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Arising

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For more information about Savannah State University's grant and sponsored research programs contact: Office of Sponsored Research Administration, Chellu Chetty, Ph.D., associate vice president. 912-358-4277, chettyc@savannahstate.edu, linux. savannahstate.edu/osra



am pleased to bring you the second issue of *Arising*, Savannah State University's journal of research. Our first edition, published last April, highlighted some of the university's highly successful research activities, along with grant and sponsored research efforts across campus. This issue promises even more inspiring articles that showcase SSU's impressive research capabilities and commitment to community service.

STEM is an acronym that has received a great deal of attention in the past few years and for good reason. Educating

MESSAGE FROM THE PRESIDENT

students in the areas of STEM — science, technology, engineering and mathematics — is crucial to the future of our nation and our world. SSU's Research Initiative for Scientific Enhancement (RISE) program, which is featured in this publication, is an excellent example of the lasting impact of STEM-focused research and grant projects. This innovative program gives students who are underrepresented in the fields of biomedical and behavioral sciences an invaluable opportunity to conduct cutting-edge research alongside Savannah State faculty members.

You will also learn about the university's successful Bridge to Research in Marine Sciences Research Experiences for Undergraduates (REU) program, a STEM initiative that provides summer internships to students in their first and second years of college. The National Science Foundation-funded grant has become a model for other REU programs that typically engage students in their junior and senior years.

In addition to highlighting many of SSU's STEM programs, the magazine also explores many other exciting grant and

research programs across campus. The 'Get in the Know' HIV and Substance Abuse Awareness program, led by SSU professor Johnnie Myers, Ph.D., is a wonderful example of how students at the university can effect change both on campus and in the community.

This issue of *Arising* also shines the spotlight on Savannah State's efforts to engage students and faculty in global initiatives. The International Marketing and Management Research journal, produced by SSU's Global Logistics and International Business and Research (G-LIBER) Center, demonstrates the university's commitment to connecting students and faculty with the world.

I hope you enjoy reading about the innovative and instrumental grant and research programs taking place at Savannah State and continue supporting the university as we prepare our students to go anywhere from here.

Sincerely, Cheryl D. Dozier President



his spring, Shakema Bowman and Daniel Mies of Savannah State University will stand alongside Professor Karla-Sue Marriott, Ph.D., to watch as their research project launches into space.

A mission of Savannah State University is to send forth creative members of the global society by engaging students through high quality instruction, research, scholarship, service and community involvement. We succeed by enabling students like Shakema and Daniel to engage in the highest levels of research and learning.

This issue of *Arising* highlights Dr. Marriott's groundbreaking NASA-funded grant, along with several other extramurally sponsored research and grant programs taking place on the campus of Savannah State. The university is able to provide students with formative research opportunities thanks to support from organizations such as NASA, the National Science Foundation, National Institutes of Health, NOAA, and U.S. Department of Health and Human Services.

We are indeed grateful to the Office of Sponsored Research Administration for diligent efforts that ensure that faculty and students have resources and opportunities to conduct original research and to bring benefits to the educational enterprise at SSU and to the larger community in Savannah and beyond.

As you read the pages of *Arising*, I know you will take pride in our passionate faculty members and students and Savannah State University's unwavering commitment to research, scholarship and service on campus and elsewhere.

Sincerely, **Reynold Verret** Provost and Vice President for Academic Affairs







REU₅ the acronym for Bridge to Research in Marine Sciences Research Experiences for Undergraduates, is an eight-week summer program designed to give first- and second-year undergraduate students from around the country, particularly those who are underrepresented in the marine sciences and geosciences, hands-on research experience. The program strives to spark students' interest in intensive research, inter-institutional collaboration and connection-making so they will graduate with a degree in a related discipline and possibly continue on to graduate school.

Savannah State's REU program, which was started in 2009 by Marine Sciences Professor Emeritus Matthew Gilligan, Ph.D., is funded with a \$303,000 grant from the National Science Foundation. Students in the program are provided with a handsome stipend for their research and receive free boarding on SSU's campus.

The students typically arrive on campus in mid- to late-May and engage in three weeks of classroom, field and laboratory work to build technical, scientific, communications and ethics skills. The REU interns then spend two days aboard a research vessel for an expedition that takes them through areas in coastal Georgia and South Carolina.

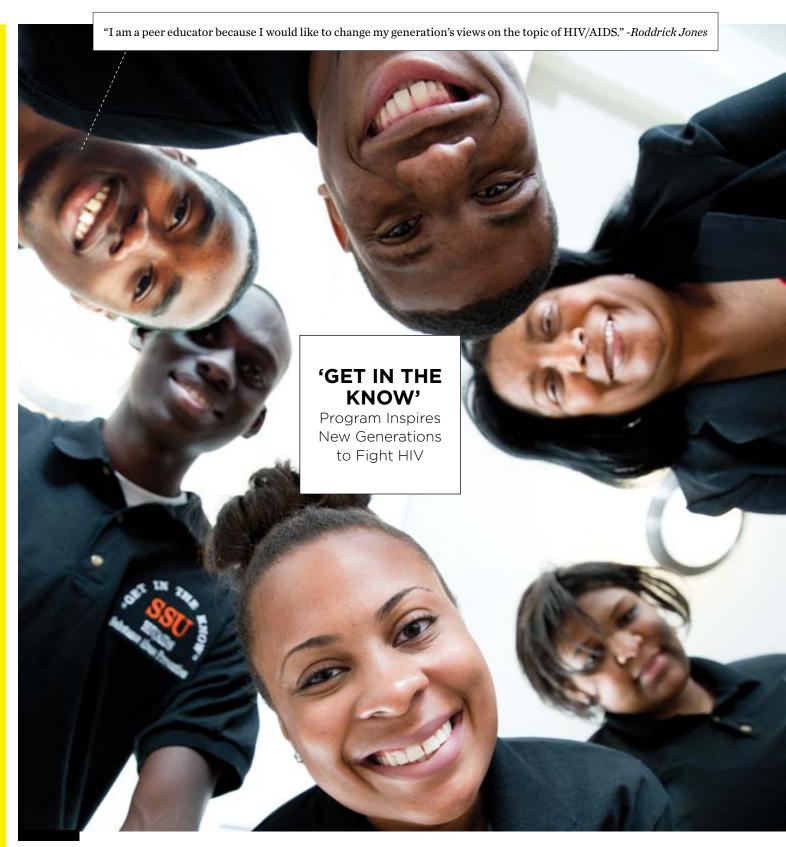
During the final five weeks of the program, the students are paired with faculty or graduate student mentors at Savannah State, the Skidaway Institute of Oceanography or Gray's Reef National Marine Sanctuary. Working closely with their mentors, the students engage in in-depth research on their chosen topic, keep a research log, develop a seminar presentation and submit a formal written research report.

