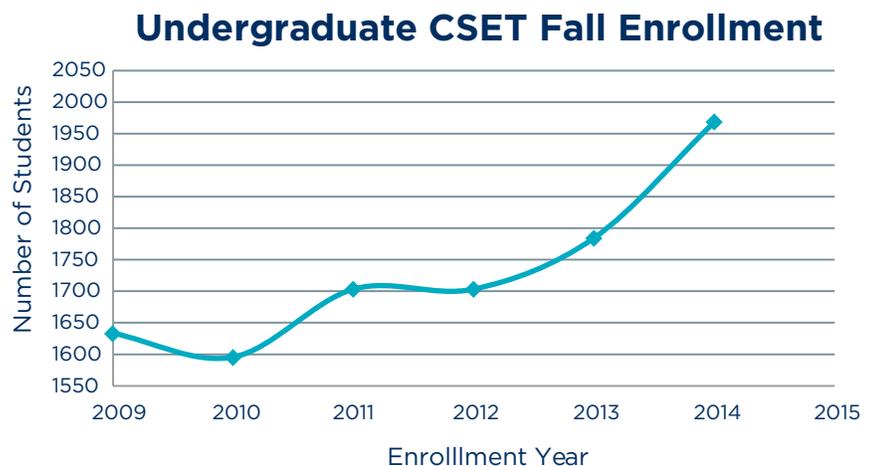
CSET’s academic intervention efforts provide students the tools to matriculate through our STEM programs effectively. By intervening in areas where students have the most challenges, we are able to retain their talents and enable them to persist with competence towards advance degree programs and the workforce.

Intervention, retention and persistence are key factors to the success of our work in the College of Science, Engineering and Technology. The students are why we are here. CSET’s top priority is the ensuring our students are prepared to meet the need for the growing field of STEM professionals as thought - leaders.



Dr. Wilbur Walters Jr.
Associate Dean
Undergraduate Programs,
Recruitment & Retention

CSET Total Enrollment (FALL)	
Year	Number of students
2009	1895
2010	1835
2011	1975
2012	2005
2013	2109
2014	2308





▲ Overcoming hardships, JSU freshman biology major **Adrienna Williams**, a Yazoo native, plans to become a physician. (Photo by Charles A. Smith/JSU)

Williams – a prestigious Gates scholar – chooses JSU, offers poignant message of resilience

Adapted from Jackson State University

Tears flowed from Adrienna Williams after learning she was selected as a Gates scholar and more recently while explaining that her then-single mother once worried whether she did enough as a parent for her children in their poverty-stricken Yazoo community.

Williams, a Jackson State University freshman biology major with ambitions of becoming a physician, candidly discussed economic hardships, including growing up in Section 8 housing. Despite some tough times, she graduated No. 2 in the spring of 2015 from Yazoo City High School to become among 1,000 Gates Millennium Scholars out of more than 57,000 students nationwide who applied.

The program of the United Negro College Fund is financed by the Bill and Melinda Gates Foundation. Given the odds of earning the scholarship, she was stunned, yet humbled, upon receiving the coveted honor.

“I went to a small high school in a small town. I’m just one little person in a competitive school. We all wanted to be No. 1. I thought others were better because I stutter sometimes. Despite that, my mentors encouraged me to apply. The process was very involved. I had to write eight essays on a designated topic. But, not only that, I also had a job.”

With all that was swirling around her, Williams still wanted to continue her education. “But how am I going to pay for school?” she asked herself.

Even with her prayers and those of her pastor, she said her faith wavered.

“My mom was a single parent without a college education. I’m the oldest of three children (she has a brother and sister). I knew what I wanted to do in life but didn’t know how I was going to accomplish it without money. I didn’t have the proper resources to prepare for my journey. I knew that I wanted to be in the healthcare industry to care for people.”

Looking back, she credits God for supportive mentors and friends who urged her to apply for the scholarship and for giving her the confidence to share her obstacles with others. “The day I received the honor I was in my college algebra class. My mom said I had received a package.” She asked her mom not to open it but to tell her whether the package was small or large, figuring a bigger size would

be good news. After confirming the weight, she later opened the package, which expressed congratulations. “My mom started crying, and she called everybody; people in my classes were so happy for me. I started crying, too.”

In fact, she said her testimony and community service landed her the distinction of being named a Gates Millennium Scholar, which recognizes Williams as a “leader for America’s future.”

As a recipient, she’s eligible for renewable funds to attend any U.S. accredited college or university. As well, individuals who pursue graduate studies in computer science, education, engineering, library science, mathematics, public health or science may be eligible for fellowship funding through the master’s and doctoral levels.

