Alabama A&M University has now moved from a system of schools to one of colleges. This reorganization of academic programs and reporting lines fits well with our Carnegie ranking (Doctoral, professional dominant) as a Ph.D. granting institution. Accordingly, the College of Agricultural, Life and Natural Sciences (CALNS) is now in existence and has taken the place of the former School of Agricultural and Environmental Sciences. As the new interim dean and research director, I am using this publication to give exposure and visibility to this new college and as a source of extending greetings from this office.

In keeping with our resolve for improvement, several new initiatives will be launched with the aim of building our academic programs to a level of prominence that seemingly, has eluded colleges of agriculture throughout the nation. In doing so, our tri-fold land-grant mission of teaching, research and service will not only be preserved but given the energy necessary to maximize the intended benefits to our stakeholders. Our way forward will be holistic in approach. Using this slant, we hope to render results that will bring cutting edge research and innovations in pedagogical deliveries to both our traditional and nontraditional students. Through this and other media outlets, we will continue to reach out, engage and inform all our patrons, while soliciting ideas for augmenting our pursuit to make CALNS the academic center of Alabama A&M University.
Welcome to the third publication of our current research **CALNS Magazine**. As stated by the new interim dean and research director, the School of Agricultural and Environmental Sciences has become the College of Agricultural, Life and Natural Sciences. It has been an exciting transition that has allowed the College to broaden its scope through the inclusion of the biological sciences, general studies under the department of community and regional planning, and from a historical point of view, the addition of the military sciences. The original mission of the 1890 land-grant institutions, as set forth in the first Morrill Act, was to teach agriculture, military tactics, and the mechanic arts, as well as classical studies so that members of the working classes could obtain a liberal, practical education. In furthering that mission, the **CALNS Magazine** will continue to move in an upward direction, demonstrating the significant research being done by our scientists and students.

With this issue, we have chosen to place priority on a couple of the international efforts that have been established with China through Nanjing Forestry University (Nanjing) and Costa Rica. The travels to China have primarily been fostered through the efforts of Dr. Yong Wang, professor of biometry and wildlife ecology in the Department of Biological and Environmental Sciences. While on the visit to Nanjing, Dr. Wang, students, and faculty from AAMU/CALNS also visited Beijing Forestry University and China Agricultural University, Beijing. In addition to China, there has been a study abroad program that has successfully offered opportunities for students to go to Costa Rica through a partnership between Tuskegee University, Alabama A&M University, and EARTH University.

We have been developing and nurturing our international connections but we also believe it is critically important to acknowledge the impact of our programs on the community. To this effort, in this issue we have decided to highlight the activities of the Small Farms Research Center under the leadership of Dr. Duncan Chembezi and supported by Ms. E’ricia Chaverest. We congratulate each department, the programs and project funding successes, and student achievements, whether featured in this current publication or not. Through ongoing research, teaching and outreach, the CALNS will maintain our endeavors to positively impact the College, the global community and everything in between.

**K. Renée Johnson**
Editor in Chief
CALNS Public and Media Relations Coordinator

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The Small Farms Research Center is located in the James I. Dawson Cooperative Extension Building on the campus of Alabama A&M University (AAMU). The Center was initiated in 2000 with initial funding from the National Office of Outreach of the U.S. Department of Agriculture (USDA) under Section 2501 of the 1990 Farm Bill. The Small Farms Research Center is an outreach arm of the College of Agricultural, Life and Natural Sciences and is an essential component of the College. The Center caters and responds directly to the needs of small, limited resource, new and beginning farmers, ranchers, entrepreneurs, researchers, organizations, agribusiness management specialists, extension agents and consumers by providing research results, publications, and outreach and educational programs on topics relevant to small farms.

Faculty, staff and specialists at the Center include Dr. Duncan M. Chembezi (AAMU Professor and Center Director), Ms. E’licia L. Chaverest (Center Program Manager and Marketing Specialist), Dr. Ernst Cebert (AAMU-BES), Dr. Rufina Ward (AAMU-BES), Mr. Robert Spencer and Mr. Tommie Teacher (AAMU-Alabama Cooperative Extension System) and Ms. Karen Wynne (ASAN-Alabama Sustainable Agriculture Network).

All community outreach, technical assistance and cooperative extension functions within the Center operate within the context of five distinct units or divisions:

1. Research and Policy Analysis Unit
2. Risk Management Education and Community Outreach Unit
3. Rural Entrepreneurial Outreach and Business Development Initiative
4. Agricultural Biotechnology and Food Safety Education
5. Technology (Computer Training) Outreach Unit

**Small Farms Research Center - Objective**

The Center conducts and promotes interdisciplinary research on the economic and social development of limited resource farmers, ranchers, landowners and rural entrepreneurs in Alabama’s underserved communities. More specifically, the research focuses on business development and entrepreneurship, agricultural risk management strategies, and genetic modification/biotechnology. We seek to advance our understanding of socioeconomic processes and our ability to explain state and county differences in rates of growth and levels of development between state and county. We sponsor seminars, workshops, and conferences, thereby providing a forum for exchanging ideas regarding small farms and community development research as well as other issues. Our research efforts also educate and empower socially disadvantage producers, landowners and rural entrepreneurs. Overall, the Center conducts targeted research, provides outreach training and education, and offers technical assistance to agricultural producers and entrepreneurs, who often with limited resources, operate small rural businesses in Alabama’s underserved communities.
The functions of the Center include, but are not limited to, the following:

- Serve as a clearinghouse for questions from small, limited resource, new and beginning farmers, land owners, and agribusiness management specialists, extension personnel, government officials and agencies, and the academic community.

- Conduct socio-economic research and evaluating issues and factors that may directly impact the profitability of limited resource farms, enhance economic development, and promote viability and overall sustainability of local communities.

- Publish research findings, manuals, fact sheets, proceedings, pamphlets, leaflets, and a quarterly newsletter, News Update, that includes news of upcoming events, publications, topical issues, and profiles of outstanding and exemplary small and beginning farmers, extension personnel and key local community leaders.

- Sponsor, conduct, distribute, and promote information about on-farm research, sustainable practices, and marketing strategies for small, limited resource, new and beginning farmers.

- Organize farm-based events and learning opportunities that promote and educate local agricultural producers and community members.

- Foster a connection between area farmers/land owners and community members that establishes and promotes communication about local agricultural concerns.

- Organize and coordinate local, regional, and statewide conferences, meetings, training workshops, and symposiums, and supporting extension personnel, farm management specialists, farmers markets and farm organizations in regional and local programs.

- Provide opportunity for local small, beginning, and limited resource farmers and ranchers to socially, educationally and philosophically interact.

- Provide leadership and coordination for the Small Farmers Outreach and Technical Assistance Program, Rural Entrepreneurial Outreach and Business Development Initiative, Beginning Farmer and Ranchers Development Program (BFRDP), Alabama Women-In-Agriculture Program, North Alabama Risk Management Education Program and other projects within the Center.

- Provide targeted and carefully tailored needs-based and hands-on practical training and experience to graduate and undergraduate students through internships, bi-weekly student employment, and graduate assistantships.

Small Farms Research Center - Training and Education Initiative

The overall educational goal of the Center is to conduct outreach training and provide technical assistance and advice to minorities and underserved agricultural producers, landowners, rural businesses, and entrepreneurs throughout Alabama. The groups receiving assistance include new and beginning farmers and ranchers who want to enter into the farming business or have been operating farms and ranches for less than 10 consecutive years.

The Center has been a hands-on training laboratory for undergraduate and graduate students. Several graduate students have been awarded assistantships to gain practical experience in farming and agriculture and to also assist the Center in achieving its mission and objectives. Similarly, several undergraduate students have been offered internships and bi-weekly employment opportunities to sharpen their understanding of the American family farm and agriculture in the United States. The Center currently supports four graduate students through graduate assistantships and three undergraduate students through bi-weekly employment. Six internships will be awarded to deserving undergraduate students in the spring and summer of 2012.

Training & Outreach Assistance

The Center remains visible and engaged in the community and empowers the underserved agricultural producers and rural business entrepreneurs to seek and conquer new heights. We have developed and distributed numerous factsheets, flyers, brochures, modules and other materials to enhance the ranchers’farmers’ awareness of programs, benefits, and services available to them through USDA and other federal agencies. We have developed and translated fact sheets into the Spanish language to effectively reach out to the rapidly increasing Hispanic population in Alabama communities. We also sponsor activities such as farm tours, farm field days, quarterly training workshops, group meetings and one-on-one consultations. The Center has provided support for numerous farmers, ranchers, rural entrepreneurs and landowners to attend national and regional farm conferences, which include the National Small Farm Conferences, National Women-in-Agriculture Conferences (NWIA), etc., and has also developed the Alabama Women-In-Agriculture Association, Inc.