Competition for the 10 annual REU spots is stiff. Tara Cox, Ph.D., an associate professor of marine sciences and the grant program's principal investigator, says that 72 applications from around the country were received in 2013. Drummond was one of two Savannah State students selected to participate in the prestigious program that summer.

Drummond worked with Marc Frischer, Ph.D., a professor at the Skidaway Institute of Oceanography, and Kevin McKenzie, an SSU graduate marine sciences student, to develop a research program on Bacterial Microbiome in the Spleens of Common Bottlenose Dolphins.

For Drummond, who hopes to earn a master's and doctorate degree in marine sciences, the opportunity to work with his mentors and spend time in the lab was invaluable.

"The REU program has shed light on some of the requirements needed to become a professional in the marine sciences field," says Drummond, who cloned DNA in the lab as part of his research. "This basic knowledge can now be built upon and perfected. I think it is the start to a bright career."



avannah State University
senior Roddrick Jones has
talked about HIV to more than
1,000 students on campus, but
it was an encounter with one
individual that really stands

out in his mind.

"I once had a person share with me that he was HIV positive after my presentation," Jones, a peer educator in SSU's 'Get in the Know' HIV and Substance Abuse Awareness program, explains. "He said that I should keep up the good work spreading the word, because he wished someone would have explained it to him."

Jones, a political science major from Atlanta, is one of six peer educators who is working on the Get in the Know project, SSU's Get in the Know faculty mentor Johnnie Myers, Ph.D. (top right) and peer educators (clockwise) sophomore Naudika Bryant, junior Morgan Wilson, sophomore Torrey Butler, senior Roddrick Jones and junior Abraham Johnson.

an HIV and substance abuse awareness campaign funded through a three-year, \$900,000 grant from the Center for Substance Abuse Prevention (CSAP), a division of the U.S. Department of Health and Human Services' Substance Abuse and Mental Health Services Administration.

Led by Johnnie Myers, Ph.D., an associate professor of criminal justice at Savannah State, the Get in the Know program seeks to prevent and reduce substance abuse and HIV transmission for minorities on campus and in the community, particularly those between the ages of 18 and 24.

Since its inception in 2005, the Get in the Know program has trained more than

Myers says that it's important for the peer educators to teach their audiences about the connection between drug and alcohol abuse and risky behaviors such as unprotected sex, which can lead to sexually transmitted diseases.

"If you're high on something and if you're drinking, you don't oftentimes exercise good judgment," Myers says.

The peer educators not only explain the risks of drinking and doing drugs, they find unique ways to make their audiences see the impact, including the use of visual goggles that show various stages of alcohol impairment.

Though getting up in front of an audi-

ing events, members of the Chatham County Health Department use the HIV rapid testing method and are able to give participants their results almost immediately.

Several testing sessions have been held including World AIDS Day in December in which 170 people were tested on campus and in the community and Black AIDS Day in February in which an additional 203 were tested on campus. Testing for the general public has been held at venues such as the West Broad Street YMCA, where members of the community were invited to a town hall on HIV awareness and offered free screenings.

Additional community-based pro-

B+UR-

50 SSU students as peer educators and has provided peer-led sessions to more than 8,500 students on campus.

"Student and faculty cooperation and involvement are keys to the success of the program," says Myers, who helps the peer educators find innovative ways to spread their message through activities such as plays, movies, concerts, campus strolls and basketball competitions.

Before hitting the pavement and teaching people about risk factors and prevention, the peer educators undergo an intensive four-day training in which they receive a comprehensive education about HIV, learn how to properly use a condom and master the art of giving an effective presentation.

Because alcohol and drug abuse prevention is an important component of the Get in the Know program, the peer educators also receive certification from the BAC-CHUS Network, a collegiate peer education initiative that empowers student leaders to address campus health and safety issues.

ence of strangers and talking about subjects like drug use and sex can be uncomfortable, the peer educators say they warm up to the groups quickly and are able to effectively get their message across.

"I was nervous at first, but I got good feedback," says Abraham Johnson, a junior biology major from Albany, Ga., who recently made his first formal presentation on campus.

To help maintain a unified front, the peer educators wear black polo shirts with the Get in the Know logo every time they speak before an audience. When they attend community events, they don T-shirts with messages such as "Every 9.5 minutes someone contracts HIV," "Every 5 minutes people die of AIDS," and "B+ UR-" (be positive, you are negative), a catchphrase that resonates with students.

In addition to the successful education and awareness programs, the Get in the Know project also provides free HIV testing on campus and in the community several times throughout the year. During the test-

gramming has been made possible thanks to the Get in the Know program's sub-awards, which were presented to Savannah Counseling Services and Union Mission to enable the organizations to spread the message of prevention to a larger audience. The grant also calls for the creation of a workforce development program in which 12 students and community members will be trained as pre- and post-HIV test counselors and testers through the Chatham County Health Department.

For Jones, being involved in the Get in the Know project and working as a peer educator has not only taught him about public speaking, organization, team building, leadership and dependability, it's also shown him the true meaning of community service.

"I've learned how to relate to individuals from all walks of life," says Jones, who has served as a peer educator since 2011. "I am reaching students and changing their lives in a way that will be effective for years to come."

ssembling a team of 200 academics from around the world to lend their talents to a new business journal may seem like a daunting task, but for Anshu Arora, Ph.D., an associate professor of marketing in Savannah State University's College of Business Administration, it was just a matter of simple networking.

"We used all of our global connections," says Arora, who serves as editor of SSU's International Marketing and Management Research (IM&MR) journal series, published by Palgrave Publications, U.K.

Arora and the IM&MR review board, which is comprised of 20 professors from colleges and universities worldwide, reached out to colleagues from four continents to assemble their team. Arora secured reviewers in the U.K., France, Japan, Australia and her native country of India, while associate editor Jun Wu, Ph.D., an assistant professor of management and marketing at SSU, contacted associates in the U.S. and her home country of China. In just a short period of time, Arora, Wu and

their fellow review board members created a global network of well-known academicians and industry partners.

