The FAMU Division of Research Vision Statement: Florida A&M University will become a nationally recognized research institution with an efficient infrastructure that supports the administration of research activities that foster relevant research, intellectual discovery, creative problem solving and the dissemination of knowledge.

“Only those who risk going too far will ever know how far they can go!”
- Anonymous
Dear Supporter:

I am pleased to present the 2012 Annual Research Report from the Florida A&M University (FAMU) Division of Research (DoR). This report provides an overview of the vast spectrum of research, scholarship and creative activities occurring throughout the University which you will find extremely insightful.

In 2012 we are celebrating our 125th Anniversary of “Excellence With Caring.” Since 1887 our faculty, students, staff and alumni have made innumerable contributions to our state, the nation and the world. This report provides a glimpse into the achievements of the past year and serves note that an extremely productive future lies ahead.

Thank you for your continued support of FAMU as you review this important annual report.

Sincerely,

Larry Robinson, Ph.D.
Interim President
Dear FAMU Supporters:

I enthusiastically endorse the 2012 edition of the *Florida A&M University (FAMU) Division of Research Annual Report*. This document allows internal and external stakeholders and potential research collaborators to access some of the diverse wealth of research-related achievements among the FAMU faculty, staff and students. A document of this type is critically important as we embark upon new initiatives in research, service, training and development, while seeking to expand partnerships in areas of mutual interest and benefit. Continual collaboration will play a key role in our success. I welcome all of you to thoughtfully explore this *Research Annual Report* and find herein a modest compilation of highly skilled individuals who are committed to and involved with addressing and resolving some of the most challenging issues confronting our society.

Sincerely,

Rodner B. Wright, AIA
Interim Provost and Vice President for Academic Affairs
Dear FAMU Friends and Supporters:

I am happy to present to you the 2012 FAMU DoR Annual Report on Research. The primary purpose of the Florida A&M University (FAMU) Division of Research (DoR) is to support the University's research-focused mission and the programs that sustain it. Thus, the DoR assists administration, faculty members, staff and students in their research-driven endeavors, encourages partnerships and interdisciplinary activities, and promotes excellence within our academic programs and supporting units.

The FAMU DoR also plays an important role in seeking grants and contracts from federal, state and private agencies. Specifically, the Office of the Vice President for Research assists faculty research-specific efforts by providing seed funds like the Faculty Research Awards Program (FRAP), supporting new research-initiated programs and projects. The Office also makes reasonable contributions toward supporting FAMU graduate students and faculty-student, research-sharing forums.

Our website www.famu.edu → RESEARCH is designed to further assist seasoned researchers, new faculty and student researchers, and others who desire to learn more about FAMU's research-led endeavors and eventual outcomes, as well as representative funding opportunities; we hope you will find it to be helpful.

The FAMU DoR commends each of you in your respective places and diverse roles in helping to promote a robust, research-focused culture. Together, we are striving to further knowledge to benefit humanity, as well as help to enhance our global economy. Hopefully, as we further inculcate the FAMU Strategic Plan: 2020 Vision with Courage, we will focus more than ever on our commitment to research “Excellence with Caring” and assure that FAMU is a preeminent institution.

Sincerely,

K. Ken Redda, Ph.D.
Professor and Acting Vice President for Research

FAMU IS AN EQUAL OPPORTUNITY/EQUAL ACCESS UNIVERSITY
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## ACKNOWLEDGEMENTS:

K. Ken Redda, Ph.D.  
Publisher  
O. S. Lamar Sheffield, Ph.D.  
Editor  
FAMU Office of Communications  
All Other Collaborators and Contributors
How appropriate that on the Monday, June 25, 2012, while tropical storm Debby’s deluge was making minds wonder how noteworthy the torrential downpours in north Florida would become, the FAMU College of Education (cornerstone of the academy) experienced four doctoral defenses in the Department of Educational Leadership and Human Services. Four (then candidates) were exposing the brilliance of their minds actively engaged in research results in FAMU’s Old Developmental Research School!

**BRENDA BOYD BARNES, PH.D.**  
*Topic:* “Students’, Teachers’, and Parents’ Perception of Violent Behaviors and Discipline Practices at a Middle School in Kansas City, Kansas”  
*Chair:* Elizabeth K. Davenport, J.D., Ph.D.  
*Committee:* Rufus Ellis, Ph.D. and Narayan B. Persaud, Ph.D. (Department of Sociology)

**TERRELL EMON ROBINSON, PH.D.**  
*Topic:* “Faculty Perceptions of the Need to Include Training in Pedagogy in Non-Teaching Degree Programs in Florida”  
*Chair:* Warren C. Hope, Ph.D.  
*Committee:* Lavetta B. Henderson, Ph.D. and Janet M. Sermon, Ph.D.

**TANYA SEAGRAVES-ROBINSON, PH.D.**  
*Topic:* “The Relationship Between Florida’s Beginning Elementary Teachers’ Emotional Intelligence, Select Demographic Characteristics and Performance”  
*Chair:* Patricia Green-Powell, Ph.D.  
*Committee:* Ghazwan Lutfi, Ph.D. and Huberta Jackson-Lowman (Department of Psychology)

**CARL E. STARLING, PH.D.**  
*Chair:* Warren C. Hope, Ph.D.  
*Committee:* Phyllis Gray-Ray, Ph.D. and Eric Toran, Ph.D.
The NOAA Environmental Cooperative Science Center (ECSC) at FAMU hosted the 2011 School of the Environment (SoE) High School Summer Camp from June 4-22, 2012. Twenty-five participants, mostly from Leon and surrounding Counties, were given the opportunity to learn, explore, and evaluate biogeochemical processes that impact our environment through a variety of settings.