Risk Management and Community Outreach Conference

The Center hosts a yearly “Risk Management and Community Outreach Conference” that caters to landowners, producers, gardeners, extension agents, professionals, youth, and entrepreneurs. The conference covers a wide range of topics that generally includes product marketing, rural entrepreneurship and business development, energy efficiency for the business, poverty alleviation, cooperative development, crop insurance, estate planning, retirement and investment plans and government programs (Farm Service Agency, Natural Resource Conservation Service, Rural Development, U.S. Forest Service), as well as new and developing agriculture issues/topics. Participants have come from all areas of Alabama and parts of Georgia, Mississippi, Tennessee, Arkansas, and Oklahoma to attend this annual event. During the conference we attempt to highlight and recognize the contributions of producers, landowners, entrepreneurs and community leaders in agriculture. Each year we honor individuals with awards in the following categories: Farmer of the Year, Entrepreneur of the Year and Community Leader of the Year. The Center also showcases other projects and programs that are beneficial to small and limited resource producers, landowners and rural entrepreneurs. For instance, through the Beginning Farmers and Ranchers Development Program (BFRDP) funded by USDA’s National Institute of Food and Agriculture, the Center has embarked on a state-wide campaign to provide training and technical assistance to new and beginning farmers and ranchers in Alabama. This initiative involves Alabama’s three land grant universities (Tuskegee, Alabama A&M, and Auburn Universities), Alabama Sustainable Agriculture Network (ASAN) and a number of other community based organizations in Alabama. Conference participants have also seen demonstrations on Mobile Biodiesel Classroom on Wheels, Fort Valley State University’s Information and Technology Services on Wheels, and Alpaca Production, just to name a few.

Small Farms Research Center - Significance

The Small Farms Research Center at AAMU specifically aims to deliver outreach support, technical assistance and educational programs that provide small, limited resource and socially disadvantaged farmers, ranchers and rural entrepreneurs the opportunity to successfully acquire, own,
operate, and retain farms, ranches and rural businesses. Like most businesses, getting started in agriculture or farming requires start-up capital. This can be a special challenge to new and beginning farmers and ranchers. Also, like other businesses, farming requires a variety of factors such as management, labor, financial resources, and physical resources. The U.S. Department of Agriculture and Land-Grant system provides a wide array of planning resources to assist new and beginning farmers in establishing and managing their farms. There are also several nonprofit organizations that feature useful tools and links. The resources available highlight two important and related challenges faced by new and beginning farmers—(1) having the market opportunity to buy or rent suitable land and (2) having capital to acquire land of a large enough scale to be profitable. Given the importance of government—provided support to many farms, the lack of qualification for access to the resources of these programs, especially direct payment programs, is a challenge for beginning farms. AAMU's Small Farms Research Center aims to bridge the gap between the assistance available and those who need it. As a result, the Center plays a vital role in ensuring that beginning, limited resource, and socially disadvantaged farms and rural businesses remain profitable and sustainable.

The loss of the services provided by the Center could potentially result in land loss, food deserts and small and family farms becoming extinct. Our services help to prevent health and environmental changes that lead to obesity, diabetic epidemics and the contamination of soil, water and air due to genetic modification. The Research Center has been directly related to the following:

- Most small and limited resource farmers and ranchers in North Alabama have increased their farm income by 8.78% on average since 2007
- More farmers and ranchers are adopting new technologies and production practices and are also maintaining improved record keeping systems
- The number of farmers and ranchers adopting good farm business skills as a result of effective farm management training is on the rise
- Outreach services have helped reduce loan delinquency rates
- An 81% success rate in loan application approval has been recorded
- Rural entrepreneurs, agribusinesses and businesses have received assistance in grant writing and application resulting in over $200,000 funding under USDA's Rural Development Value-Added Producer Grants Program
- Through an MOU, the Echota Cherokee Indian Tribe of about 30,000 is receiving outreach training and technical assistance from AAMU
- A significant number of beginning farmers have received assistance from the project and have secured loans from USDA/Farms Service Agency and commercial lenders
- Two out of three producers received the USDA Value-Added Producers Grant (2010-2011) with Center assistance

Since 2008 the Center has increased its clientele base by 62 percent.

Other notable outcomes include an increase in (1) information dissemination, applications and awards for loans for farm ownership, farm operation, and youth-operated businesses; (2) farm numbers, and farm operating capacity; and (3) farm family income. Since 2005, the Center's programs and services have led to 29 new farm ownership loans for a total of $3,175,500; 114 farm-operating loans for a total of $1,862,500; 93 youth loans for a total of $465,000; 42 housing loans for a total of $1,124,480 and two value-added producer grants for a total of $200,000. That's a total of 278 loans and two grants worth $6,827,480 over the past six years, which can be traced directly to the concerted outreach efforts of the Center and its various projects. Through the Entrepreneurial Outreach and Business Development Initiative, 106 jobs have been retained and 63 jobs created since the Initiative's inception in 2007. Through outreach projects funded by USDA's National Institute of Food and Agriculture (NIFA), Risk Management Agency (RMA), and Office of Advocacy and Outreach (OAO), a number of small-limited resource and socially disadvantaged farmers and ranchers have benefited from the Center. Many more are now aware of the numerous USDA programs and services. We continue to disseminate information to all participants through newsletters, fact sheets, flyers, group meetings and annual conferences. Many small businesses in underserved communities are receiving assistance from this outreach program and more importantly, the outreach has helped producers increase profitability of their farms, ranches and businesses.

**Small Farms Research Center - Future**

The Small Farmer Research Center is making a difference in the lives of the minority farmers, landowners, rural entrepreneurs, and extension
agents in Alabama and beyond. Through outreach training, minority and underserved applicants have been identified and provided the necessary information needed to secure funds to either own a farm and/or successfully operate their agricultural businesses. Through the technical assistance program, both applicants and borrowers have not only received pertinent information from the Small Farm Research Center, but they have also developed and enhanced their business management, business planning, marketing skills, and record keeping skills. They have also learned to successfully complete the loan application and grant packages. The response has been overwhelming in certain instances. Most of the programs and services have been developed and designed based on the needs of the producers and entrepreneurs.

To strengthen our program and outreach efforts, the Small Farms Research Center at AAMU continues to maintain its partnerships with Alabama A&M University and its College of Agricultural, Life and Natural Sciences, and on how the Center effectively meets the needs of the target population and communities traditionally served by the University. Consistent with the tri-fold mission of the land grant system, the Center is an excellent link between the producers of information (applied research scientists) and the consumers of information (farmers, ranchers and entrepreneurs).

Much of the success and accomplishments of the Small Farms Research Center can be directly attributed to the strong support given by Alabama A&M University and its College of Agricultural, Life and Natural Sciences. Since the Center’s inception, Dr. Robert Taylor, the former Dean of the School of Agricultural and Environmental Sciences, fully understood the importance of community engagement and how the Center could be used to enhance AAMU’s visibility in underserved communities of Alabama and even the country. In addition to the Dean, special appreciation is due to both the University President (Dr. Andrew Hugine) and Provost/Vice President for Academic Affairs (Dr. Daniel Wims) who have individually and collectively supported the Center’s efforts. Each has attended the Center’s annual outreach conferences. Special gratitude also goes to Dr. Virginia Caples, University Professor and 1890 Extension Administrator, who has tirelessly supported the Center and has seen it grow from its infancy. Finally, the financial support from USDA’s National Institute of Food and Agriculture, Office of Advocacy and Outreach, Rural Development, Risk Management Agency, Farm Service Agency, and National Agricultural Statistics Service is acknowledged with utmost gratitude.
In 2010, Alabama A&M (AAMU) and Tuskegee Universities, in partnership with EARTH University of Costa Rica, initiated a summer internship and experiential learning program in Costa Rica, which is still thriving in 2012. The goal of the program is to broaden and strengthen faculty and students’ global competence in agricultural and natural resource sciences, and provide them with cultural, social, international education and research opportunities. The program strengthens both universities’ capacities and capabilities in developing globally competent students and faculty in food, agriculture, natural resources and environmental sciences. The program activities include:

• Promoting the development and enhancement of new curricula and related materials to meet changes anticipated within domestic and international agriculture, natural resources, environmental sciences, and food systems;

• Strengthening faculty knowledge-base to enable better preparation and mentoring of students for international career opportunities in a global competitive environment;

• Exposing students to the implications of agriculture, natural resources and environment in Central America, specifically in Costa Rica;

• Providing the practical context for understanding Costa Rica’s agriculture and natural resource base;

• Broadening students’ breadth and understanding of the global agricultural community;

• Comparing the agricultural, social and cultural values of Costa Rica with those of the United States;

• Developing an international research and education exchange and scholars program with EARTH University of Costa Rica for our mutual benefit and lastly

• Developing a consortium among 1890 institutions to explore international research and education opportunities.