Putting together the list of reviewers was just one step in a process that took nine months of hard work. To get the project off the ground, Arora relied on the expertise of John McIntyre, Ph.D., professor of international business and director of the Center for International Business Education and Research (CIBER) at Georgia Tech's Scheller College of Business, who guided the team in their academic pursuits of starting and building an esteemed business journal.

The journal needed contributors, so Arora sent out a call for entries through the Academy of International Business, a leading association of scholars and specialists in the field of international business. College faculty members, faculty and students working jointly, and industry practitioners were invited to submit papers covering a range of topics, from globalization strategies and global marketing to emerging market opportunities and international human resources.

Some 30 entries were received from as far away as Paris and Brisbane, Australia.

second-year M.B.A. student from China, sorted through the entries and created databases to keep track of the papers. Each entry was subjected to a doubleblind review process in which it was sent to three reviewers with expertise on the paper's topic.

The seven papers selected to appear in the first edition of the journal were then reviewed by Arora's copy editors Rebecca Setliff, Ph.D., lecturer in management at Savannah State, and Michael Raisinghani, Ph.D., professor of computer information systems at Texas Woman's University.

The hardbound publication, which features an eye-catching color scheme of orange and blue - Savannah State's colors - was printed in July 2013. Among the papers published in the 176-page journal were several co-authored by Savannah State faculty, along with one penned by SSU student Ariel Shead and her faculty mentor.

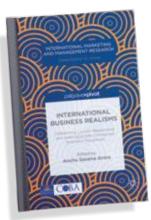
Shead, a junior accounting and management major from Albany, Ga., co-authored a paper with former SSU accounting professor Marjorie Maguire-Krupp titled "U.S. Securities and Exchange Commission Charges: Thornburg Mortgage Company for Fraudulent Accounting," which examines a fraud triangle at the failed mortgage lender. Shead believes her contribution to the journal will help prepare her for her



on the master's or doctoral level, and it is an advanced step in my educational career to have already published a research paper," says Shead, who had the opportunity to present her findings at several conferences, including the Southeastern INFORMS Conference in Myrtle Beach, S.C., where her work won a first place prize.

Shead has reason to be excited about her inclusion in the first edition of the IM&MR publication. The journal has been shipped to scholars around the world, giving the SSU business student international exposure.

The IM&MR journal series is one of many initiatives launched by SSU's Global Logistics and International Business Education and Research (G-LIBER) Center of Excellence, for which Arora serves as director. The center prepares undergraduate students for the world stage through a global logistics and international business curriculum, internships and study abroad programs.



Arora and her team are currently in the process of reviewing submissions for the second issue of the International Marketing and Management Research Series, which is slated for distribution in May 2014.

For more information on the International Management and Marketing Research Series, visit the G-LIBER website at http://gliber.weebly.com. To order a copy of the journal, visit http://us.macmillan.com/internationalbusinessrealisms/AnshuArora

The IM&MR team included (from left) Associate Editor Jun Wu, Ph.D.; Editor Anshu Arora, Ph.D.; and graduate student assistant Yao Yao.

ACTING LOCALLY

hat do a study abroad program overseas, a course in international transportation management and a workshop on exports have in common? They are all part of the foundation that makes up Savannah State's innovative Global Logistics and International Business Education and Research (G-LIBER) Center of Excellence.

Founded in 2011 with funds from a U.S. Department of Education Title III grant, the G-LIBER center promotes economic development, trade, growth and job creation by engaging SSU students and the local Savannah business community with industries and institutions around the globe.

The G-LIBER center, which is supported by Centers for International Business Education and Research at University of Memphis, University of Minnesota and Georgia Institute of Technology, broadens students' global experience through academics, internships and study abroad programs.

The G-LIBER center oversees the College of Business Administration's major and minor programs in global logistics and international business (G-LIB). The bachelor of business administration program in G-LIB was approved by the University System of Georgia Board of Regents and offered for the first time in Fall 2013.

Course offerings cover a variety of topics, including global operations management, global business logistics, international marketing and export management, business strategies for emerging markets and the aforementioned international transportation management, along with elective courses in Chinese

(Mandarin) and Korean languages.

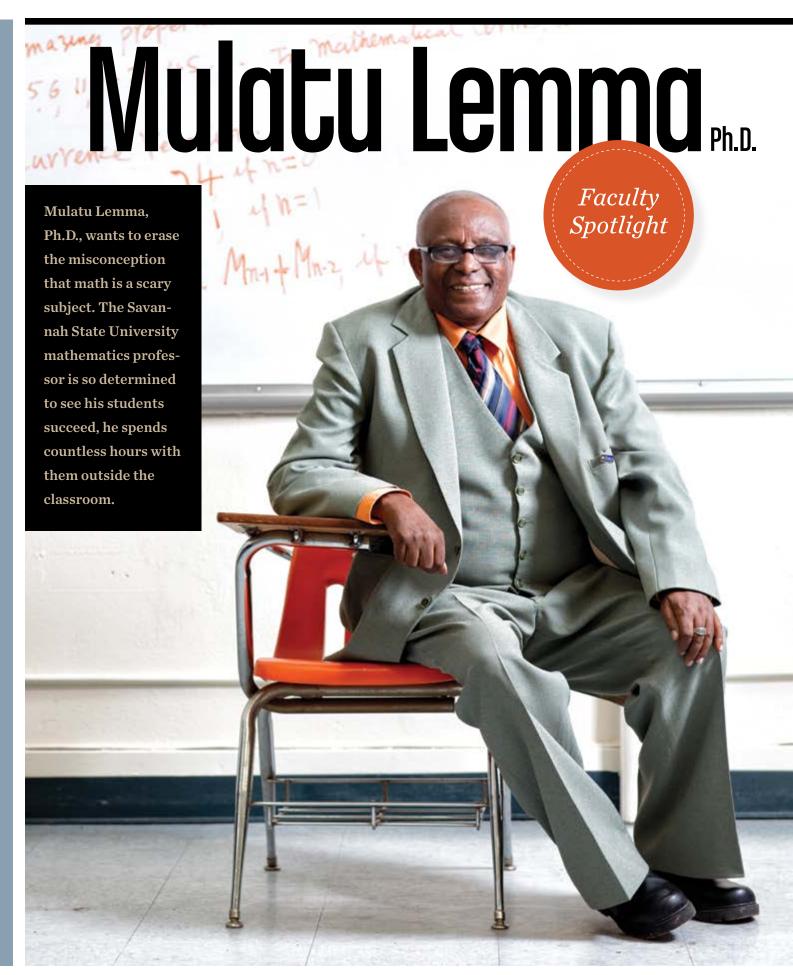
"The G-LIB major has strengthened SSU's presence in the logistics business community in Savannah, which greatly depends on the Port of Savannah," says Anshu Arora, Ph.D., an associate professor of marketing and the G-LIBER center's director. "A global education is so important. Everything is international nowadays. To survive in a local market, you still need to be globally competitive."