The formal instructional/training portion of the camp took place June 4-20. Lectures and hands-on laboratory experiments were led by ECSC/SoE graduate students. Topics for lectures and laboratory experiments included the hydrological cycle, carbon sequestration, phytoplankton, pH, the concentration of phosphates, and the concentration of iron. Seminars were held to enhance the students’ understanding of science, and to demonstrate various career choices in the field of science. Participants took part in a water sampling activity where they collected water samples from ponds on campus and Apalachicola Bay that were used in experiments. The campers participated in a field trip to St. George Island, which was hosted by the Apalachicola National Estuarine Research Reserve Education Department. During the trip, camp participants took part in oyster shucking and they examined specimen from seine netting.

Subsequent to the lecture and laboratory portion of the summer camp, participants were allotted time on June 18-19 to prepare for their group (total of four groups) research presentations. On June 20, 2012 at 9:00 am, each group gave their oral presentation on laboratory results before a panel of judges. Some of the judging criteria included: the quality of the data presented, the data interpretation, the supporting PowerPoint presentation, and the speakers' knowledge of the topic.

The FAMU SoE Summer Camp plays a vital role in preparing high school students for their pursuit of careers not only in the sciences, but in all facets of professional life requiring leadership, critical thinking, exceptional communication skills, and understanding of our multi-disciplinary world. Upon returning to their homes and schools, ECSC/SoE Summer Camp students are more mature, focused and motivated. They are well on their way to becoming aware, involved citizens, real assets to their schools and communities, and potential leaders in the environmental field. For more information, visit www.ecsc.famu.edu/camp2012 or contact linda.miller@famu.edu
FIVE FACULTY MEMBERS RECEIVED 2012 FAMU RESEARCHER OF THE YEAR AWARDS
COMPETITIVE POOL YIELDS DIVERSE RESEARCH ACHIEVEMENTS

The Florida A&M University (FAMU) Division of Research (DoR) hosted its third annual Principal Investigator Appreciation and Researcher of the Year Awards Luncheon on Friday, April 20, 2012 in the Foster-Tanner Band Rehearsal Hall, from 11:30 a.m. to 1:30 p.m. Former FAMU President James H. Ammons, Ph.D., was the keynote speaker, and shared in part, “I want to stress how important the researchers in this room are to making sure that students have the kind of academic experience needed to prepare them for their future. Recently, US News and World Report highlighted a list of reasons why students select research universities. For those faculty in the room who are not engaged in research let me tell you why you should be involved:

• No. 1 -- Top researchers are top teachers — professors who do research generally understand the field better than those who don’t, so they can explain the material better to students.
• No. 2 -- Faculty who are engaged in research are more in touch with breaking developments in their field.
• No. 3 -- Faculty at research universities are often making genuine discoveries and receiving recognition for their work. These good feelings can carry over to the classroom.
• No. 4 -- Top researchers help universities secure state-of-the-art facilities.
• No. 5 -- Top researchers generally have great connections and can help their students get networked with key players in the field.
• No. 6 -- Studies have shown that some of the best educational experiences for college students take place not in the classroom, but in their interactions with professors outside the classroom, especially in the context of shared research activities.”
During the event, themed “In Recognition of Research Excellence With Caring,” former President Ammons honored five FAMU principal investigators for their respective research accomplishments:

1. Bidhan Saha, Ph.D., in the College of Science and Technology (formerly the College of Arts and Sciences), professor, Department of Physics (Distinguished Researcher of the Year Award Recipient with plaque and $5K);
2. Violetka Colova, Ph.D., in the College of Agriculture and Food Sciences (formerly the College of Engineering Sciences, Technology and Agriculture), professor, Center for Viticulture and Small Fruit Research (Research Excellence Award Recipient with plaque and $3K);
3. Lewis Elgin Johnson, Ph.D., in the College of Science and Technology (formerly the College of Arts and Sciences), associate professor, Department of Physics (Research Excellence Award Recipient with plaque and $3K);
4. Hong Xiao, Ph.D., in the College of Pharmacy and Pharmaceutical Sciences, Professor and Director, Division of Economic, Social and Administrative Pharmacy (Research Excellence Award Recipient with plaque and $3K); and
5. Ramesh Katam, Ph.D., in the College of Science and Technology (formerly the College of Arts and Sciences), assistant professor, Department of Biological Sciences (Emerging Researcher Award Recipient with plaque and $2K).

A total of $16K in honoraria was distributed. “This occasion gave us an opportunity to say thank you to all investigators and to give an award to a few selected ones...so they may receive public recognition for their outstanding research accomplishments, hard work and sustained efforts,” said K. Ken Redda, Ph.D., Professor and Acting Vice President for the Division of Research.

This signet event continues the Institutional Researcher Awards sanctioned by the FAMU Faculty Senate in 2010. Since then, 19 faculty members have been recognized (including this year’s honorees). A multidisciplinary committee selected the five awardees from a nomination pool of 11 to represent three categories: Distinguished Researcher Award (plaque and $5K honorarium), Research Excellence Award (plaque and $3K honorarium), and Emerging Researcher Award (plaque and $2K honorarium). Evaluations of the nominees’ packets were conducted and finalists were interviewed this semester. Recommendations of research award recipients were submitted to the Office of the Faculty Senate.
The FAMU Diamondbacks Rocket team won the Altitude Award at the 2012 National Aeronautics and Space Administration (NASA) University Student Launch Initiative (USLI) Competition. This award, one of nine prizes offered at the competition, is given to the team that launches a rocket closest to one mile without going over. The FAMU Rocket, affectionately known as Blue Diamond, reached 5,270 feet, a mere 10 feet from one mile. The competition, which was held at Bragg Farms in Toney, AL, April 22, 2012 brought together 53 teams from all over the United States.