The study abroad internship, jointly funded by USDA and Tuskegee University, was successfully implemented in the summer of 2011. The internship provided a rare opportunity for AAMU student, Nikita Armstrong, to visit EARTH University in Costa Rica along with three other students from Tuskegee University. Between June 15, 2011 and July 15, 2011, the students were able to experience and witness the contrasting differences between the US and Costa Rica. For example, students at Earth University attend class twelve hours a day for six days a week, but unlike the US, education has no significant value for most people living in the third-world country. The fact that much of the area was very primitive with no hot running water gave students an indication of some of the challenges Costa Rica faces in the areas of international food, agriculture, and natural resources. During the visit, the local families were lively and friendly, the landscapes were beautifully lush and the variation in culture and food afforded the students a one-of-a-kind experience.

The long-term goal of the program is to have an international internship exchange and education program at AAMU and Tuskegee. Costa Rica is renowned worldwide for its impressive diversity of flora, fauna, array of landscapes, tropical and subtropical climate, vast rainforest and rich biodiversity; therefore, the first-hand experience should give the interns a significant career advantage. Based on this year’s experience, more students will be sent to EARTH University next year and there are plans to develop two courses for the internship in the near future.
Tuskegee University – Alabama A & M University – EARTH University
International Summer Experience in Agricultural and Related Sciences
Application Deadline - March 15
Program Dates: August 2011

Program
- 3-4 Week experiential learning at EARTH University, Costa Rica
- Course credit at home Universities
- Language and cultural training

Purpose
- To promote and enhance students' global competence in food, agriculture, and natural resources

Award
- Travel, lodging, meals, and other related expenses in US and Costa Rica
- Participants will be housed on the beautiful EARTH University campus

Eligibility Criteria
- Must be an undergraduate student returning to an undergraduate program Fall 2011
- Should display strong academic record in food, agriculture, natural resources or related sciences
- Should demonstrate a strong interest to enhance their cross-cultural communication, foreign language skills and knowledge of a foreign culture

Program Contacts
Tuskegee University
Dr. Conrad Bonsi, 334-727-8333, cbonisi@tuskegee.edu

Alabama A&M University
Dr. Zachary Senwo, 256-372-5781, Zachary.Senwo@aamu.edu
The first China Exchange took place from June 25, 2010 to July 13, 2010 and the second occurred from June 8 to July 8, 2011. For both trips, participants included seven AAMU faculty members, three PhD graduate students, two MS graduate students, and four undergraduate students.

- Zachary Senwo, Co-investigator, Research Director of School of Agricultural and Environmental Sciences, Professor of Soil Microbial Biochemistry & Environmental Toxicology (2010).
- Robert W. Taylor, Dean of School of Agricultural and Environmental Sciences, Professor of Environmental Soil Chemistry (2010).
- Govind C. Sharma, Professor, Plant Biology (2010).
- Regine Mankolo, Research Assistant Professor, Soil Chemistry (2010).
- Dawn Lemke, Ph.D. graduate student and Research Associate, GIS and Remote Sensing (2010).
• Kathleen Roberts, Ph.D. graduate student, Ecosystem (2011).
• Kevin Messenger, Ph.D. graduate student, Wildlife (2011).
• Stephanie Whitaker, MS graduate student, GIS and Remote Sensing (2011).
• Douglas Allen Washington, MS graduate student, Soil Science (2011).
• Kaisha Bellingheri, Undergraduate student, Animal Science (2011).
• Jasmine Mitchell, Undergraduate student, Management Information Systems (2010).
• Na-Asia Ellis, Undergraduate student, Environmental Science and Civil Engineering (2010).

During the Exchange trips, the AAMU team collaborated with business representatives from China's forest industry and several professors from the following well-respected Universities and Academies:

• Nanjing Forestry University
• Chinese Academy of Sciences, Beijing
• Beijing Forestry University
• Beijing Normal University

• Institute of Botany, Chinese Academy of Science, Beijing
• China Agricultural University, Beijing
• Institute of Soil Science, Nanjing
• Nanjing Agricultural University
• Northwest Agricultural and Forestry University, Xian

Exploring Nanjing Forestry University (NFU)

During both trips, the visit to NFU included an orientation meeting, seminars, discussions of individual collaborations, cultural lessons, and a field trip. As part of the welcome ceremony, the teams met with Dr. Fuliang Cao, President of NFU, during an elaborate evening dinner reception. The teams also received a detailed briefing on the history and organization of NFU, which was celebrating its 100th anniversary at the time, from International Program Director, Qingyu Wang and from Dr. Jan Hui Xue, Vice President of Research and International Program.

Each year, the first stop during the visit to NFU was at the College
of Forest Resources and Environment. The Dean of the College, Dr. Jin Chi Zhang, provided the AAMU teams with an overview of its six academic departments. In addition, the College is home to the National Key Laboratory for Ecology, Wood Science, Chemical Process Engineering, Forest Genetics and Tree Breeding, Forest Protection, Forest Engineering, and Soil Microbiology. The team learned that bamboo production and utilization is a strong specialization of the College. The product development from bamboo including floor and wall coverings, blankets, and T-Shirts are part of the College’s efforts towards the growth and development of forestry in the country.

In 2010, while at the College, Dr. Robert W. Taylor and Dr. Zachary Senwo provided an overview of the School of Agricultural and Environmental Sciences as well as the teaching, research, and outreach/extension programs at AAMU. A full day was devoted to the exchange of information, mostly by the faculty of the College of Forestry and Environment and AAMU faculty. Below is a brief list of the presentations:

- Dr. Shenguo Fang (NFU): An overview of Chinese forestry and development of poplar silviculture and utilization
- Dr. Xiongwen Chen (AAMU): People, landscape and ecological services for sustainable natural resource management
- Dr. Tongmin Yin (NFU): Gender determination in poplars
- Dr. Govind C. Sharma (AAMU): Select molecular biology approaches for cooperation
- Dr. Yuanchun Yu (NFU): Forest soil research at NFU
- Dr. Robert W. Taylor (AAMU): Lead adsorption in phosphorus treated kaolinite
- Dr. Zachary Senwo (AAMU): Soil microbial biochemistry and environmental toxicological research
- Dr. Mingshi Li (NFU): Comparing China and U.S. forest fragmentation and its drivers analyzed with Globecover 2.2
- Dr. Wubishet Tadesse (AAMU): Geospatial analysis laboratory at AAMU
- Dawn Lemke (AAMU): Landscape modeling of invasive plants
- Dr. Yong Wang (AAMU): Wildlife research at AAMU
- Ms. Bo Zhang (Undergraduate student at NFU): Evaluation of the effects of reforestation on soil loss in the Dabie Mountain

By touring selected laboratories at the College of Forestry and Environment, the AAMU team received a highly informative look at the extensive work and research taking place at the College. The team toured very well-equipped tissue and cell culture, soil research, and GIS/remote sensing laboratories. They also viewed other facilities including the Biolog Micro-station for identification of bacteria and fungi.

Language and Cultural Training

At NFU, the AAMU teams had the opportunity to receive Chinese language training. The teams learned basic greetings, how to count, rules of intonation, letter pronunciations and the basics of Chinese writing. It was a great introduction to the Chinese language and helped tremendously in recognizing Mandarin Chinese when heard or seen written. They also received cultural training that provided insight into the daily life of the Chinese family. The teams were given an overview of traditional and modern male and female roles, regional marriage customs, divorce and how the country’s one child policy influences traditional and modern family matters. The teams had an opportunity to learn about Chinese festivals and briefly touched on the history of the associated customs and significance. The influence of tea in Chinese culture, as well as an overview of teas, regional variation, and customs was especially
noteworthy. The generous welcome and farewell dinners given by the hosts allowed the AAMU teams to better understand Chinese dining etiquette, especially in a social setting where people are ranked according to various status rules.

Student-to-Student Interactions
One of the most enjoyable parts of the trip for the 2011 AAMU team of students was the party that the Chinese students coordinated. The party, done completely in English, included Chinese snacks and drinks, a student DJ, and several party games. About twenty students participated and played games like Mafia, Charades, and 20 questions. The students suggested that this group bonding activity should be continued every year. It was a great icebreaker and allowed the AAMU students to connect with their Chinese colleagues. It also provided a unique, real-world opportunity for Chinese students to practice English and for everyone to build relationships that could be beneficial throughout the rest of the program and their lives.

Field Trip to Jiangsu and Anhui Provinces
The entire Jiangsu River Valley area, bifurcated by a large island, was like a well-manicured horticultural nursery with abundant water supply. It was obvious that the land was intensely managed which was a beautiful sight for the team to witness. During both years of the China Exchange, the first stop during the field trip was at the Hongzhe Lake Nature Preserve, a wetland protection preserve in Sihong County in northern Jiangsu State. One of the most fascinating places in the recreational area was the lotus breeding and research center. It had one thousand tanks for observing individual accessions and selections of lotus. During the latter half of the first day, while visiting the Poplar Research Center in the Poplar Improvement Forest, the team observed that considerable thought was being given to maximize production of wood, food crops and animal products.

