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.

Mission Statement
Florida A&M University is committed to inspirational teaching and exemplary research through creative partnerships at the local, state, national and global levels. The Division of Research seeks to:

- support the economic development agenda of the state and region;
- offer superior support services to faculty, staff and students to pursue their research endeavors;
- encourage collaboration and interdisciplin ary research activities both on and off campus;
- promote excellence within the academic programs and support areas;
- establish national and international partnerships in research;
- effectively protect, manage and market intellectual property; and
- ensure the highest level of fiscal responsibility in grants management.

FAMU is an Equal Opportunity/Equal Access University.
www.famu.edu
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FAMU Office of Communications
All other collaborators and contributors
Dear Supporters:

On behalf of Florida A&M University (FAMU), thank you for your interest in the Division of Research (DOR) 2011 Annual Report. With a goal of receiving $100 million in research and training awards by 2020, FAMU is poised to continue its longstanding legacy of excellence in all we do.

It is my hope that this annual report will help you reflect on the robust research FAMU is engaged in on various levels throughout the institution. With the aid of a bold initiative known as the FAMU 2020 Vision with Courage strategic plan, this report expounds on many of our accomplishments to include recognition as a Doctoral Research University by The Carnegie Foundation for the Advancement of Teaching. As a result of your unyielding support and service to FAMU, our DOR has established a lasting mark of excellence for researchers everywhere to emulate for years to come.

Again, thank you for your continued support as you enjoy the rest of this informative publication.

Sincerely,

James H. Ammons
President

FAMU is an equal opportunity/equal access university
Dear Supporters:

The Super Achievers come to mind when we acknowledge and celebrate the many accomplishments of the Florida A&M University (FAMU) Division of Research (DoR) during the fiscal year: July 1, 2010 through June 30, 2011. The tremendous talent pool of our competent faculty contributes to this 2011 Annual Report to no end. Excellence in a new era places FAMU’s DoR on a platform that requires attention.

Committed to and involved with raising the bar, the DoR has shown itself to be collegial and translational research is regularly shared within the Office of Academic Affairs, and throughout the University’s academic units, and abroad. Serving as home to the vicissitudes of teaching, research and service encounters at FAMU, we’re proverbially poised to “strike while the iron is hot,” in that we’re capturing and capitalizing on the momentum required to develop the millennial FAMUan.

Passing the baton onto our administration, faculty, staff, students and stakeholders, alongside our supportive community at large, allows us all to become more deliberate in facilitating fiduciary ways for the betterment of FAMU through research and training inside and outside of our classes and yes, for our extended masses.

From what we have experienced, we know in order to grow our research enterprise and other academic undertakings to deeper dimensions, the Office of Academic Affairs and the Division of Research, along with all of our academic units are natural collaborators. Many of our faculty with advanced degrees and doctorates help inculcate the beliefs, attitudes and values essential to our progressive graduate student enrollment and graduation. This goes a long way in initiating new programs of study directly linked to research opportunities while benefitting from encouraging mentoring sessions; the correlation is unequivocally supported.

The Office of the Provost and Vice President for Academic Affairs offers its total backing to the DoR in the flourishing development of FAMU’s research initiatives. As we recognize that relationship-building takes well-invested time, the FAMU Office of Academic Affairs is privileged to work cooperatively with the FAMU Division of Research in establishing and maintaining lifelong partnerships with awarding agencies, literally from around the globe. The manifestation of FAMU’s actualizing the 2020 Vision with Courage Strategic Plan of $100 million in research and training gifts is just on the horizon; part of that reality is evident within the pages of this 2011 Annual Report.

Sincerely,

Cynthia Hughes Harris, Ph.D.
Provost and Vice President for Academic Affairs
Greetings FAMU Supporters:

Thank you for your objective review, as you begin to turn the pages of this 2011 Annual Report from the Florida A&M University (FAMU) Division of Research (DoR). Implementation is one catch-all phrase for the FAMU DoR, as we march to the tune of our illustrious president’s leadership and our earnest manifesto of acquiring $100 million in research and training awards by 2020.

Now with dwindling state funds and intensely competitive federal criteria, we are forced to do more with less. We are working diligently to meet our expected goals and objectives in order to maximize the research and training experiences for all of our faculty and students. Nowadays, every research institution is striving to adapt trilateral research approaches, wherein academia, industry and government work together for greater impact on the citizenry we serve. We are still inspired by new findings and discoveries on a regular basis.

Inevitably, the more effective proposals we write, the more awards for beneficial partnerships we will produce. We must engage in more collaborative undertakings to continue to inspire our students to expand our research opportunities and partnerships. Please visit www.famu.edu (click on the “research” link) and continue to communicate with our offices for further assistance; we’re in this together! We appreciate your continual, active participation and resolute support. Together, we embody research Excellence With Caring!

Sincerely,

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

FAMU is an equal opportunity/equal access university
FAMU APPRECIATION LUNCHEON HONORS CONTRIBUTORS TO THE RESEARCH COMMUNITY

L-R: Drs. K. Ken Redda, Subramanian Ramakrishnan, Mushiyu R. Musa, Charles A. Weatherford, James H. Ammons (FAMU President), Lamert H. B. Kanga, Jiang Lu, Nazarius S. Lamango and Donald Palm.

With President James H. Ammons, Ph.D. serving as keynote speaker, the Florida A&M University (FAMU) 2011 Principal Investigator Appreciation and Researcher of the Year Awards Luncheon took center stage on Friday, April 22, 2011 in the Foster-Tanner Band Rehearsal Hall from 11:30 a.m. to 1:30 p.m. Six principal investigators were honored for their respective research accomplishments.