The G-LIBER center also organizes internships for students; study abroad programs to China, India and the U.K.; faculty exchange programs with institutions around the world; and workshops on campus and in the community on a variety of topics. The center's latest endeavor, the recently launched International Marketing and Management Research (IM&MR) journal series, is another way that G-LIBER connects students and faculty with a global audience.

"Before a revolution, everyone says it's impossible. Afterwards, everyone says it was inevitable.

The G-LIBER center and IM&MR journal series for us are like a revolution," Arora says. "As Thomas Friedman said in his book *The World is Flat*, 'In the hyperconnected world, there is only 'good' 'better' and 'best." And I think, we have just gone better."





strongly believe that a commitment to solve the extra math problems and the guidance of a caring and knowledgeable supporter reap positive results," says Lemma, a native of Ethiopia who received a doctorate degree in pure mathematics from Kent State University. "I also realistically acknowledge that every committed student can learn math but not the same day or by the same method."

Lemma's dedication to his students and scholarly approach to teaching and learning are just some of the reasons he was named the 2013 Georgia Professor of the Year by the Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Education (CASE).

The prestigious award is part of the U.S. Professors of the Year program, which honors top professors in the United States from both public and private institutions. In 2013, 36 college faculty members were honored with Professor of the Year awards.

Lemma, who has taught at SSU since 1994, implements innovative teaching strategies including the Early Warning System (EWS), a strategy he learned after attending a Quality Education for Minorities Workshop.

"Since I began implementing the EWS, many committed students who have taken advantage of this mentoring and tutoring opportunity have improved significantly," he says, noting the method is particularly beneficial for students enrolled in lower-level math courses.

In addition to mentoring students in and out of the classroom, Lemma serves as principal investigator for the \$1.5 million Proactive Recruitment for Introductory Science and Mathematics (PRISM) scholarship program, funded by the National Science Foundation. He is also a widely published author, with numerous papers appearing in refereed journals.

Lemma is known in the mathematical community for his research activities. In 2011, he introduced the Mulatu Numbers, an integral sequence of numbers with distinct mathematical properties and patterns comparable to Fibonacci and Lucas series. He worked for more than three years investigating the numbers and produced more than 13 theorems. Lemma's own students were involved in conducting research related to these numbers, and some of their works have been presented at regional and national conferences. He is currently working on the fifth sequence of Mulatu Numbers, which will investigate the numbers' relation to nature, specifically to life sciences.

Lemma's successful teaching methods and innovative research have garnered him several other honors, including the 2010 SSU Distinguished Faculty Award and the 2012 University System of Georgia Board of Regents' Teaching Excellence Award for regional and state university faculty members.

Despite Lemma's successful career both in and out of the classroom, the longtime educator was still surprised to learn he had been named 2013 Georgia Professor of the Year.

"It is an honor to receive the award, as the U.S. Professors of the Year program salutes the most outstanding undergraduate instructors in the country—those who excel as teachers and influence the lives and careers of their students," Lemma says. "The award is not only an honor for me, but it is an honor for the SSU Tiger family as a whole, as we are 'One SSU."

avannah State's efforts to engage post-secondary students in science, technology, engineering and math (STEM) subjects were recognized in September when the university was named a finalist in the prestigious 2013 Georgia STEM Education Awards. Administered by the Technology Association of Georgia (TAG), the state's leading association dedicated to the promotion and economic advancement of the state's technology industry, the Georgia STEM Education Awards recognize schools, programs and companies for outstanding efforts and achievements in supporting and promoting STEM education in Georgia.

SSU was named a finalist in the post-secondary outreach category for its long-standing partnership with the Savannah-Chatham County Public School System. Some of the university's collaborative activities include the Georgia Regional Science and Engineering Fair, Southeastern Consortium of Minorities in Engineering STEM competitions, STEM 360 Summer Camp for the STEM Academy at Bartlett Middle School, the Junior Engineering Technology Society camp and teacher enrichment workshops. SSU was among 170 applicants from around the state competing in eight categories.

"Recent Studies show that Georgia will need to fill approximately 211,000 STEM-related jobs by 2018," said Tino Mantella, president & CEO of TAG.
"The 2013 Georgia STEM Education Awards finalists are helping to prepare the tech-ready workforce to fill these jobs and we applaud them for standing out as leaders in Georgia's educational community."





Rising to the Challenge

The nationwide RISE program seeks to educate and prepare underrepresented minority students in biomedical and behavioral sciences for Ph.D. degrees.

olphurs Hayes was thrilled when he was selected to participate in Savannah State University's Research Initiative for Scientific Enhancement (RISE) program. The sophomore biology major from Albany, Ga., knew the prestigious program would give him invaluable hands-on experience and extra time in the lab.

But when Hayes was paired with faculty mentor Cecil Jones, Ph.D., a professor of chemistry, and told the subject of their collaborative research, he was initially baffled by the complex terminology.

Today, Hayes rattles off "cardiolipin and cytochrome c in photodynamic induced

apoptosis" without missing a beat and can easily explain the innovative cancer treatment method in layman's terms.

"At first I didn't know what the words meant, but as time went by, I understood everything," says Hayes, who is assisting Jones in studying how light therapy can target and kill cancer cells. "Once I got in the lab, I understood everything even more."

Hayes is one of the 30 SSU students who will benefit from RISE, a five-year \$1,131,545 grant program funded by the National Institutes of Health's National Institute of General Medical Sciences as part of the Minority Biomedical Research Support (MBRS) program.

The nationwide RISE program seeks to educate and prepare underrepresented minority students in biomedical and behavioral sciences for Ph.D. degrees. Grants are provided to institutions that demonstrate a commitment and history of training students who are underrepresented in the fields of biomedical and behavioral sciences. Savannah State is one of the 30 institutions across the country and just three in Georgia that currently offer RISE internships to students.