On the second day of the field trip the AAMU teams went to a large plantation forest called Siyang Yellow River Ecological Protection Forest. While in Siyang they visited the Poplar Museum and Plywood factory. This visit provided them with a great opportunity to learn about the history of poplar plantation forests in China. Siyang Country was once one of the poorest countries in Jiangsu Province because of high human population density, shortage of natural resources, and frequent flooding. Shenyang’s economy has since been transformed and poplar has played a major role in this economic growth. The team saw a lot of recent developments in the country. For example, farmers rode motorcycles and tractors and residents lived in well-equipped apartments. One of the highlights, while in Siyang was seeing how happy and inquisitive the locals were. They taught the students to do their Chinese dances and in return, the AAMU students taught them some American dances. It was an amazing experience for the students and faculty.

On the third day of the tour, the team visited the Bamboo Research Center and bamboo industry in Yixing City and the surrounding area. Professor Dr. Yulong Ding, Dean of the College of International Education of NFU and the Director of Bamboo Research Center in Yixing, escorted the AAMU team through the region. The team learned about harvesting bamboo according to age and its intended use. The team also visited four different bamboo product factories and show rooms that specialized in producing charcoal products, flooring and paneling, or furniture.

In 2011, the team had the opportunity to visit Jiangsu Dafeng National Milu (deer) Reserve. The visit demonstrated the initiative and interest of the Chinese to recover and protect endangered species by setting aside lands necessary for the survival of a species of deer, the milu, that had nearly become extinct. The team had

Dr. Yong Wang greets the NFU delegation (front row) and AAMU faculty, staff and students in the Agricultural Research Center.
lunch with the park’s director and toured the area to see the milu herds in their natural habitat. Despite limited resources and extensive land use, the Chinese are very interested in protecting species diversity.

**Visits to Other Universities and Chinese Academy of Sciences**

During their trip to China, the AAMU 2010 team visited the China Agricultural University (CAU). While at the University they discussed programs in agricultural sciences and toured select state-of-the-art laboratories.

The 2010 team also visited Beijing Normal University (BNU), which lays great emphasis on exchange and cooperation with national, regional, and international educational institutions. The team visited several labs which included the Laboratory of Cell Proliferation and Control, Laboratory of Organism Diversity and Ecology Engineering, and Laboratory of Biological Resource Development and Biological Industry. They also visited Beijing Raptor Rescue Center (BRRC) housed in BNU.

The 2010 team visited three of the fifteen schools of the Beijing Forestry University: Soil and Water Conservation, Natural Resources, and Forestry. The team was briefed on each school and their research efforts, which included wetland and habitat conservation and the preservation of biodiversity.

The 2011 team had the opportunity to visit a new collaborator: Northwest Agricultural and Forestry University (NWAFU) located in Xian of western China. Established in 1934, NWAFU is a key national comprehensive university under the jurisdiction of the Chinese Ministry of Education. The University focuses on agriculture, forestry and water conservancy and has 4,654 faculty and staff; 16,921 undergraduate students and 3,220 graduate students. The 2011 team also visited state-of-the art teaching and research facilities, such as the Entomological Museum, the largest in Asia, the Artificial Rainfall Stimulating Hall and the Agricultural Sci-Tech Demonstration Park. Professors presented on different disciplines of interests like Soil Science, Agricultural Protection and Food Security, Environmental Science and Microbiology, Plant Nutrition, Fertilizers, Land Resources and Space Information Technology, Water and Soil Conservation, and Cartography and Geographical Information System.

In addition, the team visited the International Collaboration Park, which contained an impressive number of hoop houses that conducted research on all the main crops and plants from the world. After meeting with Dr. Wen-Shi Wu, Professor at the National Taiwan University and Tony Ma, leader of a group of Xian organic farmers, the team explored the possibilities of developing a collaborative program in organics education. Tony was specialized in organic seeds production and had made several trips to North Carolina. The team invited Tony Ma to a cooperative proposal of Research and Extension in Alabama.

**Dr. Robert Taylor Bestowed Honorary Professorship**

The Memorandum of Understanding was signed by Dean Jin Chi Zhang of the College of Forestry and Environment and by Dr. Robert Taylor, during a special celebration in 2010. At the celebration an honorary Professor’s degree was bestowed upon Dr. Taylor. President Chao recommended the bestowing of honorary professorship and it is rare that such an honour is bestowed, during the first visit by a visiting faculty. It was a strong expression of desire by the NFU faculty and administrators to support this collaboration.

**Mission Accomplished**

The goals for the first two years of the China/NFU visit were fully accomplished. (1) The visit improved and strengthened the team's
understanding of NFU’s academic programs and the university operations systems.  (2) The Memorandum of Understanding was developed and signed.  (3) Informative visits to field research sites were arranged which uncovered some common interests between the two universities.  (4) Faculty-to-faculty, student-to-student and student-to-faculty interactions were initiated which helped to identify potential research and education partnerships for students.  Recently, the National Science Foundation (NSF) awarded a new grant to AAMU for continuing this effort.  We expect that more faculty and students will be involved in this program.

**Students Reflect on the China Exchange**

“The exchange program opened my eyes to consider international collaborations and the importance of experiencing new cultures. I enjoyed my time in China and believe it is something that people need to experience for themselves to appreciate what I learned.”

Kaisha Belingheri, undergraduate of Animal Science

“My summer experience was a dream come true. I was fortunate to have had an opportunity to experience and learn about the Chinese culture and the educational system. I walked away from the program with an experience that has changed my life forever.”

Stefanie Gresham, undergraduate of GIS &RS. “Throughout the visit I was so impressed with the amount of work that went into making the vision of scientific and cultural collaboration between the scientists of Alabama A&M University and scientists in China a reality. Arrangements for scientific interaction, travel, dining, housing and historical site visits were well thought through which made the adventure that much more enjoyable. I feel that so many of my preconceptions of China, both on a cultural and scientific basis, were changed after this trip.”

Kathy Robert, graduate (PhD), Ecosystem Function

“The benefits to Alabama A&M University are long-term and powerful. The program also provides our university the opportunity to positively represent itself on the international level. Furthermore, A&M students will, inevitably, become a small representation of American black students. This gives us the opportunity to positively represent young black students to people who might otherwise only encounter American black culture through media. Beyond that, it also gives us an opportunity to represent Alabama on an international scale and show others what our state has to offer, in terms of the quality of our schools, students, professors, and the research conducted here.”

Douglas Washington, graduate student, Soil Science
Established twenty years ago, the Centers of Research Excellence in Science and Technology (CREST) program provides a substantial source of Federal support for research at minority-serving institutions across the United States. By facilitating research projects in science, technology, engineering and mathematics (STEM) disciplines with multi-year, multi-million dollar cooperative agreements, the main goal of CREST and its awardees is to build the research competitiveness of minority-serving institutions, while increasing the recruitment and retention of individuals from diverse backgrounds in STEM study and STEM-based careers. Dr. Yong Wang is the PI of the CREST-CFEA proposal and has been serving as the Center Director since 2007.

Expanding CFEA Research

Within the last few years CFEA researches have developed additional areas of research related to forest management impacts on forest ecosystems in northern Alabama. These areas include water quality, invasive plants, outdoor recreation, forest fragmentation, harvesting impacts on humans, forest site mapping and classification, and impacts on additional animal communities including aquatic communities. The three subprojects of CFEA include (1) Forest Community Responses and Dynamics, (2) Forest Ecosystem Function and Process, and (3) Coupled Dynamics of Humans and Landscapes.

Sub-Project I: Forest Community Responses And Dynamics (Fc)

We are expanding our study of the first phase of CREST where we focused on studying the genetic processes that control variation in forest trees to answer questions related to the population genetics of red oak species and pool breeding amphibians of the southern Cumberland Plateau. The findings from this research will help us to identify genetic bottlenecks, while also developing diagnostic genetic markers for detection of individual species. As the inter-specific hybridization within red oaks is very common, we may be able to set up large-scale population genetics experiments to determine the significant locations in the oak genome that influence the important traits. Our current collaborations are already working to develop additional markers using next generation sequencing and bioinformatics for developing detailed genetic maps of red oak genomes. Our new initiative will not only expand our research activities from vegetation to animals, but also provide a more complete assessment of the effect of forest disturbance on biodiversity through molecular and genetic levels.