“I am very proud of the work the students did for this competition,” said Clement Allen, Ph.D., associate professor for the Department of Computer and Information Sciences and advisor for the team. “Each member of the team played a vital role.”

NASA’s USLI is a competition that challenges university-level students to design, build and launch a reusable rocket with a scientific or engineering payload to one mile above ground level, or AGL. The project engages students in scientific research and real-world engineering processes with NASA engineers.

In addition to designing, building and testing the rocket, the students also developed an Android App to communicate with the rocket while it is in flight. The App could query the in-flight rocket from the ground for information such as velocity, temperature, pressure, and humidity. The rocket’s onboard computer was programmed to send the information back to the App.

“I believe the team and I learned that hard work, commitment and perseverance can produce results that are beyond not only what others expect of you, but even what you expect of yourself,” said Benson.

For more information, contact Clement Allen, Ph.D., at (850) 412-7359.

See the launch on YouTube
http://www.youtube.com/watch?v=k5gCyqFJurE&feature=youtube_gdata_player

- Helen Keller
Due to the impact of the FGLSAMP model and associated program activities on Undergraduate Research for Minorities (URM) STEM retention and graduation rates, FGLSAMP participants are more likely to obtain some level of STEM graduate education. In an informal survey conducted, we found that approximately 77 percent of those surveyed had enrolled and/or completed various levels of STEM graduate study. This can be directly attributed to the experience and exposure students receive as a member of FGLSAMP.

**IMPACT on RESEARCH**

Research is a major factor in sustaining high STEM retention rates. The placement of FGLSAMP undergraduates, as well as, graduate scholars in academic year research experiences is a strategic component to achieving program implementation and institutionalization of FGLSAMP among alliance institutions. Data collected for the past nine years indicates that student research during the academic year plays a prominent role in improved academic performance, STEM retention and progression as shown in the table below.

<table>
<thead>
<tr>
<th>Internship Year</th>
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<td>2002-2003</td>
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<td>2009-2010</td>
<td>271</td>
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<tr>
<td>2010-2011</td>
<td>303</td>
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</tbody>
</table>
Bridge to the Doctorate (BD) Impact

The Bridge to the Doctorate (BD) Initiative has provided a significant impact and contribution to the FGLSAMP mission of increasing underrepresented students in STEM disciplines receiving STEM graduate degrees. The BD provides tremendous opportunities and support for students who wish to pursue and attain STEM PhDs.

FGLSAMP has had the privilege of hosting seven cohorts of the BD Initiative. The FGLSAMP BD program has experienced great success, in that, many of the BD fellows within the first four cohorts have continued beyond the master’s degree and have either completed their doctorates or are doctoral degree candidates. In addition, the FGLSAMP BD has made a significant contribution to the pipeline of underrepresented students poised to soon attain a STEM Ph.D. Florida State University (FSU) hosted the first FGLSAMP-BD cohort with an emphasis on the natural sciences and engineering. BD cohorts 2, 3, 4, and 6 were hosted by the University of South Florida (USF) and represented an effort to encourage underrepresented students to pursue STEM doctorates in marine sciences and engineering. These cohorts experienced great success, especially in its ability to recruit underrepresented students into disciplines that are greatly underrepresented by the minority class we serve.

The FGLSAMP BD can boast of an 82 percent retention rate. One contributing factor to the successful outcomes of STEMs is from the academic support structure provided by the host institutions in properly addressing and anticipating the stumbling blocks for many graduate students looking to attain Ph.D. degrees in STEM disciplines. Another contributing factor is that the institutions have embraced and are committed to the success of BD fellows in a holistic manner; providing support mechanisms that are designed for every stage of the graduate journey.

Drs. Ralph Turner, Verian Thomas and Maurice Edington serve as principal investigators and leaders for students at FAMU.

“Intelligence plus character - that is the goal of true education.”

- Dr. Martin Luther King, Jr.
The Florida A&M University Anti-Hazing Research Initiative – with Focus on Evidence-Based Measures awarded two grants in the amount $25,000 each over a period up to 24 months for faculty to conduct collaborative research across disciplines to study the nature and extent of hazing behaviors among campus organizations groups. The goals of the 2012 FAMU Anti-Hazing Research Initiative (AHRI) are to:

- Promote interdisciplinary approaches to study the nature and extent of hazing behaviors among campus student organizations, unofficial sub-groups and off-campus entities;
- Develop strategies that offer alternatives to hazing and promote respect and dignity;
- Develop novel approaches to eliminating fear of retribution and encourage unencumbered reporting when hazing incidents occur to include administrative structure, alignment and reporting; and
- Identify effective education, training and awareness mechanisms for existing students, faculty and staff as well as potential new entrants to the university community.

The deadline for submitting the AHRI proposals from FAMU faculty Principal Investigators (PIs) was set for Monday, April 16, 2012. “Although several groups were working with the DoR’s Office of Sponsored Programs over the last two months, only three ‘complete’ applications were submitted to our office by the April 16 deadline,” said K. Ken Redda, Ph.D., professor and Acting Vice President for Research. Two were eventually selected and awarded $25,000 each for two years. Awards were provided by the FAMU DoR.