Hua Zhao, Ph.D., an associate professor of chemistry and RISE's contact principal investigator (PI), says that the program's focus on biomedical and behavioral sciences From left, Sophomore biology major Dolphurs Hayes and his faculty mentor Cecil Jones, Ph.D., and sophomore forensic science major Diamond Rogers and her faculty mentor Kai Shen, Ph.D.

sets it apart, along with the expectation that graduates continue their education.

"Other programs prepare students in general for STEM (science, technology, engineering and mathematics) disciplines, but this program is unique. We want students to have research careers. We want them to attend graduate school, especially Ph.D. programs," explains Zhao, who is assisted by several co-PIs including Associate Professor of Marine Sciences Carol Pride, Ph.D., Associate Professor of Chemistry and Forensic Science Karla-Sue Marriott, Ph.D., and Associate Professor of Behavior Analysis Katherine Stewart, Ph.D.

Students may apply for the program at any point during their undergraduate education at Savannah State. To be considered, they must have a 3.0 grade point average or higher, demonstrate an interest in progressing to a Ph.D. program in biomedical or behavioral sciences, and major in an area related to biomedical science (such as behavior analysis, biology, chemistry, forensic science and marine sciences).

Though the application requirements are strict, the rewards are great. RISE interns are paid up to \$3,000 during the academic year and up to \$3,600 over the summer for their faculty-assisted research. In addition, they attend seminars and con-

ferences, learn about the graduate school application process and spend two summers off-site conducting research at top research universities.

Students are expected to maintain a 3.0 grade point average and remain active in their research. They must also have an open mind about their future.

"Students have to be open to the idea of graduate school and not just want an M.D.," explains Zhao, who says students are often motivated to pursue Ph.D. programs after completing RISE's research internships.

That was true for Hayes, who went into the RISE program determined to pursue a medical degree but amenable to the idea of a Ph.D. program. Thanks to his intensive research internship with Jones, Hayes is now considering a dual M.D./Ph.D.

"Before I got into the program, I just wanted to be a doctor, but as I began getting hands-on experience doing research, I started leaning toward getting an M.D. and Ph.D. at the same time," says Hayes, who is contemplating a Ph.D. in public health. "Public health deals with diseases and understanding them, so if I get a Ph.D. in public health, I'll have a better understanding of all the diseases around the world, which I could incorporate into my medical studies. I'll have an edge."

Diamond Rogers, a sophomore forensic science major from Leesburg, Ga., is also considering a dual M.D./Ph.D. since taking part in the RISE program. As an incoming freshman, Rogers was positive she would one day become a forensic pathologist. But thanks to an open mind and her intense research with Assistant Professor of Forensic Science and Biochemistry Kai Shen, Ph.D., on the expression and purification of the sigma one receptor, Rogers is now considering the benefits of a Ph.D. in pharmacology.

"I'd like to study molecular and cellular biology so I can get a better understanding of how diseases form and why they form. I think the RISE program has done a really good job of helping me understand that," Rogers says. "If I do an M.D./Ph.D. program, I think it will increase my depth of knowledge in all these areas."

While Rogers and Hayes still have a couple of years to make final decisions about their future, some RISE interns will soon graduate and Zhao says they will be ready.

"I believe the RISE program's vigorous research training and other program activities will greatly motivate and prepare students as they head on to graduate school and research careers in biomedical and behavioral disciplines," Zhao says. "Their future is bright."





Kelli Edwards

elli Edwards fell in love with dolphins during a high school class trip to Hawaii. Today the 2012
Savannah State University graduate educates the public about the mammals— and thousands of other fish— every day in her role as assistant manager of interpretive programs at the Georgia Aquarium in Atlanta.

Edwards' journey to the nation's largest aquarium began when she earned a bachelor of science degree in animal sciences from the University of Illinois at Urbana-Champaign in 2007. Though she initially planned to become a veterinarian, Edwards could never quite forget the magnificent dolphins she encountered in Hawaii.

"I did some research during my sophomore year (at the University of Illinois) and realized that I knew for a fact I wanted to pursue a career in marine sciences. I was looking for schools in Coastal Georgia, close to the coast, and I stumbled upon Savannah State and absolutely fell in love with it," says Edwards, who was especially pleased to find a graduate marine sciences program at a Historically Black College and University (HBCU).

Edwards entered the graduate program at Savannah State in 2008 and was quick to take advantage of every opportunity that came her way. She received a stipend as part of the National Oceanic and Atmospheric Administration's Living Marine Resources Cooperative Science Center program, which enabled her to begin developing her thesis on the microbial ecology of bottlenose dolphins.

During her work as a graduate assistant in the Bridge to Research in Marine Sciences Research Experiences for Undergraduates



Photo by Dean Chambers, SSU

(REU) program, she mentored an undergraduate student and helped her conduct research on bottlenose dolphin health, another experience that laid the foundation for her thesis topic.

Edwards also served as a fellow in SSU's National Science Foundationfunded GK-12 Ocean Literacy Program, spending two years working as a teaching assistant in a science classroom at Sol C. Johnson High School in Savannah.

"My experience as a GK-12 fellow and as an REU graduate assistant really molded me and gave me that excitement to teach," she says. "It's one thing to have the information yourself, but once you have that information, what do you do with it? You just don't hold on to it. You have to share that with the world. And once you can impact the world and get people excited about something they have no idea about, then you know you've accomplished your goal."

Edwards set out to do just that. Two days after receiving a master of science degree from SSU, she applied for a position at the Georgia Aquarium. The aquarium called her the very next day to set up an interview. Just two days later, she was offered a position as a temporary seasonal worker in the guest programs department, and she hasn't looked back.

Today, Edwards oversees the Georgia Aquarium's Interpretive Programs Department staff, ensuring they have the knowledge and ability to educate the public about marine mammals such as bottlenose dolphins and other marine species. She also oversees staffing at the aquarium's popular daily dolphin show, special day events, summer and winter camp programs, daily educational programs, birthday parties, behind-thescenes tours and the sleepover program.

For Edwards, being able to work at the Georgia Aquarium and blend her passion for marine sciences and love of education each day is a dream come true.

"They say you can go anywhere from Savannah State, and they're not kidding, " she says. College Access Mentoring Information and Outreach (CAMINO)

Funding agency: U.S. Department of Education/Armstrong Atlantic State University

Goal: to double the number of Latino students who enroll in and complete college in the Coastal Empire by recruiting Hispanic students, engaging in outreach to the Hispanic community, providing culturally sensitive programming and developing a Hispanic Outreach and Leadership Program.