Themed: “The Recognition of Research Excellence With Caring,” this event continued the Institutional Researcher Awards, sanctioned by the FAMU Faculty Senate. The selection process for the principal investigators (PIs) was a rigorous undertaking by a 13-member multidisciplinary committee.

The six individual award recipients were selected from a nomination pool of 11 and designated honorees in three categories. Evaluations of the nominees’ packets were conducted and finalists were interviewed during the Spring 2011 semester. Recommendations were submitted to the Office of the Faculty Senate. A total of $18,000 was awarded during the presentation, courtesy of the FAMU DoR. Professor and Acting Vice President for Research K. Ken Redda, Ph.D., highly commended the intense process, “I congratulate all Principal Investigators (PIs) and kudos to the six outstanding FAMU researchers. This is an important event for all principal investigators at our great institution. I am truly grateful that our illustrious President has chosen this day in appreciating and rewarding investigators for their hard work and dedication in carrying out research, training and public service through the generation of extramural funding. He is the first FAMU President to reward PIs in a meaningful way.”

DoR
MOLECULAR MODELING OF PHIP AT THE ANDROGEN RECEPTORS

Here the configuration of PhIP is in the binding domain showing how the compound PhIP fits in the binding pocket of the Androgen Receptor. All receptors have a certain area on them (binding domain) that ligands (compounds) will bind.

This image shows amino acids PhIP interacting within the ligand binding domain. The pink and blue structure is PhIP, the surrounding muti-colored three-letter and number character structures are amino acids of the nucleotide sequence actually interacting with PhIP in that domain.

Prostate cancer is the most common malignancy among men, where one out of six men in the industrialized world will develop this disease during their lifetime. The etiology of prostate cancer remains unknown, however research has shown that there are certain factors that are involved in this biological process. Epidemiological and preclinical studies suggest that environmental factors are likely contributors to the initiation and progression of prostate. Equally with environmental factors, many dietary factors influence the incidence of this cancer.

2-amino-1-methyl-6 phenylimidazo [4,5b] pyridine (PhIP) is a dietary mutagenic procarcinogen that not only induces the formation of DNA adducts, but is capable of inducing tumors in the colon, mammary, and prostate glands. The normal development and maturation of the prostate gland, as well as early progression of prostate cancer, is dependent on androgens acting on the androgen receptor (AR). The actual mechanism by which PhIP interacts with our biological system and its potential interaction at the AR has yet to be fully defined. Our research lab seeks to evaluate the interactions of PhIP and to identify molecular events associated with PhIP-mediated disruption of AR function in LNCaP cells.

Using molecular docking simulations, we have identified a possible binding mode of PhIP to the AR based on the predicted binding free energy when compared to dihydrotestosterone (DHT). Our docking results indicate that PhIP may play an important role in modifications of AR gene expression. Additional studies using receptor-binding technique will be used to confirm the modeling data. Identifying the binding mode of a compound to a target receptor has tremendous potential as a means of determining the pathogenesis, detecting disease markers and potential targets for drug therapy in prostate cancer.

Story courtesy of M.M. Glass-Holmes, B.J. Aguilar, E.T. Oriaku, Ph.D. and C.B. Goodman, Ph.D. FAMU College of Pharmacy and Pharmaceutical Sciences, Pharmacology-Neuroscience Section

This research was presented at the 12th RCMI International Symposium on Health Disparities on December 8, 2010 in Nashville, TN and supported by NCRR/RCMI G12 RR03020, NIGMS/MBRS/SCORE GM08111, and HRSA SD34HP0 4018
FAMU students, along with a NASA official conduct an experiment aboard the NASA Zero-gravity aircraft at NASA Johnson Space Center’s Ellington Field.

FLORIDA A&M UNIVERSITY’S WEIGHTLESS STUDENTS RETURN TO EARTH

After testing their self-designed and constructed experiments on-board a gravity-defying aircraft, five FAMU students and one faculty member evaluated their data after experiencing weightlessness at NASA Johnson Space Center’s Ellington Field in Houston, TX earlier this year.

Brian Johnson and Victoria Moore [both Computer and Information Sciences (CIS) majors], Paolo Clavijo and Stacy Tinner (both Electronic Engineering Technology majors), Obie Abakporo (Mechanical Engineering major), and Clement Allen, Ph.D. (Computer and Information Sciences faculty) collaboratively participated in NASA’s Reduced Gravity Education Flight Program (RGEFP), which gives teams of undergraduate students from across the nation the opportunity to propose, design, build, fly and evaluate a reduced gravity experiment. The team was selected from over 70 proposals based on scientific merit and education outreach potential.

The team tested their experiment aboard NASA’s “Weightless Wonder,” a microgravity aircraft that can produce periods of weightlessness lasting 18 to 25 seconds at a time by flying a series of about 30 parabolas – a steep climb followed by a free fall – over the Gulf of Mexico.

The student team flew their experiment, “Pseudo-Gravity Application for Autonomous Mobile Robot in a Microgravity Environment,” at Ellington Field from June 21-22, 2011. This experiment accomplished testing a robot that could create its own gravity in a weightless environment using a series of propellers, enabling the robot to remain grounded and traverse a surface even when there is reduced gravity. The team will issue a final report to NASA later this year after the flight analysis of the experiment’s effectiveness, scientific findings, and the conclusions that were drawn from the results are completed. DoR
FAMU TEACHERS FOR A NEW ERA

“To do real and permanent good in this world.” —Andrew Carnegie, The Gospel of Wealth, 1900

At FAMU, the Teachers for a New Era (TNE) Initiative continues to address the radical re-design of teacher education and the improvement of teaching and learning across the entire FAMU campus. Three partnering Historically Black Colleges and Universities (HBCUs): Bethune Cookman University, Florida Memorial University and Edward Waters College also continue with the redesign effort. In its final three years of operation (2008-2011), the Initiative focused on activities approved by the Academy for Educational Development and the Carnegie Foundation of New York. Major areas to continue include sustaining and institutionalizing prior TNE outcomes, while completing Numeracy and Literacy Inventories, promoting strong academic clinical practice through teacher induction, related research and use of data and external evaluations.