1. DeAnna Burney, Ph.D., (pictured top right), Department of Psychology, in the former College of Arts & Sciences (now College of Social Sciences, Arts, and Humanities); Proposal: “Psychosocial Risk Assessment and Determinate Model for Hazing (PRADMH) Elimination.”

2. Jermaine T. Robertson, Ph.D., Department of Psychology, former College of Arts & Sciences; Proposal: “Exploring social, psychological, and cultural factors impacting hazing participation among African-American College Students.”

Dr. Robertson (standing) mentors psychology graduate student and former drum major with the famed FAMU Marching 100 in a faculty-student anti-hazing research initiative, designed to help eradicate the culture of hazing across institutions of higher learning globally.
The Research Centers in Minority Institutions (RCMI) Program at FAMU hosted a guest seminarian, Associate Professor of Chemistry, Glenn C. Micalizio, Ph.D., from the Scripps Research Institute of Florida in Jupiter for their spring 2012 Seminar Series. Held in the FAMU College of Pharmacy and Pharmaceutical Sciences (CoPPS), his seminar, entitled: “Metallacycle-Mediated Cross-Coupling: Reaction Development and Application in Stereoselective Synthesis” afforded participants an opportunity for future collaborations between FAMU and the Scripps Research Institute.

RCMI at FAMU

Since 1985, Florida A&M University (FAMU) Research Center in Minority Institutions (RCMI) funding has contributed significantly to enhancing the research infrastructure at FAMU by providing the needed resources, both human and fiscal, which has contributed to the hiring of skilled technical personnel, faculty, animal facility improvements, laboratory renovations, and the purchase of major pieces of scientific equipment. The RCMI Programs serve as a cornerstone for the University and the College and has contributed to the attraction and training of outstanding minority students, and faculty members. The continued support of the RCMI Program will allow FAMU faculty to strengthen their biomedical research capabilities to facilitate its entry into the mainstream-funding arena. For further information, please contact Distinguished Professor, Basic Pharmaceutical Sciences, RCMI Principal Investigator Karam F.A. Soliman, Ph.D. at (850) 599-3306 or karam.soliman@famu.edu.

In April 2012, Mareena Robinson was one of five students awarded the prestigious Stewardship Science Graduate Fellowship (SSGF), which is sponsored by the U.S. Department of Energy’s National Nuclear Security Administration. Robinson is a first-year doctoral student in the Department of Nuclear Science and Engineering, Massachusetts Institute of Technology (Cambridge, MA), with a focus on nuclear security. This fellowship program provides four years of outstanding benefits and opportunities to students pursuing a doctorate degree in areas of interest to stewardship science, such as high-energy density physics, low-energy nuclear science, or properties of materials under extreme conditions. Recipients receive payments of all tuition and required fees for up to four years of study, a $32,400 yearly stipend, a yearly academic allowance of $1,000, and an opportunity to complete a practicum at a national Department of Energy laboratory.

Robinson’s research currently focuses on the detection and measurement of radiopharmaceuticals, specifically N-13 ammonia, which is used as a tracer in Positron Emission Tomography. Using a compact high-field superconducting cyclotron, N-13 ammonia will be produced through high-energy proton collisions with O-16. Robinson’s role in the research is to develop a flow-through detection system that measures the amount and activity of the N-13 ammonia produced by this system. This research, once complete, will have immediate applications to the medical industry.
Robinson graduated with a bachelor’s degree in Physics from FAMU in 2011. Her major professor was the FAMU 2012 recipient of the Distinguished Researcher Award, Bidhan C. Saha, Ph.D., Professor of Physics, Director, Physics Graduate Committee, Co-PI of the National Science Foundation’s CREST Center for Astrophysical Science and Technology.

Professor and Acting Vice President for Research, K. Ken Redda, Ph.D., said that “this is the caliber of scholarship at FAMU that our undergraduates receive from nurturing faculty and supportive staff. It helps provide the necessary foundation for our alumni to excel in research and graduate programs wherever they may venture. Ms. Robinson is to be commended for this distinction as she successfully pursues her doctorate in the STEM areas.”


Story and image courtesy of www.famu.edu NEWS (May 31, 2012)

FAMU APPOINTS LONG-TIME ADMINISTRATOR AS NEW DEAN

“We welcome Dr. Thompson to this new role and believe that he has the expertise to help us fulfill our goals for the College of Pharmacy,” said former FAMU Provost Larry Robinson. “Through the years, Dr. Thompson has played a major role in making pharmacy a flagship program for this campus, the state, nation and world. We have great expectations.”

Thompson has worked in the FAMU CoPPS since 1981 when he was hired as an assistant professor of pharmacy practice. He was promoted to associate professor in 1987 and became a full professor in 2001. In 1996, he became assistant dean for Clinical Affairs. In this position, Thompson provided leadership and administrative oversight for the pharmacy practice division instructional centers in Tampa, Miami, Jacksonville and Tallahassee.

“I am delighted and honored to be the dean of the illustrious FAMU College of Pharmacy and Pharmaceutical Sciences,” said Thompson. “We are passionate about academic excellence, research superiority and service, which is the focus of our mission.”

Thompson’s research has focused on HIV therapeutic management and he has made more than 100 presentations at professional meetings on the topic.

He has received several awards including the Clinician of the Year award from the Florida Pharmacy Association in 2005. He is a graduate of the University of Michigan where he earned the bachelor’s degree in pharmacy and the PharmD. He began his tenure as dean on June 8, 2012.

“The best way to find yourself is to lose yourself in the service of others.”

