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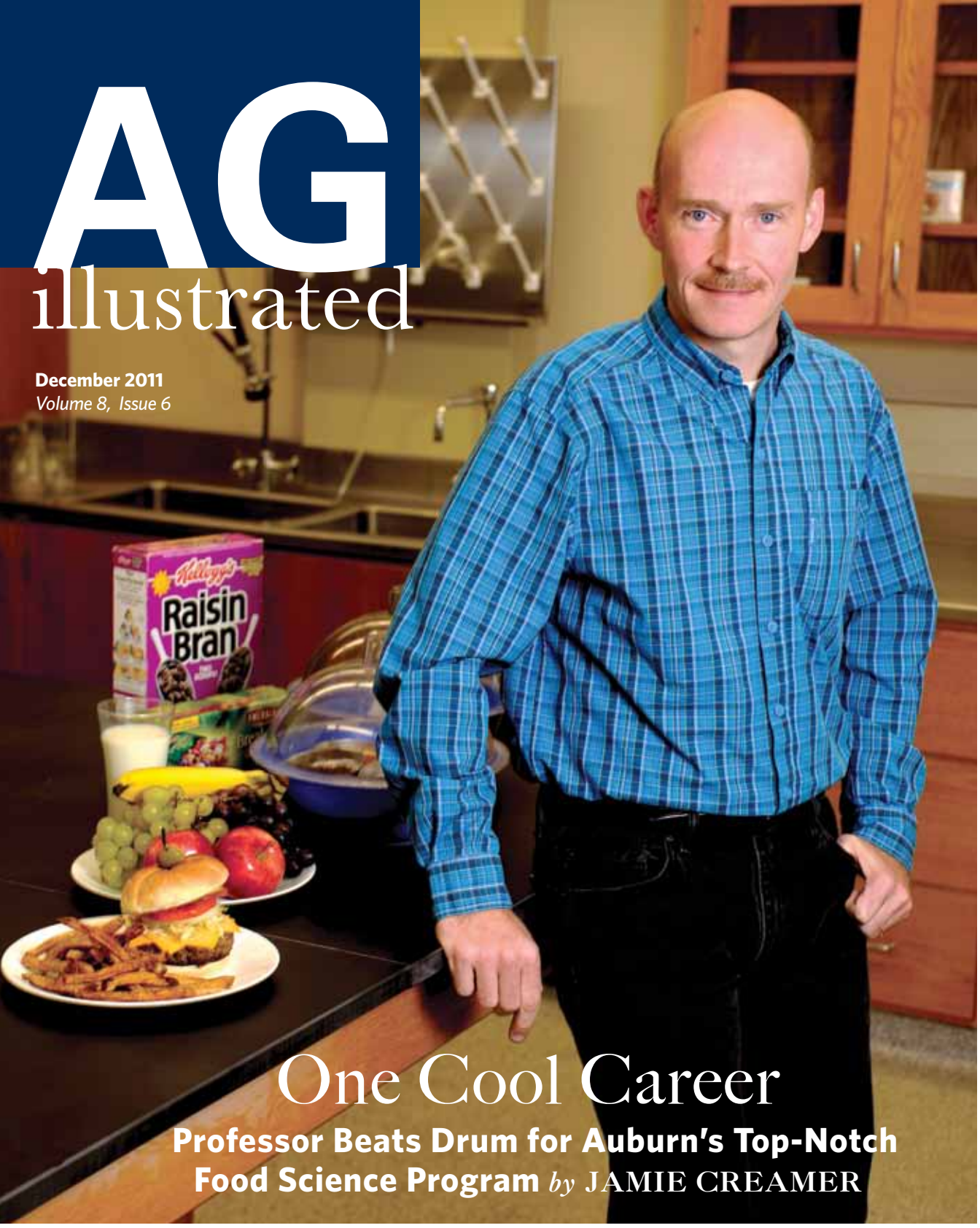

One Cool Career

Professor Beats Drum for Auburn's Top-Notch Food Science Program *by* JAMIE CREAMER

FOOD AS A SCIENCE—Auburn University food science professor Leonard Bell says the best way to understand what people in his profession do is to simply open your pantry. If not for food scientists, there would be no canned soups on the shelves, no cranberry sauce and green beans, no store-bought breads, no chips and salsa, no breakfast cereals—in essence, nothing. Food scientists, Bell says, are the link between farmer and consumer, transforming harvested crops into a multitude of food products that are tasty, safe, available, convenient and affordable. Above, as part of an investigative report that aired on a Birmingham TV station's local newscast in the spring, Bell analyzes the caloric and fat content of the ground-and-dried forms of select "healthy" menu options ordered from five chain restaurants. Auburn's food science program is in the College of Agriculture's Department of Poultry Science.