“I was going to Ole Miss, but decided against that. I took a tour of Baylor (she didn’t get accepted), but then chose Southern Mississippi. After pondering, I did a random tour of Jackson State. I fell in love with the school. After seeing the beauty of the campus, I wanted to put my money back into an HBCU. Some relatives wanted me to go elsewhere, but now they’re OK with my decision.

Her sage message to her peers is one that normally comes from some much older. “If you think, believe and achieve, you can do it. I’m doing just that.”



▲ L-R: **Destiny Pounds**, Physics/Pre Med student; **Julianna Glinskas**, LeTourneau University Chemistry student; **Mike Coyne**, acting regional director – NWS Southern Region; and **Tony Hurt**, Meteorology student

JSU NCAS Students Visit Southern Region Headquarters

Adapted by Jackson State University

The National Weather Service in Shreveport hosted two students from the NOAA Centers for Atmospheric Sciences (NCAS) summer program – Tony Hurt, Meteorology major and Destiny Pounds, Physics/Pre Med major from Jackson State University. Both students along with Julianna Glinskas, Chemistry major from LeTourneau and a WFO Shreveport summer volunteer, visited the NWS Southern Region Headquarters at the end of their summer internship. The students presented their summer research and other project activities to Acting Regional Director Mike Coyne and several other SRH staff members. Tony’s research was on the historic Red River Flooding of 2015, and Destiny’s research was a study of Mosquito Born Illnesses from 1995 to 2015 in the Shreveport/Bossier area.

NCAS is a program funded by a Department of Commerce grant through the NOAA Educational Partnership Program (EPP). The mission of NCAS is to increase the number of highly qualified, well-trained graduates from underrepresented communities in NOAA-related sciences, with particular emphasis on the atmospheric sciences, for career opportunities with NOAA, NOAA contractors, other Federal agencies, and academia. The NCAS supported universities are Howard University, Jackson State University, University of Texas El Paso, University of Puerto Rico Mayaguez, University of Maryland College Park, and the State University of New York at Albany.



▲ L-R: **Colonel Paul Willis**, JPS JROTC Program; **Lt. Colonel Timothy Henderson**, chair of Department of Aerospace Science; **Angela Getter**, senior director of Development; **Rear Admiral Michael E. Jabaley**, Commander, Naval Undersea Warfare Center; **Danielle Gaines**, NAVSEA Scholar; **Sergeant Major Ronald Greene**, Marine Corps; **Dr. Wilbur Walters**, associate dean, Recruitment, Retention and Undergraduate Programs; **Rodney Hall**, recruiting operations officer; **Sonja Robinson**, director of Sponsored Programs; **Dr. Timothy Abram**, former director of the Veterans Center

Danielle Gaines Makes Waves with National U.S. Navy Scholarship

This summer sophomore, electrical engineering student, Danielle Gaines received the NavSea Scholarship awarded by the U.S. Navy at the Combat Direction Systems Activity (CDSA) Dam Neck in Virginia Beach, Va. CDSA Dam Neck provides research, analysis, development, test and evaluation of complex naval systems associated with surface warfare and strategic combat.

This highly competitive scholarship is awarded to students who intends to pursue a STEM major. The scholarship comes with a summer internship and includes the opportunity for automatic renewal based on satisfactory academic progress.

The Jackson, Miss native say visiting summer camps that dealt with women in cyberspace and robotics deeply influenced her while in high school at Jim Hill.

Gaines says the internship gave her clarity. “It allowed me to have hands on experience with creating things from paperwork to actual working models and because of that it helped me to realize that electrical engineering is definitely something I want to do.”

August, 2015, Gaines, along with other undergraduate and graduate students, had an opportunity to meet with Rear Admiral Michael Jabaley of the Navy and Sergeant Major of the Marine Corps Ronald Green to share their experience working in STEM areas.

Gaines said JSU students should pursue scholarship to gain experience in their field. “Do not let your classification or lack of experience hinder you from applying for higher level or competitive internships.”

Grateful for the opportunity, Gaines said, “Jackson State has impacted me in a tremendous way by helping me to realize that it does not matter where I come from, but it matters where I’m going and to get there it will take hard work, dedication, and courage!”



▲ **Dominick Sanders** NSBE Jr. president and student participants



▲ **NSBE Regions III members**

Dominick Sanders Prepares Students for STEM with NSBE and Verizon Corp.

The Fall Regional Conference (FRC) for National Society of Black Engineers (NSBE) was an electrifying atmosphere designed for the interchanging of information regarding STEM and professional and personal development. This conference was held in Memphis, Tenn. Nov. 6-8, 2015. The gathering of great minds from diverse backgrounds included hundreds of engineers, researchers and students.

NSBE members attending this conference were from Region III which consists of chapters in Alabama, Florida, Georgia, Kentucky, Mississippi, Tennessee and the West Indies. Within FRC is the the Pre-College Initiative (PCI) Mini Conference headed by, Dominick Sanders, NSBE Region III PCI Chair (2014-2016) and NSBE Jr. president at Jackson State University.