- Mohandas Gandhi

Michael Thompson, PharmD, (pictured below) assistant dean for Clinical Affairs and professor of pharmacy practice at Florida A&M University (FAMU), has been appointed the new dean in the FAMU College of Pharmacy and Pharmaceutical Sciences (CoPPS).
BOSTON (November 16, 2011) — Road Scholar was pleased to award the Road Scholar Asa Grant Hilliard III Award for Lifelong Learning to Huberta Jackson-Lowman, Ph.D. (pictured below). The award provides $5,000 toward a learning adventure offered by not-for-profit Road Scholar, and honors the late Dr. Asa Grant Hilliard III, world-renowned Pan-Africanist, educator, historian, psychologist and advocate for learning through travel. Kathy Taylor, associate vice president at Road Scholar presented the award on behalf of Road Scholar and the Hilliard family during the National Alliance for Black School Educators (NABSE) Annual Conference recently held in New Orleans.

Dr. Jackson-Lowman is an associate professor of Clinical and Community Psychology and recent past Chair of the Department of Psychology at Florida A&M University. She is also a Certified Diplomate & Fellow in African-Centered Psychology. Dr. Jackson-Lowman’s research interests include using African proverbs as a socialization tool with African-American children; examining the use of proverbs as a tool for value transmission among African-American elders; the relationship between cultural identity, spiritual orientation, and the mental health and psychological functioning of African American women and factors impacting African-American male-female relationships. She is also interested in multi-cultural clinical and community intervention methods.

Road Scholar awards this competitive scholarship annually to an educator with at least 10 years of experience, who is a member of NABSE; a member of Association for the Study of African-American Life and History (ASALH); is on the faculty of a Historically Black College or University; is a professor of African-American studies; or is a supporter of lifelong learning. The scholarship provides an opportunity to experience a Road Scholar program anywhere in the world.

“The Road Scholar Asa Grant Hilliard III Award for Lifelong Learning honors the legacy of a true lifelong learner. Through this award, Road Scholar is delighted to recognize an educator who shares our commitment to promoting lifelong learning,” says James Moses, president and CEO of Road Scholar. “We are pleased to recognize Dr. Jackson-Lowman’s longstanding dedication to her field and look forward to welcoming her on a Road Scholar adventure.” To learn more, please visit www.roadscholar.org.

Road Scholar Attribution Contacts:

Stacie Fasola: (617) 457-5418 or
Despina Gakopoulos: (617) 457-5502
newsmedia@roadscholar.org
R. Renee Reams, Ph.D. (far right), is a biochemist and tenured professor in the FAMU College of Pharmacy and Pharmaceutical Sciences. Her research interests in metal neurotoxicity and genomics of prostate cancer health disparity, have allowed her recent identification of a gene that shows promise as a biomarker for aggressive prostate tumors (Reams, et al, Infect Agent Cancer 2011, Sep 23:6 Suppl 2: S1). In her efforts to understand the genetics of prostate cancer aggressiveness in African-American Males, she is a founding member of the Prostate Cancer Transatlantic Collaborative (CaPTC). The CaPTC is comprised of a team of scientists and clinicians from the United States (US), the United Kingdom (UK), the Caribbean and West Africa. The CaPTC is an active research training and community outreach collaboration with focus on the global CaPTC problem among Black Men of African Ancestry.

THE FLORIDA A&M UNIVERSITY STUDENT RESEARCH FORUM

PURPOSE: The purpose of the annual university-wide Student Research Forum is to provide an opportunity for scientific exchange of a variety of research topics including biomedical and behavioral, technology, engineering, math/computers and agriculture between Florida A&M University student investigators, their research associates, academic peer students, invited guests faculty, administrators and the university community in general. The annual forum allows us to set aside one day to organize and showcase state-of-the-art student platform/poster presentations. Many FAMU students who are first time poster presenters utilize the forum as a dress rehearsal for national and international conferences they are scheduled to attend. FAMU forum participants disseminate their current original research findings and defend their hypothesis-driven research topics to faculty judges and peer students who visit their posters during a three hour presentation period. Judges engage in open discussion so student participants can receive appropriate input to improve their delivery and research design and interpretation; where applicable.

BRIEF REPORT OF THE 2012 FAMU STUDENT RESEARCH FORUM: The forum posters topics covered the areas of biological sciences, physics/engineering, chemistry STEM, nanoscience, and clinical/population studies. The posters proved to be highly successful; very educational and served as an excellent recruitment tool for identifying students desiring a clinical or laboratory research experience. It should be noted that “2012” marked thirty-two continuous years, without interruption, that the FAMU Student Research Forum has been organized for our students. A total of 12 of the 26 student participants were identified as 1st, 2nd or 3rd place winners of cash prizes ($300, $200 and $100) for best poster presentations in their respective category.

“Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less.”

- Madame Marie Skłodowska-Curie, Nobel Laureate, Chemist and Physicist
Annually, the FAMU Student Research showcases the best and brightest research outcomes of students in STEM disciplines, as well as including social, behavioral and educational leadership research findings.
IN VIVO STUDY: DEVELOPMENTAL ALTERATIONS OF PRIMARY RAT NEURONAL AND GLIAL CELL CULTURES FOLLOWING PRENATAL COCAINE EXPOSURE
MARQUITA JOHNSON, TRACY WOMBRE, BYRON AGUILAR, AND CARL B. GOODMAN, FAMU COLLEGE OF PHARMACY AND PHARMACEUTICAL SCIENCES NEUROSCIENCE SECTION

Under the tutelage of principal investigator Carl Goodman, Ph.D. (left inset), and in FAMU’s Drugs of Abuse Laboratory, Tracy Womble, Ph.D., (far right), doctoral student, Marquita L. Johnson is preparing primary neurons and glial cells for protein analysis. Here within, Ms. Johnson treated Sprague-Dawley rat pups in utero, then through mechanical and chemical digestion, isolated neurons and glial cells from the whole brain in order to investigate structural and biochemical alterations in the brain following prenatal cocaine exposure.