PIPELINE TO SUCCESS

Complete College Georgia

Complete College Georgia (CCG) is a statewide initiative to increase the number of young adults in Georgia with certificates and degrees by creating new forms of collaboration and accountability. Savannah State University is one of 60 University System of Georgia and Technical College System of Georgia institutions participating in CCG.

Savannah State's CCG plan calls for enhanced partnerships with the K-12 community to improve college readiness and strengthen the pipeline of students from high school to college. Several of Savannah State's grant programs support the CCG initiative to create a pipeline, among them Educational Talent Search (ETS), Upward Bound and Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) DeRenne. The School of Teacher Education (SOTE), the organizational unit for SSU's STEM-focused teacher education programs, oversees GEAR UP DeRenne, along with TRIO (ETS, Upward Bound and Student Support Services) — federal outreach programs designed to identify and provide services for individuals from disadvantaged backgrounds.

Another component of Savannah State's CCG plan is to increase access for underserved students, among them students in the Latino community. In partnership with Armstrong Atlantic State University and Savannah Technical College, SSU recently launched the College Access Mentoring Information and Outreach (CAMINO) grant program, which specifically targets Latino students in Chatham, Liberty, Tattnall and Toombs counties, an area with a population of approximately 26,000 Latinos, representing an average of 6.84 percent of the total population. The CAMINO program seeks to increase the number of Latino students matriculating at the three institutions from the current average of 3.2 percent to 6.4 percent by 2015.

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) DeRenne

Funding agency: U.S. Department of Education

Goal: to increase students' academic performance and preparation for postsecondary education; high school graduation rates and enrollment in postsecondary institutions; and knowledge of post-secondary options, preparation and financing through a variety of activities, including counseling, academic advisement, mentoring, tutoring, test preparation and more.

Upward Bound

Funding agency: U.S. Department of Education

Goal: to provide high school students from low-income families and first-time college students with fundamental support in their preparation for college entrance and to increase the rate at which they graduate high school and enroll in and graduate from postsecondary institutions by offering monthly weekend sessions, summer learning programs, instruction/tutorial sessions, career/college planning and placement assistance, test review sessions, cultural activities and more.

Educational Talent Search

Funding agency: U.S. Department of Education

Goal: to enable low-income/first-generation college-bound students in 6th-12th grade with academic ability to realize their potential for education and growth beyond high school by offering services such as individual and group counseling, field trips, academic skills training, career and college exploration, postsecondary school tours and financial aid assistance.

SAVING LEPAGEVILLE



t's easy to miss the LePageville Memorial Cemetery. The historic African-American burial ground, which contains some 500 unmarked graves, is hidden behind a Parker's Market and Dollar General Store just off the busy President Street

corridor. If it weren't for the rusting metal entrance arch and peeling welcome sign, passersby would never know the significance of the cemetery and surrounding community.

Felicia Bell, Ph.D., an assistant professor of history at Savan-

nah State University, not only wants her students to understand the historical significance of the LePageville Memorial Cemetery, she wants them to help save it. Students in Bell's Introduction to Public History class are researching the history of the LePageville community and preparing a nomination form to have the cemetery listed on the National Register of Historic Places.

The community of LePageville was built in 1885 as company housing for African-American employees of the Savannah, Florida and Western Railway. Built during the Reconstructionist era in the segregated South, the LePageville community included affordable two-room houses to rent, garden plots, a church and a cemetery.

Over time, the homes and other buildings in LePageville

became dilapidated, and the families that once inhabited the area moved to better housing in other parts of the city. By the late 1960s, the entire LePageville community was razed and the memories of the once-populated area started to fade from memory.

In 1979, when word got out that parts of the LePageville community were to be converted into a softball field, community activist Patricia Jenkins stepped in.

Through her tireless research, Jenkins was able to provide proof

that the land in question stood on the site of a cemetery. Her efforts to protect the burial ground were successful, and in 2003, the land's title was transferred to create the LePageville Memorial Cemetery.

Since then, Jenkins, Minnie Lou Robinson, Kenneth Rouse, Ellis Cook, James Holmes, David Blount, Dan Fischer and countless other volunteers have worked to preserve the cemetery, raising enough funds to place an arch over the cemetery's entrance in 2007.

When Bell learned about the history of the LePageville Memorial Cemetery, she knew it would be the perfect project to incorporate into her teaching.

"Working on this project allows students to experience what it is like to be a professional historian," Bell explains. "A successful history program should be graduating students who are well-rounded in their studies. This type of community engagement aligns with that goal and provides a unique, hands-on learning opportunity. "

 Felicia Bell, Ph.D., found historical documents and maps of the LePageville Memorial Cemetery at the Georgia Historical Society. Bell applied for a grant through SSU's College of Liberal Arts and Social Sciences, receiving \$2,816.42 through the "CLASS in Downtown" initiative to fund the Historic LePageville Memorial Cemetery Entrance Beautification and National Register Nomination project. Launched by CLASS Dean Robert Smith, Ph.D., the "CLASS in Downtown" grant program seeks to support engagement activities such as performances, gallery displays, talks and applied research with the ultimate goal of connecting the Savannah State community to the city and broader region.

"This is an approach to enhance the learning experience of students in the college across all our disciplines, as they interact

> and engage with the community and apply and share what they learned." Smith says.

The students in Bell's class are currently researching historical and geographical data about the community of LePageville at the Georgia Historical Society and City of Savannah Archives. Once complete, they will use their research to complete the 12-page National Register of Historic Places nomination form.

"It's important to save the cemetery because there aren't a lot of African-American cem-

eteries, and to keep it like this is a shame," says Gavin Washington, a junior history major from Conyers, Ga., who is working with a group of students in the class to research the history of the railroad that employed LePageville's workers.

In addition to supporting the students' research efforts, the grant funds will also be used to restore the cemetery's entrance arch and to purchase and install an information kiosk and security bollards.

"Saving significant historic places such as African-American burial grounds and cemeteries helps to tell the story of the plight of people of African descent in America. It contributes to our better understanding of American history," says Bell. "It is our hope that if the LePageville Memorial Cemetery is accepted to the National Register, it will garner philanthropic awareness beyond Savannah for restoration efforts."

▲ Students in Bell's Introduction to Public History class visit the historic LePageville Memorial Cemetery, taking notes in front of the cemetery's peeling sign.