As evidenced by the areas of focus, continuing contributions will support the institution’s revised vision “to become internationally recognized as a premier land grant and research institution committed to exemplary teaching, research and service, preparing transformational graduates with high ethical values dedicated to solving complex issues impacting our global society.” In addition, TNE efforts infused into the College of Education, the College of Arts and Sciences, the School of Business and Industry as well as the College of General Studies/Office of Retention and Institutional Effectiveness Units will continue to be driven by the University’s mission as a “land-grant institution dedicated to the advancement of knowledge, resolution of complex issues and the empowerment of citizens and communities.” As further provided in the mission statement, TNE infused structures and priorities will maintain “a student-centered environment” that is consistent with the University’s core values of “Scholarship, Excellence, Openness, Fiscal Responsibility, Accountability, Collaboration, Diversity, Service, Fairness, Courage, Integrity, Respect, Collegiality, Freedom, Ethics and Shared Governance.”

GRANTEES

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© Carnegie Corporation of New York was created by Andrew Carnegie in 1911 to promote “the advancement and diffusion of knowledge and understanding.” Additional support provided by Annenberg and Ford Foundations.
OFFICE OF INTERNATIONAL AGRICULTURE PROGRAM ACCOMPLISHMENTS

Student International Scholarships - The Office of International Agriculture awarded 10 international travel stipends to College of Engineering Sciences, Technology and Agriculture (CESTA) and College of Arts and Science students to participate in international studies to Europe and South Africa totaling $32,500 during the Spring and Summer semesters 2011. These stipends were provided through grant funds from the U.S. Dept. of Education, Fund for the Improvement of Postsecondary Education and the U.S. Dept. of Agriculture National Institute for Food and Agriculture 1890 Capacity Building Program.

Internationalized AGR 4905 Course - New international content on Land and Agrarian Reform in South Africa introduced to the course and a three week faculty and student immersion to South Africa included as part of the course content.

Faculty International Professional Development - Four College of Agriculture Faculty conducted international agricultural development research and training in South Africa working with historically disadvantaged farmers to increase income and food security as part of the South Africa Farmer to Farmer Program. Drs. Neil James, Dreamal Worthen, Kome Onokpise, Raymond Hix.
FAMU and FHU students attended a lecture where a farmer explains the quality and expectations he has for his employees.

New Contracts and Grants 2010:
$500,000 in new Grants and Contracts procured in 2010

FIPSE US-EU Atlantis Mobility Program:
Funding: $180,000
Funding Period: 09/01/10 - 08/31/14
Project Activity Title: Meeting Consumer Needs for Safe High Quality Food Products.

Major Accomplishments:
Three CESTA Agricultural Science Students successfully completed a semester abroad program at Institut Polytechnique LaSalle Beauvais –France during Spring Semester 2011. Each student received a $5000 travel and language skill scholarship. Certificate in International Agriculture is being developed for the (now) College of Agriculture.

USDA NIFA Capacity Building Joint Teaching Program:
Funding: $300,000
Funding Period: 09/2010
Project Title:
Study Abroad: Achieving an International Perspective on Agriculture & Natural Resources in South Africa

Major Accomplishments:
Offered Summer 2011 semester AGR 4905: Problems in Agronomy course with international content.

Seven students and three faculty from AGR 4905 course spent three weeks in South Africa as part of the international agriculture Capacity Building grant. During the three week immersion students studied the Issues of Land reform and its impact on the Socio-economic development in Rural Areas of South Africa. DoR

(OIA) New Staff Members:

Nandkumar Divate, M.S.
Joined October 2010
Position: Agriculture Development Specialist
FAMU South Africa Farmer to Farmer Program – FL Headquarters Office
Mr. Divande is a Spring 2010 graduate of the College of Agriculture Masters Program in Agricultural Sciences.

Joshua Green
4th Year International Agriculture and Business major won 2nd Place at the Professional Agricultural Workers Conference at Tuskegee University –December 2010.
SOUTH AFRICAN IMMERSION: A STUDENT PERSPECTIVE FROM THE FAMU SCHOOL OF JOURNALISM & GRAPHIC DESIGN

I was awarded the opportunity to study abroad this summer in the Western and Eastern Cape of South Africa. My objective was to achieve an international perspective on agricultural branding through the study of Land Reform Issues that are between the government and the people of South Africa. The Office of International Agriculture asked each of the seven Florida A&M University students to relate the experience back to their field of study. Graphic designers have the task of communicating a message to a particular audience through a visual medium. With the ever-changing advancement of technology in the field of agriculture, there is a growing need to brand and market new products. I was inspired by the FAMU Green Coalition to research sustainable ways to produce greener designs and find improvements in the production of product packaging. Before what is considered “modern times,” packaging was contrived by the use of natural materials. Inks, papers and many other substrates were largely in part by way of plants. I would like for my research to improve the design community by offering environmentally safe alternatives.

(L-R) Emerson Naylor and LaShonda Snelling hiked Paarl Mountain, Paarl, South Africa; they studied and photographed indigenous vegetation.

LaShonda Snelling with three small children that attend a crèche (daycare) on a farm where their parents work.

FAMU student, Anjelica Moore is being shown the different types of soups that are produced and packaged in-house of the cooperative Argipark Project.
L-R: Carol Warren, Ph.D. (FAMU) and Tisha Allen, Ph.D. (University of South Carolina) hold award certificates from the Pharmaceutical Research and Manufacturers of America (PhRMA) presented at the 2011 International Society of Pharmacoeconomics and Outcomes Research (ISPOR) conference.