“An education isn’t how much you have committed to memory, or even how much you know. It’s being able to differentiate between what you know and what you don’t.”
- Anatole France
Seth Y. Ablordeppey, Ph.D., a Professor of Medicinal Chemistry in the College of Pharmacy and Pharmaceutical Sciences, received a United States patent (No. 8,158,646) for extensive modifications to the drug Cryptolepine. Preliminary tests indicate the new compound will be effective at treating infections commonly found in HIV/AIDS, chemotherapy, and organ transplant patients. In addition, it has fewer side effects than several currently used drugs.

“This research has been in the works for more than a decade and I am grateful to FAMU for providing the environment and opportunity for this discovery,” said Ablordeppey. “With the discovery of these new agents we hope to deal one more blow to the opportunistic infections that continue to wreak havoc in our communities.”

Cryptolepine is a series of compounds derived from a native plant of Ghana, West Africa (Ablordeppey’s native nation). According to the Centers for Disease Control, opportunistic infections that attack weakened immune systems have become increasingly problematic in the United States. When compared to drugs currently on the market, the high potency and fewer side effects associated with the new product could ultimately combat this problem.

This is Dr. Ablordeppey’s second patent in two years. In 2010, he received a patent for developing the “Haloperidol Analogs,” a compound for treating mammals suffering from psychosis.

Part of this story’s attribution can be found at www.famu.edu/NEWS.
Registration witnessed 45 participants who interacted with guest speaker, Anton Hopen, J.D. (left) of Smith and Hopen. PA shared insight at the FAMU DoR’s Office of Technology Transfer, Licensing and Commercialization (OTTLC) seminar: “Pitching University Technology” during the Spring 2012 semester. Hopen, a partner at Smith & Hopen, U.S. Registered Patent Attorneys, is Board Certified by the Florida Bar in Intellectual Property Law, one of only 126 attorneys to hold this distinction. His clients have generated hundreds of millions of dollars in mergers and acquisitions based on intellectual property secured through his firm.

Co-presenter, Nilay Choksi, J.D. (right) shared some of his experiences from his work with Coca-Cola’s Division of Patents & Trademarks, where he counseled future IP litigation and prosecuted a Coca-Cola patent application for green bottling material.

Mr. Choksi also worked in the Technology Transfer Office for the U.S. Centers for Disease Control & Prevention in Atlanta. At the CDC, he performed patentability analyses and drafted licenses for the CDC’s IP. Additionally, Mr. Choksi participated in Emory’s IP certificate program, allowing him to work directly with doctorate students and technology startups to commercialize their innovation through IP and business means.

Attendees benefitted from the interactive presentation which highlighted the value of university developed technology. Photos by James L. Morán, Ph.D., FAMU CoPPS.
FAMU RESEARCHER WORKS COLLABORATIVELY IN AUSTRALIAN PROTEOME ANALYSIS FACILITY (APAF)

Ramesh Katam, Ph.D. (left) assistant professor in the department of biological Sciences, and 2012 FAMU Emerging Researcher of the Year Award Recipient, visited an Australian premier proteome facility located at University of Macquarie near Sydney. This facility is the world’s first dedicated high throughput proteomics laboratory since 1995. Dr. Katam was awarded the National Science Foundation grant to visit and conduct experiments in APAF muscadine grapes. He has recently published his research on the Muscadine grape in Annals of Applied Biology in collaboration with Center for Viticulture and Small Fruit Research, College of Engineering Sciences, Technology and Agriculture (now College of Agriculture and Food Sciences). He characterized and identified several unique proteins in the muscadine grape leaf and compared the leaf proteome profile with other grape cultivars. Muscadine grapes are well known for their nutraceutical compounds and they are known for tolerance to most diseases and abiotic stresses, while most viniferas are susceptible to both biotic and abiotic stresses. The goal of his research was to sequence muscadine genome and characterize the molecules including proteins and genes unique to muscadines. This research will provide resources to enhance the traits in popular grape cultivars. This research will also provide the insight of anticancer and antioxidant components and their metabolic path in the muscadine grape. Dr. Katam conducted proteome sequence using high throughput Mass spectrometry available at APAF on Muscadine grape tissues. He is currently analyzing the sequences using computational tools. This methodology can be widely applied to various organisms to study the molecular components.

Dr. Katam believes that this collaborative effort will enhance his research program and furthermore, help in providing platform to train undergraduate students through scholar exchange program. His lab at the Department of Biological Sciences is engaged to train undergraduate students. He is geared to provide training to the minority students during the summer’s Research Experiences for Undergraduates (REU) Program funded by the National Science Foundation.

BIOLOGY STUDENT SLATED FOR SYMPOSIUM

Medical University of South Carolina (MUSC) has been hosting the Ernest Everett Just Scientific Symposium for the last twelve years. MUSC has sponsored the participation in the symposium of various universities, primarily HBCUs. For the past three years the Department of Biological Sciences has been attending the Ernest Everett Just Symposium in which students gained very valuable information about getting into graduate and health care professional areas such as medical, dental and pharmacy. This year Professor Titus A. Reaves, Ph.D., decided to have a contest and asked each school that will be in attendance to present a research paper that could possibly be presented at the symposium. The Biology Department is very proud to announce Henrietta Fasanya as the winner of the research paper contest. Henrietta will be representing the Department of Biological Sciences as she presents her research presentation on “Single Nucleotide Polymorphism (SNP) and Gene Expression Analysis of Phytoene Synthase 1 and 2.”