LEONARD BELL IS A FOOD SCIENTIST—AND IF you aren't quite sure what, exactly, food science is, he understands. He didn't have all that clear an idea, either, when he enrolled at the University of Minnesota in the late 1980s to pursue a master's and then doctoral degree in it.

Simply stated, "Food science is the hidden force behind everything you eat," says the Auburn University professor.

Take, for instance, the culinary delights upon which you have feasted this holiday season. If not for food scientists, Bell says, there would have been no frozen turkey to roast, no jellied cranberry sauce for garnish, no refrigerated pie crusts and no canned pumpkin to pour into them.

"Using the concepts of chemistry, physics, microbiology and engineering, food scientists take harvested commodities and develop them into edible, value-added food products that are safe, palatable, healthy, affordable and high quality," Bell says.

It's worth noting here that a food scientist is *not* a nutritionist, and vice versa.

"Nutritionists deal with how food affects the body's health," he says. "Food scientists deal with formulating, processing, stabilizing and improving the quality and safety of those foods."

Bell, a researcher and teacher who recently received Auburn University's prestigious 2011 Gerald and Emily Leischuck Endowed Presidential Award for Excellence in Teaching, heads Auburn's food science program, a program that last year moved from the College of Human Sciences back into the College of Ag, its original academic home. The program, including Bell and fellow Auburn food science faculty Jean Weese and Tung-Shi Huang, is located in the Department of Poultry Science.

But food science is a multidisciplinary curriculum option that brings together faculty not only in poultry science but in the departments of Animal Sciences and Biosystems Engineering as well as to teach courses that expose food science majors to food chemistry, analysis, engineering, microbiology, processing and product development.

"The move to agriculture has improved the program's visibility and has significantly strengthened our curriculum," Bell says.

What's more, food science figures largely into the College of Ag's strategic plan to make new discoveries and innovations and develop technologies that will contribute to solving the world's growing food demands.

"Crop, livestock and poultry scientists are focused on increasing production, and food scientists are working to reduce post-harvest crop losses, improve storage and handling methods and develop preservation techniques for those foods," Bell says.

Increasing demand for food and food products means increasing demand for food scientists, Bell says. "After all, every food product on your grocery store's shelves was conceptualized, developed and manufactured by a team of food scientists," he says.

And here's another interesting bit prospective food science majors might want to consider: In a recent CNN report titled "Nine cool jobs that pay well," food scientist, with a median salary of close to $54,000, came in as third coolest, topped only by (1) brewmaster and (2) toy developer. How cool is that?

Bell, who joined the Auburn faculty in 1994, probably wouldn't have used the term "cool," but food science was a very good route to go after earning his bachelor's degree in chemistry from Virginia Tech in 1987. In his five years of graduate research on Minnesota's St. Paul campus, he concentrated on the impact of water on the chemical stability of food products, and today, almost 20 years after completing his Ph.D., keeping food products chemically stable in order to maintain their quality and safety remains his major area of expertise.

A noted authority on food chemistry, Bell has published one book, 10 book chapters and 49 refereed scientific journal articles over his career, and in recent years, his research has made him a newsmaker around the state and nation.

In 2007, for instance, his findings on the caffeine content of carbonated beverages intrigued the public from coast to coast. For that project, Bell and a graduate research assistant measured the jolts delivered in 12-ounce cans of

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View from AGhill

Earlier this month, I spoke at the "Feeding the World" agricultural symposium, hosted by John McMillan, Alabama's commissioner of agriculture. The theme of the conference was how to feed a growing world. This will require significant technological breakthroughs developed through agricultural research. Each year, governments around the world invest approximately $23 billion in agricultural research. In the U.S., state governments invest approximately $2.5 billion annually, while the federal government invests approximately $1.5 billion annually in agricultural research. The U.S. private sector invests approximately $4 billion annually in agricultural research. Universities have approximately 7,000 agricultural scientists, while the USDA-Agricultural Research Service has approximately 2,500 agricultural scientists developing new knowledge driven by research funding. It is interesting to note that private funding is approximately equal to public funding for agricultural research in the U.S.