COLLEGE OF PHARMACY AND PHARMACEUTICAL SCIENCES

College of Pharmacy and Pharmaceutical Sciences faculty gets award Spotlight on the Economic, Social, and Administrative Pharmacy (ESAP) Division

Carol L. Warren, MBA, Ph.D. received a plaque from PhRMA Foundation for the New Researcher in Health Outcomes Award 2011 during the Internal Society for Pharmacoeconomics and Outcomes Research (ISPOR) Conference on May 24, 2011. The Pharmaceutical Research and Manufacturers of America (PhRMA) represents the country’s leading pharmaceutical research and biotechnology companies, which are devoted to inventing medicines that allow patients to live longer, healthier, and more productive lives. PhRMA members alone invested an estimated $45.8 billion in 2009 in discovering and developing new medicines.

The PhRMA Foundation award is a nationally competitive award and Dr. Warren won it for a study entitled ‘Impacting Minority Health Outcomes
Using Clinical Trials & Patient Registry Data: Provider Capacity Assessment and Potential Internal Rate of Return.” The ISPOR conference attendance was over 3,000 international registrants.

Two Ph.D. students in the Pharmacoconomics and Outcomes Research program, Georges Undulin and Askal Ali, accompanied Dr. Warren to the conference and were chosen to make poster presentations. According to Dr. Warren, “Dr. Hong Xiao, our Division Director, spent many hours preparing students for their research and poster presentations.” Georges Aduuliu is the President of the FAMU student chapter of ISPOR. His poster presentation was entitled “Factors associated with Late-Stage Prostate Cancer Survival in Florida” and Askal Ali’s poster presentation was entitled “Impact of Health Insurance on Receiving Breast Conserving Surgery with Radiation in Florida.” Attending the conference provided international exposure for the students, a mentoring session and an opportunity to network with other students and faculty in their field. According to Dr. Warren, “ISPOR one of the premier conferences in our field. Since the Economic, Social, and Administrative Pharmacy (ESAP) Division is such a small area in the College of Pharmacy and Pharmaceutical Sciences at FAMU, it was great for the students to see that it is a very important area in the health care world.”

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COLLEGE OF ENGINEERING SCIENCES, TECHNOLOGY AND AGRICULTURE’S CENTER FOR BIOLOGICAL CONTROL

The FAMU College of Engineering Sciences, Technology and Agriculture (CESTA) Center for Biological Control (CBC) celebrated its 10 year anniversary in 2010. According to Professor/Director, FAMU CESTA-CBC, Moses T.K. Kairo, Ph.D., the CBC has developed and implemented ecologically-sound pest management solutions for several invasive insects and weeds. The past decade has seen CBC researchers not only investigate invasive pests in the United States, but they are also studying pests in the Caribbean and South America that are considered high risk for entry into the US. The invasive pests include cactus moth, varroa mite, tropical soda apple, hydrilla and cogongrass.

In addition to publishing their research in journal articles and presentations, they also share their knowledge with students. The CBC is at the core of the cooperative Ph.D. Program in entomology which is managed jointly by FAMU and the University of Florida. The CBC is now a recognized Research Center within the Florida State University System.

This past fiscal year (2010-2011) was also significant for the CBC because following endorsement by the Advisory Council, the Center launched its new strategic plan for 2011-2015 which reaffirms the Center’s vision – to protect the nation’s food supply, natural resources, and human health.
College of Arts and Sciences
Teaching Bioinformatics in Education

FAMU Biology faculty Dr. Gokhan Hacisalihoglu together with Dolan DNA Learning Center, Cold Spring Harbor, New York hosted a college faculty training workshop which took place January 21-22, 2011 on FAMU’s campus. The main aim of the workshop was to prepare college faculty to teach their students by involving them in high level genome analysis, gene annotation, and structure and function of genes. The workshop brought together 26 faculty of diverse institutions including minority serving colleges. The workshop provided training on DNA Subway, an intuitive bioinformatics platform developed by iPlant Collaborative.

The training workshop was opened by Gokhan Hacisalihoglu, Ph.D., Assistant Professor, FAMU Department of Biology and workshop organizer, on January 21, 2011 at 9 a.m. In his opening speech, Dr. Hacisalihoglu gave a brief about the workshop and logistic arrangements. Then Dr. Uwe Hilgert (workshop instructor, DNA Learning Center, Cold Spring Harbor Laboratory) welcomed and introduced the participants.

During the two-day workshop, participants were trained on concepts of genome analysis, comparative genomics, phylogenetics and how to guide students in discovering these using the workflows in DNA Subway. The workshop agenda included concept seminars and hands-on activities covering the following major topics:

- Using DNA Subway in teaching basic molecular biology
- Genome annotation (repetitive DNA, gene predictions, homology searches, gene structure and editing, and alternative splicing)
- Comparative genomics (identifying gene and transposon families, locating transposon insertion sites, and estimating “recentness” of transposon insertions)
- DNA Barcoding (editing and assembling DNA sequence, conducting multiple alignments, constructing phylogenetic trees)
Above, Dr. G. Hacisalihoglu (indicated by the yellow circle) joins other workshop participants, along with the instructor for the hands-on Dolan DNA Learning Center, Cold Spring Harbor, New York hosted a college faculty training workshop which took place, January 21-22, 2011 on FAMU’s campus.