REACHING * FOR * THE * STARS

➤ Karla-Sue Marriot, Ph.D., works with her student interns Shakema Bowman and Daniel Meis to synthesize compounds in the lab.

n a few weeks, Savannah State University Professor Karla-Sue Marriott, Ph.D., and her two student assistants, Shakema Bowman and Daniel Meis, will watch as the SpaceX-3 rocket takes off from its launch pad at Cape Canaveral, Fla. But it won't be just any ordinary spectator event. On board will be groundbreaking research the trio has spent months readying

for its journey to the International Space Station.

The research is part of a \$276,000 NASA University Research (UR) 1 grant on the Investigation of Countermeasures to Modulate and Augment the Immune System on the International Space Station (ISS).

In preparation for the launch, Marriott, Bowman and Meis synthesized benzofuran2-carboxylic acid derivatives in the lab to test their potential use in the treatment of autoimmune diseases and other disorders. The group hypothesized that the derivatives would prevent immune dysfunction.

Marriott, an associate professor of chemistry and forensic science at SSU, began working on the research project in 2008 with funds from the NASA Minority Univer-





 $\textbf{18} \cdot \textbf{ARISING} \cdot \textbf{SAVANNAH STATE UNIVERSITY}$



sity Research and Education Program. During that time, her synthesized compounds were sent to university collaborators around the country who performed ground-based tests on them.

In 2013, Marriott was awarded the NASA UR 1 grant to continue her collaborative research and prepare the compounds for the International Space Station. If the research on board the space station proves Marriott's hypothesis, it could have farreaching effects.

"One of NASA's goals is to develop something that can modulate the immune system to help astronauts acclimatize to conditions back on earth after space travel," says Marriott, explaining that astronauts who engage in long-term space travel often develop autoimmune diseases and allergic reactions when they return to earth. "If we can modulate the immune system for astronauts, we can do it for the general public."

For Bowman, a sophomore forensic science major from Albany, Ga., having the opportunity to assist Marriott and have her research launched into space is a surreal experience.

"I am truly honored and humbled that I had the opportunity to join a huge research project as an undergraduate student," she says. "It is an amazing feeling to know that one day a molecule that I synthesized could potentially save or improve the quality of life for other people."

Bowman, who plans to pursue a Ph.D. in chemistry upon graduation, says working on the NASA UR 1 grant has not only provided her with a wonderful research opportunity but also enabled her to network with scientists whose ranks she hopes to one day join.

"I believe the research knowledge and guidance I received from other scientists will provide a gateway to my successful career," Bowman says. Meis, a sophomore biology major from Toronto, believes that the scope and prestige of working on NASA research and the opportunity to learn new skills from some of the most talented scientists in the country will carry him far.

"The skills learned from this opportunity will provide me a strong advantage in my future medical studies," says Meis, who hopes to become a pediatrician.

Though watching the launch will undoubtedly be an unforgettable moment for Meis, spending countless hours in Marriott's lab may just be the biggest reward of all: "Working one-on-one with a professor is a great opportunity to develop critical thinking and gain in-depth insights into chemistry that cannot be obtained from a textbook."

As of press time, SpaceX-3 is scheduled to launch in Spring 2014.



Shanice Caldwell

am a senior biology major at Savannah State University. I chose to pursue biology as my field of study because it enables me to directly impact the lives of others. It also piques my interests and curiosities as it involves living organisms. Immediately after receiving my undergraduate degree, I would like to study medicine. I trust and believe that new and upcoming physicians have to not only be able to perform well academically but also implement skills outside of the classroom.

Recently I was given the opportunity by Marilyn Hutchinson, Ph.D., and the MAGEC-STEM Plus grant to shadow Wumi Oguntunmibi, M.D., a well-known physician in the Chatham County area at Coastal Medical Specialists clinic. With more than 20 years experience, Dr. Oguntunmibi specializes in internal medicine. He and the physician's assistants welcomed me with open arms and really treated me like I was a part of the Coastal Medical Specialists family. The most exciting part was knowing that no day would be exactly like the others, which really kept me on my toes. The passion that Dr. Oguntunmibi has for his profession showed even after the last patient was gone. Knowing that I can have a positive impact on a person's life makes everything worthwhile.

The age range of the patients was from young elementary school age to

older adults with different pulmonary diseases such as COPD, sleep apnea and bronchitis. They all had very unique stories and required different kinds of attention.

I admired the great deal of care Dr. Oguntunmibi took when it came to figuring out what the problem was and the best way to treat it for each and every patient. Listening to patients, or even relatives of the patients, explain to Dr. Oguntunmibi how they appreciated his thoroughness, his sympathy and expertise only increased my desire to become a physician.

I truly enjoyed my time at Coastal Medical Specialists. The semester flew by entirely too fast. I am sincerely grateful for the opportunity to have shadowed such a great physician, who is definitely about business. This opportunity will make me a more competitive applicant for medical school, which will, in turn, get me that much closer to receiving my white coat.

I am aware of the time and effort that I must dedicate to become a physician; I am willing to remain driven and studious in order to pursue a career in medicine. Nevertheless, I will stay focused and motivated to continue my success in academic endeavors by taking advantage of every opportunity.

Shanice Caldwell is a senior biology major from Milwaukee.



SSU'SELITE 12

The Medical Intern Program



uring the Fall 2013 semester,
Marilyn Hutchinson, Ph.D.,
director of SSU's research and
mentoring programs, implemented a new initiative to help students
interested in the medical profession obtain
practical experience through physician
shadowing in various medical facilities
in the Savannah area. Students who have
shown exceptional academic progress

within the STEM (science, technology, engineering and mathematics) disciplines were selected to participate in the competitive program, funded by the National Science Foundation and the National Institutes of Health.

Hutchinson conducted a rigorous interview process, selecting 12 students to serve as medical cohorts and several Savannah-area medical offices. The students went on to perform 40 hours of hands-on experience from September to December 2013, interacting with their assigned physicians and receiving personal mentoring.

Hutchinson is currently organizing an internship program to pair engineering students with mentors at Georgia Power. The program will begin during the Spring 2014 semester.

COASTAL MEDICAL SPECIALISTS Wumi Oguntunmibi, M.D.

- -Shanice Caldwell, senior, biology, Milwaukee, Wis.
- -Asia Thomas, junior, biology, Tampa, Fla.
- $\hbox{-Anitra Bosley, sophomore, biology, Augusta, Ga.}\\$

OPTIM ORTHOPEDICS

John P. George, M.D.; Juha Jaakkola, M.D.; John D. McCormick, M.D.; Christopher Nicholson, M.D.; and Kent Woo, M.D.