Sanders said, “The opportunities were plentiful as a multitude of fellowship, scholarships, internships/coops and career possibilities were at the fingertips of the attendees.” Sanders received his undergraduate degree in computer science and is currently pursuing a graduate degree at JSU.

The PCI Mini Conference was geared for middle school and high school students. Over 100 students were in attendance including several students from our JSU NSBE Jr. chapter. The activities and events planned for the PCI Mini Conference fostered STEM education for those looking to become engineers and promote lifelong success skills in general. Sanders has a B.S. in computer science and is currently a graduate student completing a M.S. in computer science.

For more information follow NSBE Jr. at:



JSUNSBEJR



Facebook: NsbeJr-Jsu



▲ **Taha Merghani**, computer engineering student

Taha Merghani Receives His Second Prestigious Award in 2015

Jackson State University’s own Taha Merghani was awarded a one-year college scholarship and a summer internship program at Apple’s headquarters at the Leadership Institute in Washington D.C. Merghani, and only 29 other HBCU students received this award from Apple.

The Apple HBCU Scholars Program is part of the new Apple and Thurgood Marshall College Fund (TMCf) Diversity Initiative between Cupertino and TMCf. As part of the partnership, Apple made a \$40 million dollar multi-year commitment, the largest and most comprehensive corporate investment ever given exclusively for students and faculty of four-year HBCUs.

Merghani, is undergraduate student in computer engineering and was admitted to MIT for a 2015 Summer Internship. The MIT Summer Research Program (MSRP) receives applications from extremely talented students around the country.

It is interesting to know, that before coming to USA, Merghani was the top student among more than 600,000 students who took the standard high school examinations in Sudan.



▲ *Edgar Johnson, computer engineering student*

COMPUTER ENGINEERING STUDENT IS SELECTED FOR INTERNSHIP AT MIT

Edgar Johnson was selected to participate in an internship that introduced real-world job experience in software development. In 2015 Johnson attended the internship with Make School Program at Massachusetts Institute of Technology.

Corporate and graduate level work was introduced to those participating in the internship. Johnson said the experience had prepared him for the software development workforce.

“The program provided me an opportunity to be exposed to the real world. I had to adhere to deadlines, brainstorming sessions and mock interviews with Google, Microsoft and Apple,” said Johnson.

He was among participants mentored and taught application development from graduate students attending University of California, Berkeley, MIT and Carnegie Mellon University. Interns were asked to design applications for Exxon, Google, Apple, Facebook, Microsoft.

After completing the Make School’s Program, Johnson developed an app that helped him gained notoriety as one of the top coders in New York recognized by Hack Grand Central Tech. Johnson gives credit to the internship for building his confidence in programming and pursuing a graduate degree.

The Chicago native said his parents influenced him to be an engineer, and sparked his passion for math and science. “I love to solve problems, and as an engineer we face the world’s problems,” Johnson said.

Since attending Jackson State University Johnson says he now aspires to be the CEO of a company someday. “The professors and people I’ve met here have inspired me to be better. We work hard here - the connections and opportunities are limitless.”

Johnson advises his peers to do very well in their courses freshman year, encouraging them to apply to as many internships as possible.



▲ Image provided by Dr. Cherry A. Collier, organizational psychologist, diversity strategist and author

PHILANTHROPY

>>>> *In Action*

"Philanthropy is commendable, but it must not cause the philanthropist to overlook the circumstances of economic injustice, which makes philanthropy necessary."

- Dr. Martin Luther King, Jr.



▲ Angela Y. Getter, CSET senior director of Development

Fund development strengthens relationships, develops partnerships and strategically communicates messages. Those messages specific to the College of Science, Engineering and Technology focus on successes, priorities, purpose and philanthropy.

Leadership support and contributions from alumni, parents, corporations, foundations, and friends fosters transformative change and enables Jackson State University-CSET to achieve its long-term mission and goals. Annual gift support provides unrestricted funding to respond to more immediate needs, while most major gifts are used to endow scholarships, professorships and programs to fund the renovation and construction of new facilities and faculty development.

We work closely with alumni, parents, students and friends to find the best possible match between their interests and the needs of programs in CSET. We salute our extraordinary supporters and corporate partners who share their resources and talent by investing in the next generation of scholars, thought-leaders, engineers and scientists who will change the world.