Henrietta Fasanya is an undergraduate student in biology with an overall GPA of 3.89 and her major advisor is Ms. Letina Banks.
The FAMU Center for Water and Air Quality held a one-day workshop on small/rural watersheds in the southeast United States. The workshop focused on issues, problems and management of small/rural watersheds in the Southeast. Some research topics of discussion included the effects of land-use changes, climate change and socioeconomic factors on water quality and water quantity on such watersheds. Workshop attendees consisted of small/limited resource farmers, extension workers, research scientists, university faculty, staff, students, environmental concern groups, state and federal workers involved in water resource challenges and rewards. Approximately 75 people attended this workshop. Some of the participants are pictured below in front of the FAMU Teleconference Center.

FAMU also received an award from the National Science Foundation for $280,000 to continue to host the Tri-Regional Information Technology Program (Tri-IT). Tri-IT is an alliance of three colleges—Florida State College at Jacksonville, FAMU and Seminole Community College. The goal is to engage female high school students interested in technology and encourage them to consider college degrees and careers in the field of information technology (IT). It is an “afterschool” type program that teaches students about the latest and greatest technology. “This program, along with the African American Women in Computer Science (AAWCS) scholarship program and the STARS Alliance, has established FAMU as a leader in addressing the shortage of minority women in IT,” said Jason Black, Ph.D., Co-Principal Investigator.
Huijun Li, Ph.D., NCSP, an assistant professor in the Department of Psychology, received an R21 grant from NIH April 6, 2012. The title of her research project is “Broadening the Investigation of Psychosis Syndrome of Different Cultures.” Here is a link to a media release on Rattler Nation: http://rattlernation.blogspot.com/2012/04/famu-professor-is-awarded-250k-grant.html.

Dr. Li left Harvard University for Florida A&M University to continue her research on mental illness. “The research focus of the faculty members in the FAMU psychology department matched my interests,” said Li. “So, it is relatively easier for me to build research collaborations here compared to Harvard. From the teaching, research and the resources… I think it was a very good choice for me to come to FAMU.”

Dr. Li also has a $250,000 grant to study mental illness in young people, funded by the National Institutes of Health to examine mental health disparity issues among adolescents and youth on an international domain. During the next two years, FAMU will collaborate with the Shanghai-Mental Health Center in Mainland China and Harvard Medical School to build research capacity in a low-to-middle income country.

Pamela K. Bowens-Saffo, MFA, is visiting assistant professor of Printmaking in the Department of Art, College of Arts and Sciences (now the College of Social Sciences, Arts and Humanities) had her creative research and CD-Cover design of the “Black Madonna” for Jazz Composer Geri Allen as a National/International distribution by Motema Music Inc. New York, NY. This wonderful holiday music is also available at kabuyapbowens.com she acknowledges Florida A&M University.

This fall semester 2012, Professor Bowens-Saffo is commissioned to create a series of prints commemorative of civil rights activist, Dr. Margaret Burroughs, Founder DeSable Museum, Chicago, Illinois.

Charlie Colquitt, PharmD, clinical pharmacist, Community Health Centers of Pinellas, Inc. and assistant professor of Pharmacy Practice, FAMU College of Pharmacy and Pharmaceutical Sciences facilitated two research projects that were presented at the American Society of Health-System Pharmacist Mid-Year Meeting in New Orleans, LA in December 2011. Poster projects were presented by six-year pharmacy students. Colquitt was principal investigator on both projects.
LaRa Donnellan, Ph.D., School of Journalism and Graphic Communication (SJGC) published a paper titled “Using Web 2.0 Technologies to Facilitate Student Learning: A Collaboration between Universities” in the International Journal of Technology, Knowledge and Society. The co-author is Mitzi Lewis at Midwestern State University in Wichita Falls, Texas. Here is the link: http://ijt.cgpublisher.com/product/pub.42/prod.775

Professor Andrew Skerritt, SJGC, is editing and coordinating the International Press Institute’s annual press freedom report involving more than 50 African countries. Students in several journalism and graphic classes have contributed research and design work for the project that will be published later this year. Journalism Division Director Dorothy Bland also served as a contributing editor/writer for the project.

Professor Andrew Skerritt, author of Ashamed to Die: Silence, Denial and the AIDS Epidemic in the South, was a featured speaker at the Virginia Festival on the Book in March 2012 and South Carolina Book Festival in Columbia, SC, in May 2012.
FLORIDA A&M UNIVERSITY SCHOOL OF ALLIED HEALTH SCIENCES DIVISION OF HEALTH INFORMATICS AND INFORMATION MANAGEMENT (HIIM)

Research Highlights and Accomplishments 2011-12

Alumni:
• Cortnie Simmons serves as Chair of the Florida Health Information Management Association ICD-10 (International Classification of Diseases, 10th revision) Task Force.

Students:
• Participated in the FAMU Grape Festival in August 2011.