Sub-Project II: Forest Ecosystem Function And Process (Fe)

Forest ecosystems play an important role in fixing atmospheric carbon dioxide (CO2) via the process of photosynthesis. Anthropogenic activities such as increasing use of fossil fuels have resulted in increased atmospheric CO2 levels from pre-industrial levels of 280 ppm to current levels around 380 ppm. In addition to supplying atmospheric oxygen supplies, forest ecosystems play a key role in sequestering carbon (C) in the form of above- and below-ground woody biomass, some of which can further be sequestered as soil organic C. The subject of C sequestration is gaining momentum worldwide due to increasing atmospheric CO2 levels associated with global warming. Climate change due to global warming may have far reaching undesirable effects on terrestrial and aquatic ecosystems. Our work will lead to a better understanding of these relationships, which will result in management practices to enhance long-term forest sustainability. This sub-project represents the biochemical, physical and mineralogical relationships of nutrient transformations and cycling.

Sub-Project III: Coupled Dynamics Of Humans And Landscapes (Cd)

This research has addressed one of the emerging themes in the global research-human dimensions of natural resources management by utilizing the indicators of socioeconomic and landscape disturbances in relation to the socioeconomic development of the Alabama Black Belt Region. This research presented an innovative spatial, data-based approach to understanding the relationship between economic development and disturbances in the demographic and natural base such as changes in different types of land covers.
CFEA Outreach Activities

Educational outreach is an integral part of the CFEA mission. We have hosted several on-campus activities to engage students within the University, as well as local area high schools. The activities include the annual Science, Technology, Engineering, and Math (STEM) Day and an educational visit by the Birmingham Water Works Board (BWWB) Young Water Ambassadors. Off-campus activities have also included the BWWB Young Water Ambassadors, as well as community workshops.

Recruitment

CFEA faculty have been actively involved with the recruitment effort of the College of Agricultural, Life and Natural Sciences established with a focus on minorities, particularly graduate students in STEM related fields. These recruitment efforts have included visits to various high schools and colleges in and out of the state of Alabama through cooperation with the Admissions Office. Professors and graduate students traveled to schools for their high school senior days to speak with students and faculty and distribute information. The professors attended conferences such as MANRRS (Minorities in Agriculture, Natural Resources, and Related Sciences) and community college fairs to recruit talented minority graduate students. For the years of the REU program (2007-2010), there were over 70 institutions represented by student applications. Our recruitment efforts were very successful with the steady increase of both undergraduate and graduate students in the various programs.

Development of the Online Dual Credit Partnerships and Recruiting for 21st Century Professionals in Food and Agricultural Science: In collaboration with the recruitment team of the College of Agricultural, Life and Natural Sciences of AAMU, the Center developed a proposal “Developing Online Dual Credit Partnerships and Recruiting for 21st Century Professionals in Food and Agricultural Science” and has been funded by the USDA Cooperative State Research, Education, and Extension Service (CSREES). We have established recruitment/on-line dual credit partnerships with local and statewide high schools and initiated a series of recruitment activities. We have developed five online dual credit courses; established a databases of student contacts for follow up and assignment of faculty advisors; identified key recruitment advisors including alumni, counselors, teachers, and administrators; developed a list server and recruitment website to facilitate communication, effort tracking, and bi-directional updating of prospective students’ information; initiated a ‘Professors at High Schools’ program to bring professors to high schools; brought teachers and prospective students to our campus for summer apprenticeship programs or in-service training; and developed a recruitment CD and I-Port track for student downloading. During the 2010 fall semester, 15 undergraduate students, all African Americans, signed up for at least one of these courses. This program has attracted high school students to food and agricultural science professions, helped their transition from high school to college life, enhanced the program viability of AAMU, and are likely to enhance and diversify the nation’s work force of natural resources, agricultural, and environmental professions.

Competitive Research Assistantships: Fourteen NSF-CREST funded graduate students were supported by CFEA. Competitive stipends of $20K/year for M.S. students and $25K/year for Ph.D. students have allowed us to recruit and retain excellent minority students. Four additional graduate students are currently engaged in CFEA wildlife research. Others are involved in related forest wildlife assessment research projects funded by other agencies. Graduate students have been recruited by CFEA support staff and from other universities to work with us as well.

Lab Meetings: Lab meetings have been organized by faculty and graduate students within the Center. These are used as an opportunity to discuss needs, concerns and achievements. It has helped to develop stronger synergy within the group and build a solid support structure for students. These meetings are also used to discuss recent advances in their field, especially new technology and research findings in the literature.

STEM Day 2011: For many science-teaching institutions, the Science, Technology, Engineering, and Math (STEM) Day event is dedicated to promoting interest and skills in the STEM fields among college students. It is also a day for AAMU to celebrate the accomplishments of its students in research and senior science projects. The goal of the program is to build the STEM education and research capacity at our University, as a means of broadening interest and participation in the nation’s STEM workforce. CFEA students, staff, and faculty have been a driving force behind STEM Day, since its inception at AAMU five years ago. During the 2011 event, approximately 120 students participated in scientific poster presentations based on any STEM related research, any on-going research at AAMU, or projects completed on campus through summer research experiences.

Forest Fair Day 2011: In March, a total of 150 fifth and sixth grade students from the north Huntsville area participated in the Forest Fair Day co-sponsored by the US Forest Service and AAMU. We worked alongside the USFS and the AAMU Forestry Club in this outreach event. The students were taught how damaging wildfire can be in the rural urban interface. They were also taught animal identification from Allison Cochran, a USFS Wildlife Biologist. During the fair, students cheered on the AAMU Forestry students, who displayed how a variety of tools were used in forestry, which included a two-man saw and ax throwing.

Alabama Tornado Forest Recovery Task Force: After the tornadoes, the AAMU FireDawgs chainsaw crew was activated to a tornado response team by the Alabama Forestry Commission. FireDawgs crew members, which are all CFEA FEW graduates, spent over 10 days in recovery and cleanup efforts in Guntersville, Harvest and Cullman removing downed timber to reopen roads in heavy damaged areas. Well over 360 hours of community service were provided.

PROFESSIONAL OUTREACH

Contributions to Human Resource Development

A primary objective of the Center is to increase the number of trained professionals, especially African-Americans, engaged in research, teaching, and management of renewable natural resources. We have made great headway toward this goal by involving both
graduate and undergraduate students in all aspects of the research project conducted by different scientists. After graduation, CFEA graduate and undergraduate students will be well equipped to lead in research and teaching fields and in the job market with state and federal agencies, private consulting, and industrial forestry. One of the key goals of the CFEA Center has been to educate future natural resource scientists, especially students from groups currently under-represented in science and technology fields. One of the strategies that CFEA has adopted to achieve this goal is to form partnerships with neighboring high schools and other educational organizations in a program called ‘EnvironMentors’. This program is being carried out in collaboration with the North Alabama Center for Educational Excellence (NACEE) and Johnson High School (JHS). The goals of the program are: (a) to increase opportunities for minority students to be involved in science and the environment; (b) to help in the development of future leaders in agricultural and environmental sciences through research and educational experience; and (c) to help in student recruitment efforts for the area of NRES in the Department of Biological and Environmental Sciences, especially the AAMU Environmental Science program, Expanding Alabama A&M University’s Global Research, Education, and Engagement. One of the major initiatives of the Center was to enhance its international collaboration in research and education.

Educational Activities

Educational activities are a fundamental component of CFEA. Research at the Center has been integrated into all levels of our educational activities, from kindergarten to graduate school. Center faculty and students visited kindergarten, elementary, and high school students in their classrooms throughout the year to assist in teaching environmental and natural resource related subjects and to promote AAMU’s programs in these areas. The CFEA faculty members have formed partnerships—with a local high school (Johnson High School [JHS]), the National Council of Science and the Environment, and North Alabama Center for Educational Excellence—to carry out a national college access program known as the EnvironMentors Program. The EnvironMentors Program prepares high school students from under-represented backgrounds for college degree programs in environmental and related science fields. We matched minority high school students with CFEA faculty mentors in one-to-one mentoring relationships. Working together, the students and their mentors developed and worked science research projects. In 2010 we were awarded an NSF Undergraduate Research Mentoring (URM) grant, which expands our REU program to a year-round program. This program will provide a bridge for 20 undergraduate students to pursue graduate degrees in STEM fields. CFEA also provided work-study opportunities and practical projects for undergraduate students to work on CFEA related research. Competitive research assistantships and an expanded graduate curriculum that integrates CFEA research have been fundamental to the recruitment and education of graduate level students. We also expanded our educational activities into the international arena by initiating China and Costa Rica international programs.

Educational Findings

Our educational activities have greatly enhanced our research, student participation and knowledge and our efforts to recruit minorities, particularly African Americans, to natural resource and ecological related fields have been successful. We believe that with these persistent and coordinated efforts, AAMU will play a leadership role in diversifying the workforce of STEM related fields in the nation.