Dr. Gokhan Hacisalihoglu, associate professor of biology, coordinated the workshop. He also won the 2011 FAMU Advanced Teacher of the Year award as well as 2010 FAMU Research Excellence Award. Some of his recent publications are:


FAMU BRAZIL EXCHANGE PROGRAM Focuses on bio-fuel Research

The U.S.-Brazil Environmental/Business Cross Cultural Initiative is an exchange partnership with the University of West Florida (UWF), the U.S.-lead institution under Dr. Rita Crider, Florida Agricultural and Mechanical University (FAMU), a coordinating university; Universidade Federal de Viçosa (UFV), the Brazil-lead institution; and Universidade Federal do Ceará (UFC), a coordinating institution. The project focus is, “Sustainability Challenges and Attractiveness of Investments in Bio Fuel Production.”

This collaboration provides a unique opportunity for students from two culturally diverse nations to explore a relevant topic which affects the natural environment, local social systems, and the global economy. This exchange program blends knowledge of agribusiness with political science and environmental sciences to emphasize the interdisciplinary nature of the beneficial impacts and negative consequences of large-scale bio-fuel production. Participating FAMU students, representing majors in agribusiness, agricultural science, business, economics and environmental sciences, enroll in a Portuguese language course.

During the 2010-2011 academic year, the Office of International Education & Development hosted a Fulbright Language Assistant from Brazil who taught beginning Portuguese utilizing distance learning technology under the direction of the University of West Florida. Interested students must apply to the program in the Office of International Education & Development (OIED). They can enroll in Portuguese classes at Florida State University.

“It is imperative that our students develop some proficiency in Portuguese prior to departing to one of the Brazilian universities,” stated Mr. Joseph V. Jones, interim assistant vice president OIED, and FAMU’s project director. “The two exchange Brazilian students who enrolled as Special Students at FAMU last fall were quite proficient in English when they arrived.”

Jones noted that many students in Latin American public schools and universities take English as a second language. Most FAMU students do not develop the level of proficiency in Spanish and other languages that allow them to do direct enrollment at foreign universities in discipline-specific courses; to engage in an internship abroad; or to compete for those prestigious grants and scholarships requiring beginner language skills.

Several FAMU and UWF students will study in Brazil and experience the unique environmental challenges faced by the large scale production of ethanol. They will also have an opportunity to perform research with faculty and
graduate students in Brazil who have extensive resources for advanced research. The project demands a higher level of transcultural awareness among participating faculty and students given the impact alternative sources of energy have on economic development.

Luis Almeida and Silas H. Zeferina, the first participating Brazilian students at FAMU, participated in research and internships under FAMU faculty for two months of the spring semester. They observed how Americans approach environmental challenges related to ethanol production. Their research is noted below. Luis, an agronomy major, worked under the mentorship of Dr. Clifford Louime, team leader of the FAMU Bioenergy Group. Silas, an economics major, worked under the supervision of Dr. Adrienne Cooper, professor in the Biological and Agricultural Systems Engineering program.

During their FAMU experience, Luis and Silas visited Jacksonville, Pensacola, Miami and Orlando. They were hosted in a student’s home during the Christmas break in the Miami area. In addition to participating in campus life, they experienced their first American football game at Bragg Stadium.

What is the next stage of FAMU’s involvement? During this summer, FAMU participants, Aymbriana Campbell and Michelle White, are enrolled at the Universidade Federal de Viçosa (UFV). They are enrolled in intensive Portuguese language courses enhanced by cultural immersion experiences in Viçosa. Aymbriana is a junior majoring in international Agriculture. Michelle, a Florida State University student in international relations, is participating in the program through the FAMU-FSU cooperative agreement. Both will be enrolled at UFV for the fall semester.

Four UFV students will enroll at FAMU for the fall semester: Bruno Ferraz Martins, forestry engineering; Nathalia Ottoline Marins, economics sciences; Vito Heringer de Aguiar, biochemistry; and Julia Maria Novaes Dias, economics sciences.

Story courtesy of the FAMU Office of International Education and Development.

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EPA DESIGNATES THE FAMU CENTER FOR WATER AND AIR QUALITY AS A CENTER OF EXCELLENCE FOR WATERSHED MANAGEMENT...

The Environmental Protection Agency (EPA) and the Florida A&M University recently signed a Memorandum of Understanding designating the University’s Center for Water and Air Quality as a Center of Excellence for Watershed Management. This is the first Center of Excellence to be designated in Florida, the second HBCU, and the eighth in the Southeast. The third partner in this cooperative relationship is the Florida Department of Environmental Regulation (DER). In this capacity the center will work closely with the EPA and DER in reaching various stakeholders in Florida to enhance efficient watershed management practices. EPA’s Regional Administrator, Region 4, Gwendolyn Keyes Fleming, signed the MoU on February 18, 2011 at the FAMU campus.
FLORIDA A&M UNIVERSITY’S CENTER FOR VITICULTURE & SMALL FRUIT RESEARCH IS ONE OF FIVE NATIONAL CLEAN PLANT CENTERS FOR GRAPES

Dr. Violeta Colova, PI (pictured in pink top) and research team of collaborators in Putnam County, FL

“The Farm Bill – H.R. 6124 Food, Conservation, and Energy Act of 2008” – became law in June 2008. Section 10202 directs the USDA Secretary of Agriculture to establish the “National Clean Plant Network” (NCPN), a program under which:

1. Partnerships of clean plant centers are organized;
2. Centers focus on diagnostic and pathogen elimination services;
3. Activities produce clean propagative plant material;
4. Centers maintain blocks of pathogen-tested plant materials in sites throughout the United States; and
5. Clean plant material may then be made available to States for certified clean plant programs and to private nurseries and producers.” (NCPN Fact Sheet).

The five clean plant centers within the National Clean Plant Network (NCPN) for Grapes are:

1. Center for Viticulture & Small Fruit Research, Florida A&M University (FAMU);
2. Cornell University, Geneva, New York;
3. Foundation Plant Services, University of California, Davis (FPS);
4. Midwest Grapevine Tissue-Culture and Virus Testing Laboratory, Missouri State University; and
5. Northwest Grape Foundation Services, Washington State University, Prosser.