Dr. Marjorie H. McNeill:
• Awarded Fellowship in the American Health Information Management Association.
• Recertified as an American Health Information Management Association Approved ICD-10-CM/PCS (International Classification of Diseases, 10th revision, Clinical Modification/Procedure Coding System) Trainer.
• Serves on the Florida Health Information Management Association ICD-10 (International Classification of Diseases, 10th revision) Task Force.
• Serves as a mentor in the Florida Health Information Management Association Bridging the Gap Mentorship Program.
• Served as faculty on the Florida Health Information Management Association workshop titled “Running the 10K Marathon 4 ICD-10” in July 2011 and January 2012.
• Presented “Florida Health Information Management Association Update,” to the Northwest Florida Health Information Management Association, August 5, 2011.
• Serves on the Tallahassee Community College Advisory Board for Health Information Management.
• Served as a textbook reviewer for Delmar/Cengage Learning publishers.
• Facilitated program on “RHIA Certification Examination” at the 2012 Consortium of Baccalaureate and Graduate Health Informatics and Information Management Educators.

Dr. Lauralyn K. Burke:

Prof. Lontejuana S. Cooper:

All HIIM Faculty:
• Launched the FAMU Health Informatics and Information Management Continuing Education Series and presented the following programs for area health information professionals and physician office managers:
  • How to Get “Useful Meaning” Out of “Meaningful Use” Requirements – October 21, 2011 and March 23, 2012 – Lauralyn Burke
  • ICD-10-CM: Everything You Need To Know Now – October 21, 2011 and March 23, 2012 – Marjorie McNeill
  • Conducted a review workshop for graduates studying for the RHIA certification examination October 7, 2011.
Florida Agricultural and Mechanical University (FAMU) actively engages in research, training, development, and grants amassing 215 in current activities throughout FAMU’s academic units. During fiscal year 2011-2012 FAMU investigators submitted 221 contracts and grants totaling over $111.8 million. The amount of awards received totals over $40.2 million with expenditures from verified financial statements over $47.7 million.

The collaborative proposals awarded are typically funded annually by external sources consisting of local, private, state and federal agencies, including the U.S. Department of Commerce, U.S. Department of Health and Human Services, National Institutes of Health, National Science Foundation, U.S. Department of Agriculture, U.S. Department of Defense, U.S. Department of Education, and U.S. Department of Energy, as well as other diverse agencies. The illustrations herewith provide data on proposals, awards, and expenditures.
Total Research Expenditures
July 1, 2011 to June 30, 2012

Total Expenditures: $47,745,752.52

Federal
$44,117,895.21

Other
$1,574,160.48

State
$2,053,696.83

Research Awards Received for July 1, 2011 to June 30, 2012

Grand Total: $40,252,687
### 2011-2012 Awards by Funding Agency

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FAMU LINEBACKER BRANDON HEPBURN PUTS HIS PASSION INTO RESEARCH

By St. Clair Murraine
Tallahassee Democrat staff writer

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At the end of almost every workout since spring practice began two weeks ago, Florida A&M linebacker Brandon Hepburn gathers the defensive unit, his voice bellowing over the circle of helmets.

Seldom does his talk last more than a few minutes, but it’s important, he insists.

“I’m a high-intensity guy,” he said. “I know a lot of times people get into a monotonous rut. As a leader, it’s my responsibility to make sure that my teammates are prepared to play. I do my best to encourage them through the intensity to get them super-charged.”

He has the same attitude when it comes to his studies in biochemistry. Hepburn was just as wired last week when he presented the results of his findings for a cure for cancer to an international audience at the American Chemical Society conference in Dan Diego, Calif.

In a nutshell, Hepburn, who is part of a collegiate research team, said he is on a mission to prove that the death of cancer cells could be induced in part by using copper. So far in his very preliminary stage of research, he’s proven his case in rats with cervical cancer.

The impetus for taking on the laborious task is the death of his grandmother, who succumbed to cancer six years ago, he said.

“I believe we will find a cure,” he said. “There are many ways to go about killing cancer. Chemotherapy is well known, but in my opinion I don’t think it’s the best option. I believe that cancer can be conquered through research.

“Thorough the wisdom that God has given us, I believe it will be conquered within the next decade. If research continues the way that it is and we as a country continue to fund it, I believe that we will drastically see a decrease in the number of people who have cancer.”

Of course, as is the norm in science, there are questions that will have to be answered by the team of researchers that Hepburn is a part of. Some of them could come from the American Chemical Society, which could accept or reject the findings. Another option is that the research could be given a pending status.

Hepburn is optimistic about his initial steps.

"Without getting too technical, we found out what we needed to find out," said Hepburn, who is in his senior year as a biochemistry student at FAMU. "We ask the question: How can we kill cancer? We have a certain suggestion for that. We tested that suggestion, then there are a lot of other things that need to sure up before you move on to living systems. We are in the process of answering each of those questions."

Hepburn intensified his research last summer when he completed an internship at the University of North Texas. He was one of a handful of science and chemistry students accepted for the Research Experience for Undergraduates program.

His passion during the internship fascinated his classmates and instructor.

"He came in ready to go," said Alesha Harris, a science doctoral student who worked with Hepburn at UNT. "He was a self-starter; motivated. He put a lot of hours in and he learned a few techniques.

"Hopefully, we can take the information and data that he got and expand on it so that we can be closer to having some kind of drug to be used for cancer therapy."

Hepburn has become a poster child for football coach Joe Taylor. Since his arrival at FAMU four seasons ago, Taylor has touted Tim Benson as an example of what he is about as a football coach. Benson played tight end for Taylor at Hampton University and later joined the faculty at Harvard.

"He might have to slide over now because this guy (Hepburn) is taking the lead as probably one of the most prominent students-athletes that I’ve ever coached," Taylor said. "To be doing research on cancer — not only is he making a difference on this campus, his family’s life, but that’s national. In fact, that’s international. To have a young man contributing at that high a level, we are just extremely proud."