Organizational Partners and Contributors

We have worked diligently to establish long-term working relationships with our organizational partners and throughout the years they have made major contributions to the CFEA projects. Our numerous partners and contributors have worked with AAMU scientists and students in every phase of the project, including identifying research plots, applying the treatments, accommodating students and faculty, providing funding and other resources, and providing logistics support. Several contributors have acted as mentors to students and helped with research projects. A list of contributors to CFEA projects is as follows:

- USDA Forest Service
- AL Dept of Cons and Nat Resources
- Auburn University
- Bankhead Education Foundation
- Bankhead National Forest Citizen Liaison
- The Nature Conservancy
- USDA-FS Wm. B. Bankhead National Forest
- USDA-FS Southern Research Station
- Tuskegee University
- Clemson University
- Marshall University
- Mississippi State University
- Nanjing Forestry University
- City of Huntsville, Alabama
- University of Alaska Fairbanks Campus
- Northwest A&F University
- Beijing Normal University
- Beijing Forestry University
- Institute of Zoology, Chinese Academy of Sciences
- Dongzhai National Nature Reserve
- National Science Foundation
- AL Agricultural Land-Grant Association
- US Army Engineer R and D Center
- Federation of Southern Cooperatives
- Birmingham Water Works Board (BWWB)
Department of Biological and Environmental Sciences
Area of Natural Resources and Environmental Sciences

Student Awards

Student fellowships (very competitive)

-Zachary Felix: USEPA Star Fellowship (2005, $90,000), National Science Foundation East Asia Pacific Summer Institute Fellowship (2007, $10,000)
-Jill Wick: USEPA Star Fellowship (2006, $60,000),
-William Sutton: USEPA Star fellowship ($90,000), National Science Foundation East Asia Pacific Summer Institute Fellowship (2010, $10,000)
-Lisa Gardner: National Science Foundation East Asia Pacific Summer Institute Fellowship, Redstone Credit Union Fellowship (2009, $10,000)
-Timothy Baldwin: Alabama Space Grant Consortium Fellowship (2008, $80,000), IUCN/SSC ASG Seed Grant (2008, $2000)
-Andrew Cantrell: The Experimental Program to Stimulate Competitive Research (EPSCoR) Scholarship ($50,000), National Science Foundation East Asia Pacific Summer Institute Fellowship ($10,000)
-Brandie Stringer: The Walter Coxe Research Scholarship ($1,750)
-John Carpenter: National Science Foundation East Asia Pacific Summer Institute Fellowship (2008, $10,000).

Other awards:

-Yong Wang, Dean’s Citation of Research Excellence. School of Agricultural and Environmental Sciences. 2008.

First Place Award (oral). Alabama Academy of Science 2010 Annual Conference. William B. Sutton, Yong Wang, and Callie J. Schweitzer. Forest management practices reveal habitat use gradients in southeastern lizard species.


Peer reviewed journal articles that have been written from Oct. 2009 - Aug. 2011.


**Grants received and their dollar amount from Oct. 2008 to Aug. 2011.**


Research Experience for High School Students: Mentoring Future 21st Century Scientists in Environmental and Natural Resource Sciences (2008-2010). NSF. $20,000. PI

Developing a web-based interdisciplinary graduate program in ecological restoration. CSREES USDA Higher Ed Challenge Grant. $600,000. 2007-2012. CoPI.

Developing Online Dual Credit Partnerships and Recruiting for 21st Century Professionals in Food and Agricultural Science. USDA CSREES Capacity Grant. $200,000. 2008-2012. PI.

Small mammal and herpetofaunal response to regeneration treatment for oak upland hardwood forest of Cumberland Plateau of Tennessee. USDA Forest Service. $50,000. 2008-2012. PI.

Strengthening Minority Global Perspectives: Collaborative Partnerships with China in Agricultural Research and Education, USDA CSREES International Science Education Program. $150,000. 2009-2012. PI.

Assessing reforestation and nonnative vegetation invasion probabilities at reclaimed surface mine sites of Cumberland Plateau and Mountain Region. US Office of Surface Mining. $166,940. 2009-2011. PI.

Environmental Biology at Alabama A&M University (EB@aamu): Undergraduate Research Mentoring (URM). National Science Foundation. 2010-2004. $1,000,000. CoPI.

CREST/Center for Forestry Ecosystem Assessment (CFEA). Fire and pine canopy reduction disturbance effects on the macroinvertebrate and vertebrate communities in pine-hardwood ecosystems of the Cumberland Plateau. National Science Foundation. 2011-2015. $5,000,000. PI.

Oak Forest under Changing Climate and Management Practices and Conservation Wildlife Biodiversity in Northern Alabama. USDA. 2009-2013. $210,000. PI.

Strengthening Faculty and Students’ Global Competence and Experiential Learning in Agriculture, Natural Resource Management and Conservation. 2010-2013. USDA. $300,000. CoPI.
Department of Community and Regional Planning FACULTY:
DCRP faculty members are involved in teaching the programs course offerings, research and public service. They also mentor students and prepare them for the job market to make a difference in their communities, the nation and internationally.

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PROJECT GRANT FOR (2011-2012)

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FACULTY SPECIAL AWARDS AND RECOGNITION

Izeogu, C. V.:
(i) Chair, Board of Directors, Umuogba USA (UUSA)
(ii) Chair, Board of Directors, Institute for the Environment

Lee, Joseph A.:
(ii) Elected Board Member, Alabama Association of Community Development Corporations (CDC) 2009/2010

Oluwoye, Jacob O.:
(i) Member, Transit Coop Research Program Screening Panel, Washington, DC (FY 2010)
(ii) Member, Transportation Research Board of National Academies Panel(Served as reviewer for TCRP project H-42, FY 2010
(iii) Smart Grid Reviewer, US Dept of Energy
(iv) Member, Huntsville, AL City Schools Wellness Committee

Wilson, Constance J.:
(i) Member, City of Huntsville Downtown Advisory Council
(ii) Member, Big Springs Downtown Huntsville Housing Committee
(iii) Member, Nominating Committee for Students Officers for Association of Collegiate Schools of Planning (ACSP)-Planners of Color Interest Group (POCIG)

FACULTY PUBLICATIONS AND PUBLICATIONS IN PROCESS


- Wilson, C. J. Facts on Families in Alabama’s MSAs: A joint publication with the Alabama Cooperative Extension Service and the Center for Urban and Rural Research.


- Oluwoye, J.O. (2010). “Road Safety through Planning for Roads and Road Environment: Pedestrian and Vehicular Interactions as a Ways towards Sustainability of Urban Local Untarred Roads and Frontages in Developing Countries.” Accepted 2010 by the XXIVth World Road Congress in Mexico City, 2011.

- Fricano, R. J. (2011) “Addressing Oil Drilling and Production Impacts in Urban Areas” (Pending Submittal)


DCPUS STUDENTS AWARDS and RECOGNITIONS:

Department of Community Planning and Urban Studies won First at the 1st Annual Student Planning/Urban Design Competition during the 2009 Spring Conference of the American Planning Association (APA) Alabama Chapter, held at the Perdido Beach Resort in Orange Beach, Alabama, March 25-27, 2009. The projects focused on the Meridian street (Huntsville, AL) corridor with the following themes:

- “AAMU and Its Environ-Promoting the Concept of Community”;
- “Economic Empowerment along the Meridian Street Corridor-A Case for Reclamation, Reinvestment and Revitalization; and
- “Antiquity, Artistry and Aesthetics- Themes for Celebrating the Heritage and Embracing the opportunities of Meridian Street.”
Dr. Gamal Abdelrahim, Associate Professor, Animal Science

The University’s Animal Science Club, AAMU National Dairy Chapter, and the AAMU Dairy Team, winner of the 2010 National gold Award in the North American Intercollegiate Dairy Challenge (NAIDC, http://www.dairychallenge.org/national_context_photos-2011.php) held in Visalia, California, on April 7-11, 2010 (http://www.dairychallenge.org/pdfs/RESULTS-Team%20Rankings%202011.pdf), and winner of numerous platinum and gold awards in regional contests (http://www.huntsvillenewswire.com/2010/12/07/aamu-wins-awards-regional-dairy-challenge/) benefited from the research activities in animal nutrition research projects supported by the USDA and the Alabama Agricultural Land-Grant Alliance (AALGA) in 2007-2011. Prior to competing in the contests, the students received intensive hands-on training on animal nutrition, breeding, production, and management. During the training, instead of dairy cattle the students used lambs as models. This was reported in an article published in the “Sheep Industry News”, a monthly publication published by the American Sheep Industry Association (ASI), Volume 15, Issue 9, published in July 1, 2010. The article can be accessed at the ASI Website: http://sheepindustrynews.org/?page=site?text&nav_id=432cd4d4d52c5db5528c32abe1fc0217

Dr. Josh Herring, Research Associate Professor, Food Science

Peer Reviewed Publications and Presentations:


Funded Research Support:
Building Abilities of Students, Faculty and Alabama A&M University through Workshops in Food & Animal Science Role: PI
Kerth, C. R., Willian, K., Herring, J.L. 2008-2010 Sustainable Agriculture Research and Education Program $184,368

Producing, processing, and marketing forage-finished beef for consumers in the southeastern United States Role: Co-PI

Dr. Jorge Vizcarra, Associate Professor, Animal Science

Manuscripts published and submitted to peer reviewed journals

Peer reviewed presentations and abstracts -national -regional/local


As a Co-PI
NSF
Sharma (AAMU), Vizcarra, Others
Co-PI
Undergraduate Research and Mentoring in Biological Sciences (URM)
$1,000,000, Granted Apr 2010

USDA-NIFA-CBGP
Abdelrahim (AAMU), Vizcarra Others
Enhancing Recruitment and Retention in Animal Science to Build Capacity in Pre-Veterinary Medicine Program at AAMU
200,000, Granted March 2011

USDA-NIFA-CBGP
Herring, Vizcarra, Others
Building abilities of students, faculty and AAMU through workshops in food & animal sciences
$150,000, Granted March 2011

Dr. Lamin Kassama, Assistant Professor, Food Science (Food Engineering/Processing)

Dr. Pratik Banerjee, Assistant Professor, Food Microbiology/Safety
Grants Received:
USDA Capacity Building Enhancement of Minority Student Participation in Food Safety $140,838 (2010-13) PI Funded
NSF (URM) Undergraduate Research in Biological Sciences $999,000 (10/01/2010-09/30/2016) Co-PI Active

MANUSCRIPTS PUBLISHED IN PEER REVIEWED JOURNALS

Book and Book Chapter

Dr. Koffi Konan, Research Associate Professor, Food Biotechnology
Alisha Bush (MS student) won the first place for Poster presentation STEM day 2011. Poster title: In Vitro Induction Of Callus from the Tuber Crop Yam (Dioscorea spp).

A list of peer reviewed journal articles that have been written for the past two years Oct. 2009 - Aug. 2011.

Weihua Wade Yang, Si-Yin Chung, Olasumubo Ajayi, Kathiravan Krishnamurthy, Koffi Konan, Renee Goodrich-Schneider (2010). Use of Pulsed Ultraviolet Light to Reduce the Allergenic Potency of Soybean Extracts. International Journal of Food Engineer-

A list of grants received and their dollar amount for the last three years Oct. 2008 to Aug. 2011.
Enhancement of student participation and career development in nanobiotechnology. USDA/CSREES, Capacity Building Grant, 2008. $ 197,906.63

Dr. M. Verghese
1. Undergraduate Student (Janika Hull) won the 1st place at the Association of research Directors Meeting (Scientific poster) , Atlanta, April, 2011
2. Graduate Student won the 1st place (Louis Shackelford) at the Association of research Directors Meeting, Atlanta (Scientific paper-ORAL competition), April, 2011
3. Graduate Student (Lauren Mounts) won the 3rd place at the Association of research Directors Meeting (Scientific poster), Atlanta, April, 2011
4. Graduate Student (Hadyn Reid) won the 2nd place at the 5th STEM Day Poster Competition, Alabama A&M University, April, 2011
5. Undergraduate Student (Jelisa Thomas) won the 1st place at the 4th STEM Day Poster Competition, Alabama A&M University, April, 2011
6. Undergraduate Student (Henok Tegete) won the 2nd place at the 4th STEM Day Poster Competition, Alabama A&M University, April, 2011
7. Graduate Student (Latonya Dukes) won the 1st place at the 4th STEM Day Poster Competition, Alabama A&M University, April, 2010
8. Graduate Student won the 2nd place (Stephen Appiah) at the 4th STEM Day Poster Competition, Alabama A&M University, April, 2010
9. Graduate Student (Antonio Miller) won the 3rd place at the 4th STEM Day Poster Competition, Alabama A&M University, April, 2010
10. Undergraduate Student (Henok Tegete) won the 1st place at the 4th STEM Day Poster Competition, Alabama A&M University, April, 2010
11. Undergraduate Student (Mallori Odum) won the 3rd place at the 4th STEM Day Poster Competition, Alabama A&M University, April, 2010
12. Graduate Student (Belinda Kanda) won the 1st place at the National IFT Graduate Paper Competition, Anaheim, Chicago, 2010
13. Graduate Student (Vishnupriya Gourineni) won the 2nd place at the National IFT Graduate Paper Competition, Chicago, 2010
14. Graduate Student (Louis Shackelford) won the 3rd place at the National IFT Graduate Paper Competition, Chicago, 2010
15. Graduate Student (Vishnupriya Gourineni) won the 1st place at the National IFT Graduate Paper Competition, Anaheim, CA, 2009
16. Graduate Student (Cheryl Rock) won the 2nd place at the National IFT Graduate Paper Competition, Anaheim, CA, 2009
17. Graduate Student (Dattatreya Gajula) won the 4th place at the National IFT Graduate Paper Competition, Anaheim, CA, 2009
18. Graduate Student (Louis Shackelford) won the 1st place at the 3rd STEM Day Poster Competition, Alabama A&M University, April, 2009
19. Graduate Student (Dattatreya Gajula) won the 2nd place at the 3rd STEM Day Poster Competition, Alabama A&M University, April, 2009
20. Graduate Student (Reuel Field) won the 3rd place at the 3rd STEM Day Poster Competition, Alabama A&M University, April, 2009
21. Undergraduate Student (Belinda Kanda) won the 1st place at the 3rd STEM Day Poster Competition, Alabama A&M University, April, 2009
22. Undergraduate Student (Daniel Crutcher) won the 3rd place at the 3rd STEM Day Poster Competition, Alabama A&M University, April, 2009
23. Graduate Student (Vishnupriya Gourineni) won the 2nd place at the National IFT Graduate Paper Competition, Chicago, 2008
24. Graduate Student (Reuel Field) won the 3rd place at the National IFT Graduate Paper Competition, Chicago, 2008

A list of peer reviewed journal articles that have been written for the past two years Oct. 2009 - Aug. 2011.


• Peter Wambura, Martha Vergheese Effect of pulsed ultraviolet light on quality of sliced ham LWT - Food Science and Technology, Volume 44, Issue 10, December 2011, Pages 2173-2179.


BOOK CHAPTERS
Martha Vergheese and Judith Boateng (2011), Nutrigenomics, Chapter-003: Omics: Biomedical Perspectives and Applications
• Martha Vergheese and Judith Boateng (2011) Flax Seed (Linum usitatissimum) Fatty Acids, Science Publishers