The cooperative agreement with USDA/National Clean Plant Network Program was granted to Dr. Violeta Colova, PI and research team of collaborators to administer and implement “The Southeastern Vine Improvement and Distribution Program: Disease Free G1 /G2 Planting Stock for Viticulture Industry in Florida and Southeastern Region.”
Capitalizing on the developed capacity and industry cooperation ongoing under The Florida Vine Improvement and Distribution Program, and utilizing the new opportunities and requirements upon our acceptance at the National Grape Clean Plant Network, FAMU’s Center for Viticulture and Small Fruit Research will establish and maintain, for industry use, disease free G1 nuclear planting stock in a protected environment (screen house) of single copy grapevines. The FAMU Center will also establish and maintain four acres, Foundation Vineyard (G2), that will initially be planted with 25 economically important muscadine and Florida native hybrid varieties originating from single source in vitro meristem culture. FAMU will work in cooperation with the Florida Department of Agriculture and Consumer Services (FDACS), Plant Industry Department and other stakeholders to develop a grape certification program for Florida and neighboring states restricted to the Pierce’s Disease (PD) zone of the American viticulture.

“It was a ‘grand’ team effort to be able to position our Program as a national center on the forefront of the National Grape Clean Plant Network. The administrative, legislative and personal support of our Dean and the Office of the Vice President for Research was critical for the final positive outcome.” shared Dr. Colova, Program Director.  

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**CENTER FOR WATER QUALITY PROMOTES CONSERVATION AND STEWARDSHIP OF THE GULF OF MEXICO…**

Through a grant funded by the Environmental Protection Agency (EPA), the Center for Water Quality has expanded its Gulf of Mexico Conservation and Stewardship Program. This program aims to increase the public’s awareness and appreciation for the Gulf of Mexico and its resources through various activities. It addresses the strategic goals for environmental education outlined by EPA and the Gulf of Mexico Alliance (GOMA) to reach the “K to Gray” target audience. Educational and outreach activities include distributing educational materials about the Gulf, working with underserved and underrepresented populations and partnering with a select coastal community for a pilot project. A summer program for K-12 teachers will also be implemented. The FAMU Summer Teacher Coastal Stewardship Program was held June 20, 2011 through July 1, 2011. Teachers participated in a two-week extended field trip along the Gulf of Mexico. They learned about the ecological and economic diversity of the Gulf of Mexico and developed inquiry-based lesson plans to be used by other teachers.  

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FAMU FACULTY CONDUCTS UNDERGRADUATE RESEARCH AND TRAINING AT Penn State University

The past two decades have witnessed tremendous growth in the biotechnology industry. Biotechnology companies strongly encourage undergraduates to acquire research experience to build their career in the high throughput technologies. The field of biotechnology utilizes the functional biology of any organism to make commercial products ranging from agriculture, food safety, and medicine to environmental remediation. The functional biology involves molecular and cellular processes to address a specific biological problem.

FAMU’s Assistant Professor, Ramesh Katam, Ph.D., was invited to conduct training to the best picked undergraduate students who scored a 4.0 GPA. The program funded by NSF under the program “Research Experience for Undergraduate students” (REU) is designed to train the undergraduate students about technologies that will keep them upfront in the field of science and technology. The focus of the program emphasizes certain biological problems using multi-disciplinary approaches. The participants gain deeper appreciation of the science and learn more about eventual research career opportunities. Throughout this program, the students work with experienced scientists from the best institutions, and benefit from their knowledge and will further develop interaction in the future.

Dr. Katam is currently teaching in the FAMU Department of Biology and has several years of experience in functional biology research. At Penn State University, he demonstrated to students how to extract total proteins from various tissue samples of plants and taught them how to determine the identity of individual proteins. He discussed with the students how the recent advances in the technology of protein isolation, separation and identification have led into the discovery of various metabolic pathways and their interaction network. He believes that these studies will certainly enhance our knowledge in developing new biomarkers for early detection of human diseases. This will help improve crop productivity and quality.

Dr. Katam also believes that undergraduate students are an elite resource if they are well trained. They can be the best support when it comes to research
programs at the corporate and university levels. Such enrichment activities will certainly promote communication skills and help the students understand issues relating to the practice of science. DoR

FAMU GRADUATE STUDENT DIVES INTO AN OCEAN OF EXPERIENCE AND WONDER

If Hawaii can be known as “paradise,” Bermuda certainly can stake its claim to this title also. In either case, they are both supreme examples of an environmental masterpiece with all its beauty. What better place to be for a student who has to take the most rigorous course of his or her life. Such was the case with FAMU graduate student Nadine Bradley, a doctoral candidate in the Environmental Sciences Institute (now known as the School of the Environment) who was awarded a financial scholarship by the Agoura Institute and the Gordon and Betty Moore Foundation to take the Microbial Oceanography Course at the Bermuda Institute of Ocean Sciences. Ms. Bradley’s research involves the study of microbial ecology; however, she had not taken a course in that area. Her advisor Dr. Henry Neal Williams, encouraged her to seek a short but rigorous course, perhaps during the summer. Several such courses are offered around the country, many are highly sought after by students and postdoctoral fellows around the world. Bradley’s search and applications landed her on the beautiful island of Bermuda with its pink sand beaches, clear waters, and some of the world’s most diverse and richest corals and sea life. More importantly, Bradley was elated to have been selected for the course which was taught by four of the world’s highly recognized scientists in the field of microbial oceanography who have been conducting time-series research on the interaction between microbes and the biogeochemical cycles in the Sargasso Sea in Bermuda. They included Drs. Stephen Giovannoni, Oregon State University; Craig Carlson, University of California, Santa Barbara; John Heidelberg, University of Southern California; and Craig E Nelson, University of California, Santa Barbara. They have jointly and individually published various research papers in high impact journals, e.g., Nature on various new discoveries in this area of study. This has helped tremendously in better understanding the structure and function of microbes in the ocean and other ecosystems and

“I BELIEVE IT IS EVERY STUDENT’S DREAM IN THIS FIELD OF STUDY TO HAVE SUCH AN EXPERIENCE...”