CSpire supports CSET with STEM Scholarships



CSpire recently donated \$15,000 in scholarships for entering freshman in the College of Science, Engineering and Technology. Each of the freshman participated in the 2015 Summer Bridge Program at Jackson State University are residents of the state of Mississippi, graduated with a 3.0 GPA or better and continue to be involved in community service activities demonstrating their leadership potential. The range of majors includes biology, chemistry, computer science, computer engineering and civil engineering. Mrs. Meredith Creekmore, an education advocate and philanthropist is a long time supporter of many Mississippi non-profits and its educational institutions. She is a member/supporter of the Women's Philanthropy Council at JSU.

"I don't think that young people need any inspiration [to be interested in science] ... None of us has looked up at the stars and not wondered what they were. It's one of those unifying experiences that all humans have."

- Dr. Mae Jemison, Physician, Scientist and Astronaut

LOCKHEED MARTIN STRENGTHENS PARTNERSHIP WITH \$70K GIFT FOR STEM PROGRAMS

Lockheed Martin contributed \$70K for scholarships in computer engineering, computer science and industrial systems and technology to Jackson State University's College of Science, Engineering's and Technology (CSET). Lockheed Martin's contribution also will be utilized as seed funding for the STEM PREP Academy that engages middle school students in STEM learning during the summer on JSU's campus.

Dean of CSET Dr. Richard A. Aló said "The Lockheed Martin Innovate Partnership Initiative is a unique opportunity to increase awareness in STEM through an investment in the next generation of technical talent and leadership."

The partnership seeks to provide JSU students with relevant educational experiences that prepare them for the challenges of a global marketplace. "Lockheed Martin has been instrumental in helping us develop a new cadre of scientists, engineers and technicians critical to our nation's ability to sustain its leadership position in an ever-increasingly competitive world," Aló said.

For many years, Jackson State University has engaged in a working partnership with Lockheed Martin Corporation. Excited about his role as the executive sponsor for JSU through Lockheed Martin, Gerald G. Harvey, Jr., vice president of Legislative Affairs said, "We seek to build upon and expand this mutually beneficial relationship with this gift and we are pleased with the partnership and the ongoing growth of the CSET program."





Community Bank of Mississippi Donates New Furniture

The Community Bank of Mississippi recently donated an in-kind gift of Earth's Friends Furniture to the College of Science, Engineering and Technology for improvements in our student environments. The furniture includes writing desks, reading chairs, computer desks, glass tables and consoles. Furniture is placed in various locations in the College of Science Engineering and Technology. The total in-kind donation is over \$196K. Mr. Chance Carter, president of Community Bank of Mississippi is a supporter and friend of JSU-CSET.



▲ **Angela Getter**, senior director of Development, CSET; **Dr. Mahmoud Manzoul**, chair of Electrical and Computer Engineering; **Anna Hughes**, recruiter, Entergy; **Dr. Richard Aló**, dean, CSET; **Haley Fisackerly**, president/CEO, Entergy MS; **John P. Arledge**, vice president Public Affairs and Economic Development, Entergy MS.

Entergy - An Example of Innovative Philanthropy

The College of Science, Engineering and Technology hosted a special visit with the CEO of Entergy Mississippi, Mr. Haley Fisackerly. Entergy Mississippi invested \$500,000 to support the Electrical Engineering Program with equipment, scholarships and faculty development. Fisackerly toured the Entergy Power Systems Lab and observed new technologies including our Visualization lab and walls.

The Engineering program has grown exponentially beginning with 3 students in FY 2011 and has a current enrollment of over 93 students in FY 2015.

Through the recent investment of \$50,000, Entergy is the founding corporate sponsor for the CSET Scholars Academy and Academic Enhancement Project. These funds will impact recruitment and retention of STEM students.



▲ **Haley Fisackerly**, president/CEO, Entergy MS and **Dr. Richard Aló**, dean, CSET

How To Give

Interested in contributing to CSET?

Visit: <http://www.jsu.edu/giving/howtogive/>



THINKING **BIG** AT JACKSON STATE UNIVERSITY

What is Big Data?

Used to describe large volumes of organized and unorganized information that daily inundates various corporations, big data, though not new in concept, is now more carefully analyzed for practical application. Various industries strive to answer what is done with this data and its potential benefits.

Ever notice how retailers know to advertise that exact item you just talked yourself out of buying? Whether on your cell phone or desktop computer, retailers are using “Big Data” analytics to change the way we spend. From predicting trends and forecasting demand, “Big Data” formats strategic business decisions and improves product performance to advance our quality of life.

The buzzword “Big Data” is still relatively new but the act of gathering and storing information for analysis is not. According to Indeed.com, there has been rapid growth in the fields of big data and data science over the past four years. (See figure 1)



CSET CONNECTION

Jackson State University College of Science, Engineering & Technology

Richard A. Aló, Ph.D., Dean
1400 J.R. Lynch Street
P.O. Box 18750
Jackson, MS 39217
www.jsums.edu/science
email: csetconnection@jsums.edu
601-979-2153



@JSUMSCSET