- -Asia Monae Stinson, senior, biology, Social Circle, Ga.
- -Brittany Bush, junior, biology, New Orleans, La.

- -Kierra Hill, senior, biology, Macon, Ga.
- -Abraham Johnson, junior, biology, Albany, Ga.

GEORGIA SKIN AND CANCER CLINIC Sidney Smith, M.D.

- -Quanesha Williams, junior, chemistry, Decatur, Ga.
- -PoTeea Morris-Hunter, senior, chemistry, Cresskill, N.J.

SAVANNAH VASCULAR AND CARDIAC INSTITUTE Physician's Assistant for Christopher L. Wixon, M.D.

- -Joyce Amponsah, senior, biology, Ghana, West Africa
- -Racheal Daniels, senior, biology, Glenwood, Ill.

CURRENT GRANT FUNDING at SSU 2014

FUNDING AGENCY	PRINCIPALINVESTIGATOR
U.S. Department of Education	Dedra N. Andrews
U.S. Department of Education	Dedra N. Andrews
National Science Foundation	Chellu Chetty, Ph.D.
National Institutes of Health/NIBIB	Chellu Chetty, Ph.D.
Thurgood Marshall College Fund	Chellu Chetty, Ph.D.
GA/DNR Wildlife Resources Division	Tara Cox, Ph.D.
National Science Foundation	Tara Cox, Ph.D.
U.S. Department of Education	Mary Carla Curran, Ph.D.
National Institutes of Health/NIMHD	Cheryl D. Dozier, DSW
GA/Department of Natural Resources	Chandra Franklin, Ph.D.
USA Funds	April Gentry
U.S. Department of Education/Armstrong Atlantic State University	April Gentry
U.S. Department of Education	Gary Guillory, Ed.D.
Government of Canada/DFAIT	Nat Hardy, Ph.D.
DOD/Office of Naval Research	Christopher Hintz, Ph.D.
Consortium for Ocean Leadership	Dionne Hoskins, Ph.D.
NOAA/University of Maryland Eastern Shore	Dionne Hoskins, Ph.D.
National Science Foundation UGA Louis Stokes Alliance for Minority Participation	Kuppuswamy Jayaraman, Ph.D.
Morehouse School of Medicine	Shinaz Jindani, DSW
National Institutes of Health/NIGMS	Cecil Jones, Ph.D.
NASA/GA Tech	Jonathan Lambright, Ph.D.
National Science Foundation	Mulatu Lemma, Ph.D.
NASA University Research 1	Karla-Sue Marriott, Ph.D.
NIH/NIDA Drug Abuse	Karla-Sue Marriott, Ph.D.
GA Department of Juvenile Justice	Johnnie Myers, Ph.D.
U.S. Department of Health and Human Services/SAMHSA/CSAP	Johnnie Myers, Ph.D.
National Science Foundation	Carol Pride, Ph.D.
National Science Foundation	Carol Pride, Ph.D.
U.S. Department of Education	Zenobie Purnell
U.S. Department of Education	Bobby Roberts, Jr.
National Endowment for the Humanities	Cornelius St. Mark, Ph.D.
U.S. Department of Energy	Kenneth Sajwan, Ph.D.
U.S. Department of Education	Tamara Waterman
Army Educational Outreach Program	Asad Yousuf, Ed.D.
National Institutes of Health/NIGMS	Hua Zhao, Ph.D.
Camille and Henry Dreyfus Foundation	Hua Zhao, Ph.D.

TOTAL CURRENT FUNDING

GRANT	DURATION	AWARD
Title III	2013-14	\$2,908,647
SAFRA	2013-14	\$1,048,561
MAGEC-STEM PLUS	2009-14	\$2,138,394
Expanding Diversity in Engineering and the Physical Sciences	2011-15	\$610,560
Consortium of Undergraduate STEM Success	2011-16	\$5,000
Assisting the GA Marine Mammal Stranding Network	2011-14	\$2,500
Bridge to Research in Marine Sciences Research Experiences for Undergraduates	2012-15	\$303,577
HBCU (Graduate) Coastal Ocean and Underwater Research to Advanced Graduate Education (COURAGE)	2009-15	\$3,000,000
Research Infrastructure in Minority Institutions	2009-14	\$3,857,587
A Plan of Action to Assess the Extent of Damages Caused by Coastal Hazards to Marsh Vegetation	2013-14	\$194,214
Financial Literacy Experts Squad	2013-15	\$25,000
College Access Mentoring Information and Outreach (CAMINO)	2012-15	\$25,500
Student Support Services	2010-15	\$1,455,763
Faculty Enrichment Program	2012-15	\$9,072
Students Engaged in Naval STEM Research (SENSR)	2012-14	\$173,309
National Ocean Science Bowl	2013-14	\$5,000
Living Marine Resources Cooperative Science Center	2011-16	\$1,461,135
Strengthening the STEM Pipeline in the Peach State Recruitment, Retention, and Research (New Alliance)	2012-17	\$600,000
Training Behavioral Health Workforce with Traditional and Non-Traditional Therapies	2013-14	\$7,500
MARC U-STAR Program	2012-17	\$2,044,855
NASA Space Grant	2010-15	\$51,000
Building Undergraduate Innovations in Lower Divisions in STEM/PRISM	2009-14	\$1,499,990
Countermeasures to Modulate and Augment the Immune System on the International Space Station	2013-15	\$276,000
Synthesis of Novel Agents for Use in Addiction Treatment	2010-14	\$228,053
Unlocking the Keys to Potential	2013-14	\$41,892
'Get in the Know' HIV and Substance Abuse Awareness	2013-16	\$900,000
GK-12 - Building Ocean Literacy in a Coastal Community	2009-14	\$1,765,876
EDGE - Oceans of Opportunity	2009-14	\$1,030,442
Educational Talent Search	2011-16	\$2,197,030
Upward Bound	2013-18	\$2,866,885
Studying the African American Experience in Savannah and Southeast Georgia	2011-14	\$99,929
Environmental Justice, Community Education and Advisory Project	2013-17	\$881,468
GEAR UP DeRenne	2011-18	\$2,800,000
Junior Engineering Technology/ Upward Bound UNITE 2014 program	2014-15	\$17,180
Research Initiative for Scientific Enhancement (RISE)	2012-17	\$1,131,545
Henry Dreyfus Teacher-Scholar Award	2012-17	\$60,000

\$35,723,464

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