-NADINE BRADLEY
questions such as: why microbes are important and how they relate to the biogeochemical cycles in the ocean?” Bradley learned so much about current state of the art techniques in molecular microbial ecology that not only enhances her own knowledge in the field, but will be of great value to her research studies. She had this to say about her lab experience:

“For the lab component, we took a two-day research cruise to collect samples in the Sargasso Sea, aboard the famous research vessel, Atlantic Explorer. This was my first experience on a research vessel on the ocean and fully I enjoyed it. I was greatly impressed with the methods the scientists used to conduct experiments at sea.”

The professors were friendly and always willing to interact with the students. I received great advice for enhancing my current research. Finally, and most importantly, I was able to interact with other students from other parts of the world such as Columbia, Portugal, Canada, Chile, Germany, etc. that have similar research interests. It was such a great experience to hear about each person’s research experience and to learn more about the various cultures. At this point in my scientific career, it is very important to meet and develop mentors outside of my home institution and this course provided the perfect opportunity. Such relationships may help me in future career pursuits, since my entire research experience was at Florida A&M University, I wanted to learn about research in other universities and other countries. Such fun we all had interacting with each other.

Another student in Nadine’s lab, Huan Chen, took a similar course in Hawaii last year. Now the two of them can debate which is the better “paradise,” Hawaii or Bermuda. However, both agree that if you have to take a tough, hard-working, rigorous course that often includes 16-hour days, 6 days a week, what better venture to do it than in someplace like “paradise?” Both places are environmental odysseys, especially for students in the new School of the Environmental Sciences (formerly the Environmental Sciences Institute). Bradley adds “I believe it is every student’s dream in this field of study to have such an experience. I enjoyed my experience at the Bermuda Institute of Ocean Sciences and also the country of Bermuda. The course is offered annually, and is open to undergraduate and graduate students who are interested in the field of marine microbial ecology. I highly recommend the course, and encourage students in any field of biology/environmental science to apply. It is a great opportunity for meeting new people, meeting scientists and learning about the culture of Bermuda. I am happy to give advice on the application procedures if anyone becomes interested.”

Pictured above is a photograph of St. George, Bermuda.
VITICULTURE GRADUATE STUDENT, Safira Sutton received Florida State Horticultural Society Board of Directors Scholarship

On May 25, 2011, Safira Sutton, a graduate student conducting research under her major professor, Violetka Colova, Ph.D., at the FAMU Center for Viticulture & Small Fruit Research, successfully applied for and was awarded a $200 scholarship to attend and present at the Annual FSHS Meeting, June 5-7, 2011 at the Vinoy® Renaissance Resort, St. Petersburg, Fla.

Safira is completing her research thesis entitled “Genetic Transformation for Overexpression of Flavonoid Compounds in Muscadine Grape Cell Cultures” and will be pursuing her Ph.D. degree in Food Science and Biotechnology at the Alabama A&M University.

Safira’s winning essay: “I have great ambitions of becoming one of the best scientists with goals of tackling major issues facing the world today such as hunger, obesity and crop improvement. Attending this meeting is necessary to me because it addresses different challenges faced when dealing with horticultural crops, and how to provide solutions and create value to human health. I believe that this meeting will give me an opportunity to connect and network with some of the famous scientists in the world. Therefore, I will have the ability to improve my knowledge and experiences on my excursion to attain my scientific goals.”

Safira Sutton conducts great, grape research at the FAMU Center for Viticulture & Small Fruit Research.
FAMU student from the School of the Environment Research Designed to Enhance Lake Munson Restoration Efforts

Dickerson expects that her study results will be disseminated nationally and internationally through publication in scientific journals and presentations at future scientific meetings.

Tamara Dickerson in the middle of Lake Munson (May 2011), preparing to collect sediment samples for bacterial community analysis during its draw down.

FAMU doctoral student, Tamara Dickerson, has long held an interest in aquatic ecology and systems. When she arrived in Tallahassee in 2006 after being recruited to FAMU’s Environmental Sciences Institute (now the School of the Environment), she considered several research opportunities. However, none of them could measure up because she still had a burning desire to conduct her dissertation research on a topic that was practical and would provide a service and benefit to the Tallahassee region. After hearing a seminar by Mr. Johnny Richardson, a water resource scientist with Leon County Public Works, on the historical deterioration of Lake Munson and the initiatives to be taken to restore one of the city’s valuable resources she was hooked on a project that could assess the impact decades of sewage and industrial discharge on the lake, as well as observe any shifts in bacterial community composition after restoration efforts have been taken. As a student of microbial ecology, she wanted to focus on the microbial community because they are the first to respond to chemical and/or physical perturbations and hence are believed to be an indicator of aquatic ecosystem health.

Well, according to her mentor, Henry Neal Williams, Ph.D., once deciding that she wanted to pursue this topic for her research project, she now had to convince him to allow her to undertake the effort. This was no small challenge as her professor had always conducted research in salt water bodies and was reluctant to supervise a doctoral student in an area which was outside his normal realm of scientific inquiry. However, Williams recalls: “Tamar presented a strong argument and I could see her passion.” That was about three years ago and Williams noted “the rest is history.”