ABSTRACTS AND PRESENTATIONS (REFEREED)
• Jennifer Patterson, Martha Vergheese, Simon Ogutu, Lloyd T. Walker, Analysis of volatile N-nitrosamines in red swamp crayfish, 2011 IFT Annual Meeting, Technical abstracts June 11 - 14, New Orleans LA
• Latonya Dukes, Martha Vergheese, Judith Boateng, Lloyd T. Walker, Chemopreventive effects of selected herbs and spices in a colon cancer cell model, 2011 IFT Annual Meeting, Technical abstracts June 11 - 14, New Orleans LA
• Hadyn Reid, Martha Vergheese, Judith Boateng, Louis A. Shackelford, Chemopreventive potential of walnuts and peanuts on azoxymethane-induced preneoplastic lesions in Fisher-344 male rats, 2011 IFT Annual Meeting, Technical abstracts June 11 - 14, New Orleans LA
• Santosh Chintapandu, Lloyd T. Walker, Martha Vergheese, Yvonne C. Chukwumah, Simon Ogutu, Vijaya Bhaskar R. Poreddy. Effects of postharvest processing on individual phytochemicals, antioxidant activities, total phenolic, flavonoid, and anthocyanin content in cranberries (Vaccinium macrocarpon), 2011 IFT Annual Meeting, Technical abstracts June 11 - 14, New Orleans LA
• Belinda Kanda, Martha Vergheese, Judith Boateng, Louis A. Shackelford, Stephen Appiah, Processing effects on phytochemical content and bioavailability of carrots using a rat model, 2011 IFT Annual Meeting, Technical abstracts June 11 - 14, New Orleans LA
• Kristen Campbell, Martha Vergheese, Judith Boateng, Louis A. Shackelford, Janika Hull, Jelisa Thomas, Belinda Kanda, Lloyd T. Walker, Consumption of dietary fiber in a high saturated fat-based diet may have implications in reducing preneoplastic lesions, 2011 IFT Annual Meeting, Technical abstracts June 11 - 14, New Orleans LA
• Stephen Appiah, Martha Vergheese, Judith Boateng, Louis A. Shackelford, Belinda Kanda, Lloyd T. Walker, Impact of selected processing methods on phytochemical content, antioxidant activity, and chemopreventive potential of beets (Beta vulgaris), 2011 IFT Annual Meeting, Technical abstracts June 11 - 14, New Orleans LA
• Marilyn Hawkins, Martha Vergheese, Judith Boateng, Belinda Kanda, Effects on physicochemical properties of grape juice using thermal and pulsed electric field pasteurization, 2011 IFT Annual Meeting, Technical abstracts June 11 - 14, New Orleans LA
• Cassidy Brazelton, Martha Vergheese, Pratik Banerjee, Growth and survival of selected probiotic bacteria in legume beverages, 2011 IFT Annual Meeting, Technical abstracts June 11 - 14, New Orleans LA
• Henock Tegete, Peter Wambura, Martha Vergheese, Application of power ultrasound to improve adhesion of honey on roasted peanuts, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• Judith A. Boateng, Martha Vergheese, David Asiamah, L.T. Walker, Corn pericarp extracts inhibit cell proliferation and promote apoptosis in colon cancer cells, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• David Asiamah, Martha Vergheese, Rhona Miller, Judith Boateng, L. Disney, L.T. Walker, L. Shackelford, Simon Ogutu, Peter Wambura, Utilizing health benefits of bitter melon by development of two products: Bitter Melon relish and salsa, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• Judith Boateng, Martha Vergheese, Antioxidant activity, induction of apoptosis and inhibition of cell proliferation by...
peanut and almond extracts in human colon cancer cells, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• Reuel Field, Martha Verghese, Judith Boateng, Lauren Mounts, Daniel Crutcher, L. T. Walker, L. Dukes, Antonio Miller, Determination of processing methods on total phenolics, flavonoids and antioxidant potential in selected dry beans, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• Lisa Disney, Martha Verghese, Judith Boateng, L. Shackelford, Peter Wambura, Rhona Miller, S. R. Mentreddy, Gurudev Mayalagui, Simon Ogutu, David Asiamah, L. T. Walker, Effect of selected processing methods on phytochemical content and antioxidant potential of Capsicum annuum, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• Antonio Miller, Martha Verghese, Judith Boateng, L. Shackelford, L. T. Walker, L. Dukes, Reuel Field, Stephen Appiah, Belinda Kanda, Rhona Miller, Lisa Disney, David Asiamah, Kristen Campbell, Chemopreventive potential of almonds and pecans against the development of Azoxy methane induced tumorigenesis in Fisher 344 male rats, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• Rhona Miller, Martha Verghese, Judith Boateng, E Cebert, Simon Ogutu, L. T Walker, Screening of heavy metal accumulation in selected cruciferous vegetables and their impact on antioxidant activity, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• L. Dukes, Martha Verghese, Judith Boateng, Antonio Miller, L. Shackelford, L. T. Walker, Reuel Field, David Asiamah, Kristen Campbell, Daniel Crutcher Selected herbs and spices reduce Azoxy methane (AOM)-induced colon tumors in Fisher 344 male rats, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• Kristen Campbell, Martha Verghese, Judith Boateng, Yvonne C. Chukwumah, Lloyd T. Walker, Simon Ogutu, Martha Verghese Effect of cannng on the bioactive polyphenols of peanuts and changes in phenolic composition during storage, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• Sridhar Chowdrapally, L. T. Walker, Y. Chukwumah, Martha Verghese, Simon Ogutu Changes in total phenolics and flavonoid content of carrots: Effect of freezing and drying techniques on stability of carrot polyphenols, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• Vijay B. Poreddy, Lloyd T. Walker, Yvonne C. Chukwumah, Martha Verghese, Simon Ogutu Effect of fermentation conditions on individual phenolics in cranberries during wine making, 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL
• Santosh Kumar Chintapandu, L. T. Walker, Y. Chukwumah, Martha Verghese, Simon Ogutu Effects of postharvest processing on total phenolic and flavonoid content of in red apples (Malus domestica) and grapes (Vitis vinifera), 2010 IFT Annual Meeting, July 17 - 20, Chicago, IL

A list of grants received and their dollar amount for the last three years Oct. 2008 to Aug. 2011.

"Enhancing recruitment and retention in Animal Science to build capacity in Pre-Veterinary Medicine at AAMU"
Pl: Abdelrahim; Co-Pls: Correa and Vizcarra.
Amount: $149,916.00 (3 years)
2Strengthening the Small Ruminant Extension Program at Alabama A&M University
Pl: Correa, CoPls: Leite-Browning and Spencer
Amount: $223,068.00 (2 years)
Advancing Food Science in Pre-Post secondary education
PI: Verghese, Co-PIs- Walker, Boateng and Herring
USDA-Amount $199,765 (3 years)

Enhancement in Minority Participation in Functional food product development in food science programs
PI: Verghese, M, Co PI: Boateng, Herring, Banerjee, and Walker
USDA-Amount $149,976 (3 years)

Enhancement of minority student participation in food safety
PI: Banerjee, P, Co PI: Verghese, M, Bhunia, A, Okafor, F and Kantety, R
USDA-Amount $149,838 (3 years)

HPL-Based Ethics Education for Life Science and Engineering
PI: Collins, J, CoPI: Cebert, E, Fraser, R and Verghese, M
NSF –Amount-$399,990 (3 years)

Building Abilities of Students, Faculty and Alabama A&M University through Workshops in Food & Animal Science
PI: Herring; Co-PI(s): Abdelrahim, Banerjee, Boateng, Verghese, Vizcarra
USDA/Amount: 148,518.56 (3 years)

A National Food Safety Education Program: building a multidisciplinary food safety training pipeline from K-12 to graduate school
PI: Wiedmann (Cornell), Co PIs: Verghese, Ramirez, Oliver and Roberts
Agriculture and Food Research Initiative (AFRI) Food Safety program
Amount: $1,963,436.00 (3 years)

PI-Verghese, M. Co-PI-L. T. Walker
Amount $144,399
List of students that have won awards within ESWSP from Jan. 2010 to Aug. 2011

NASA Graduate Student Researchers Program awarded Stephanie Whitaker a $30,000 scholarship. The first award was for the period of 06/04/10 – 06/03/11 and is now extended until 06/03/12 with additional $30,000. Her MS degree thesis is titled “Assessing the effect of urbanization on water quality in the Flint River Watershed using Remote Sensing and GIS Technologies.” Her major advisor is Dr. Wubishet Tadesse.

Alisha Sledge and Rakeyta Scales both Environmental Science students won first place at STEM Day poster presentation held spring 2011 at Alabama A&M University campus Environmental Science majors Rakeyta Scales, Alisha Sledge, NaAsia Ellis, Stephanie Gresham have been named the Undergraduate Research and Mentoring in the Biological Sciences (URM) Scholar. The program is funded by National Science Foundation (NSF).
List of peer reviewed journal articles that have been written for the past two years Oct. 2009 - Aug. 2011


List of grants received and their dollar amount for the last three years Oct. 2008 to Aug. 2011

1. Center of Forest Ecosystem Assessment: Subproject III. Coupled Dynamics of Human and Landscape (CD). Funding Agency - National Science Foundation (NSF) , $1,273,013, PI
2. Center of Forest Ecosystem Assessment: Subproject II. Ecosystem Functions and Processes in Disturbed Forest Ecosystem: Biogeochemical Nutrient Cycling Dynamics
3. Organic Farming Planning Proposal for Research and Extension in Alabama Funding Agency USDA-OREI
4. REU-China Ecological and Environmental Research in Urbanized Landscape National Science Foundation (NSF) $320,000
5. Environmental Biology at Alabama A&M University - National Science Foundation (NSF) $996,000
6. Engaging Underrepresented Undergraduate Students in the Crop Sciences: 2009 International ASA-CSA-SSSA Conference National Science Foundation (NSF) $74576
9. Carbon-Dioxide-Enhanced Oil Production from the Citronelle Oil Field in the Rodessa Formation, South Alabama (US DOE, 2007-2012) - Co-PI ($300,000 of $3,000 000 total in funding)
Dean and Research Director
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K. Renée Johnson 256.372.4827

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Mrs. Penny Stone, Secretary 256.372.4199

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Dr. Constance Wilson, Graduate Studies Coordinator 256.372.4992
Dr. Berneece Herbert, Assistant Graduate Studies Coordinator 256.372.4988
Mrs. Heidi Weaver, Secretary 256.372.5426

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Ms. Sharon Moore, Secretary 256.372.5419
Ms. J. Diana Grigsby, Secretary 256.372.5262

Food and Animal Sciences
Dr. Martha Verghese, Chair/Interim 256.372.4175
Ms. Sharon Steele, Secretary 256.372.4176
Ms. Sonya Bynum, Secretary 256.372.8028

Military Sciences
Major Johnnie Richardson, Chair 256.372.4023/1.800.401.1880
Ms. Mattie Baker, Military Personnel Technician

Winfred Thomas Agricultural Research Station
Mr. Gokul Ghale, Station Manager (Interim) 256.828.2114/828.2100
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