Since that time, Dickerson has used state of the art methods in microbiology and molecular biology to define the microbial community in the lake in a way that has not been done before. Furthermore, she has compared the microbial community in Lake Munson with Lakes Bradford and Moore, two other less impacted lakes in the region. Her primary objective is to evaluate differences in the bacterial communities among the three lakes and to identify clues that set Lake Munson apart from the other lakes that have not been as greatly impacted.

She has presented the results of her research at numerous national scientific conferences. Last summer, she attended the prestigious Gordon Conference in which participation is by invitation only and attracts some of the world’s foremost scientists.
The June 25, 2011 Graduation Ceremony for the ExxonMobil Bernard Harris Summer Science Camp (EMBHSSC) at FAMU celebrated P.E.A.C.E.—PLANET EARTH AND CLIMATE EDUCATION for rising 6th, 7th and 8th graders. Presentations by the summer science campers addressed topics on space, atmosphere, hydrosphere, and lithosphere/biosphere. The belief of these participants along with their mentors—administrators, teachers, counselors: *we can change the world through science education*.

Core principles:

- Encourage education in Science, Technology, Engineering and Mathematics (STEM)
- Encourage and motivate youth to pursue STEM careers
- Foster teamwork, leadership and citizenship

The Graduation Ceremony included remarks from K. Ken Redda, Ph.D., FAMU Professor and Acting Vice President for Research and Cameron Gaddy, ExxonMobil Representative. Edith Davis, Ed.D., Camp Executive Director and Joe A. Houston, Ph.D., Camp Director collaborated with others to facilitate the presentation of graduates and awarding of certificates. DoR
Photographed above is Yuch P. Hsieh, Ph.D., of the FAMU Center for Water and Air Quality.

**DR. YUCH P. HSIEH APPOINTED TO THE USDA AGRICULTURAL AIR QUALITY TASK FORCE...**

Yuch P. Hsieh, Ph.D., of the FAMU Center for Water and Air Quality has been appointed by Secretary Tom Vilsack of the U.S. Department of Agriculture (USDA) to serve a two-year term (2011-2012) on the Agricultural Air Quality Task Force (AAQTF). The AAQTF has been created in accordance with Section 391 of the Federal Agriculture Improvement and Reform (FAIR) Act of 1996, which directs the Chief of the Natural Resources Conservation Service (NRCS), an agency of the United States Department of Agriculture (USDA), to establish a task force to address agricultural air quality issues. The first meeting of the Task Force will be held in Washington D.C., June 8-10, 2012. Dr. Hsieh has been active in agricultural air quality research since 2004. His air quality research has been supported by the USDA/National Research Initiative (NRI) Agricultural Air Quality Program and currently, the National Science Foundation (NSF) Atmospheric Chemistry Program.  

DoR
KIMBERLY DAVIS JOINS THE EPA/GOMA FUNDED PROJECT...

Kimberly Davis has been hired as the Environmental Education Coordinator in the Center for Water and Air Quality for the Environmental Protection Agency (EPA)/Gulf of Mexico Alliance (GOMA) Project at Florida A&M University (FAMU). Ms. Davis received a B.S. in Biology and an M.S. in Agricultural Sciences with a specialization in Environmental Sciences from FAMU. In this capacity, she coordinates education and outreach activities to promote stewardship and conservation of the Gulf of Mexico and its resources including the FAMU Summer Teacher Coastal Stewardship Program. She was an EPA Graduate Fellow, which afforded her the opportunity to work at one of the EPA’s national laboratories as a Research Biologist. Ms. Davis was employed by the Florida Division of Emergency Management for 10 years where she was the Lead State Environmental Scientist. She was responsible for managing the environmental and historic preservation review process and mitigation planning projects.

DR. MANUEL L. PESCADOR RETIRES AFTER 34 YEARS OF SERVICE TO FAMU...

Manuel L. Pescador, Ph.D., Professor of Entomology at Florida A&M University retired June 30, 2011, after more than 34 years of dedicated teaching and research service to the University. He made a significant contribution to the “Fresh Water Stream Ecology.” Dr. Pescador received his Ph.D. in Zoology from Florida State University. He is the author of more than 50 refereed research publications including coauthorship of two books on Aquatic Insects, The Mayflies of Florida, revised edition (1988), and Ephemeroptera of South America (2006). Dr. Pescador’s accomplishments further include the discovery, description, and publication of 10 genera and 25 species of mayflies that are new to science. Dr. Pescador is well known and recognized for his research on the systematics and ecology of aquatic insects of North Florida, and the evolution and biogeography of mayflies.
RESEARCH & TRAINING FUNDING 2010-2011

Award/Increments Received
Fiscal Year 2010-2011

- Administration: $11,390,627
- Business & Industry: $1,526,500
- Environmental Sciences Institute: $4,308,042
- Law: $271,940

- Allied Health Sciences: $1,526,500
- CESTA: $11,451,096*
- FAMU DRS: $125,319
- Nursing: $441,639

- Architecture: $137,975
- Engineering: $4,097,002
- Graduate Studies: $10,000
- Pharmacy: $7,823,094

Grand Total: $53,148,420*

* Rounded to Nearest Dollar
Proposals Submitted
Fiscal Year 2010-2011

- Administration
  $5,781,039
- Business & Industry
  $579,970
- Environmental Sciences Institute
  $21,839,057
- Law
  $1,934,645
- Allied Health Sciences
  $8,329,546
- CESTA
  $26,270,965
- FAMU DRS
  $100,319
- Nursing
  $1,119,196
- Pharmacy
  $33,632,775
- Architecture
  $70,995
- Education
  $5,349,997
- Graduate Studies
  $14,000
- General Studies
  $431,591
- Arts & Sciences
  $25,807,401
- Engineering
  $11,590,948

Grand Total: $142,852,444
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