Interestingly, one of the quickest ways to increase the yield of Alabama's food crops is through irrigation. Alabama receives an average 49-66 inches of rainfall each year. The majority of this water (18-30 inches) runs off into lakes, streams and rivers. Alabama has the highest rainfall runoff of any state in the U.S. This is a tremendous resource available to support irrigated agriculture. Alabama farmers planted approximately 2.25 million acres of row crops in 2011; however, only about 100,000 acres were under irrigation, compared to more than 1 million irrigated acres in neighboring Georgia. Irrigation will increase yields and reduce drought risks that plague our state. As the new year begins, we will be developing an irrigation education program to help farmers understand the benefits of irrigation. We will also work with our legislators to seek ways to provide incentives for irrigation.

As this year comes to a close, I want to thank the hundreds of you who have supported our college and experiment station in 2011. While financially, times are difficult, you would never know it as measured by the warm friendships and financial support you have provided this year. I wish you and your families a very happy holiday season.

Bill Batchelor
DEAN, COLLEGE OF AGRICULTURE
DIRECTOR, ALABAMA AGRICULTURAL EXPERIMENT STATION

(ONE COOL CAREER, *from page 1*)

131different cola, pepper–type and citrus-flavored soft drinks and five miscellaneous drinks. They included all of the nationally marketed brands, but Bell wasn't content to stop there. He and his student also included 75 store-brand soft drinks in the research.

"We started with Kroger brand, Winn-Dixie and Wal-mart, but do you have any idea how many stores have their own brands?" he says. "Places like Walgreen and 7-Eleven and Dollar General—everybody has their own brands; it's incredible."

Among their many findings, Bell and associate determined that citrus-flavored drinks top the caffeine charts and that caffeine values varied widely, especially among the store brands. From their study, the researchers recommended that soft-drink manufacturers post caffeine values on their products.

"Some consumers want to cut their caffeine intake, but others want the biggest bang for the buck," Bell says. "If the information was on the can, consumers could make more informed choices."

To read more about the project, go to sciencenews.org and search for "Measuring Soft Drinks Jolt."

More recently, Bell made news as part of a special report—"The truth about 'healthy' restaurant options"—that aired on Fox 6 in Birmingham's nightly newscast. For the consumer-watch story, the Birmingham reporter bought specific "healthy" menu items from each of three sit-down and two fast-food restaurants and delivered them to Bell. With each meal, the scientist weighed it, ground it into a homogenous mixture, dried it and analyzed its fat and caloric content.

IN THE CLASSROOM—Leonard Bell, professor of food science at Auburn University, interacts with students in a food chemistry class he is teaching. At Auburn's 2011 faculty awards dinner in October, Bell's outstanding teaching program earned him the 2011 Leischuck Endowed Presidential Award for Excellence in Teaching. Auburn's food science curriculum, Bell and fellow food science professors Tung-Shi Huang and Jean Weese are located in the Department of Poultry Science.

For the most part, Bell's analyses brought good tidings to the newscast's health-conscious viewers in that, among the full-service restaurants, meals billed as "healthy" actually were. In fact, meals purchased from two of the restaurants had fewer calories and fat grams than eateries' nutritional data charts showed. For more details, go to www.myfoxal.com and search for "truth behind healthy restaurant options."

The Fox 6 News segment aired on the Birmingham station in May, but Bell was just getting rolling. In fact, he expanded the investigation to include the same entrées from those same restaurant chains not only in Birmingham but in Auburn, Atlanta and beyond.

"My daughter had a soccer tournament in Murfreesboro, Tenn., so while we were there…," Bell says. "Broadening the study outside the Birmingham area gives us a regional perspective on how consistent and accurate each company's nutritional data is."

He plans to present all of his findings at a scientific convention next summer, so stay tuned.

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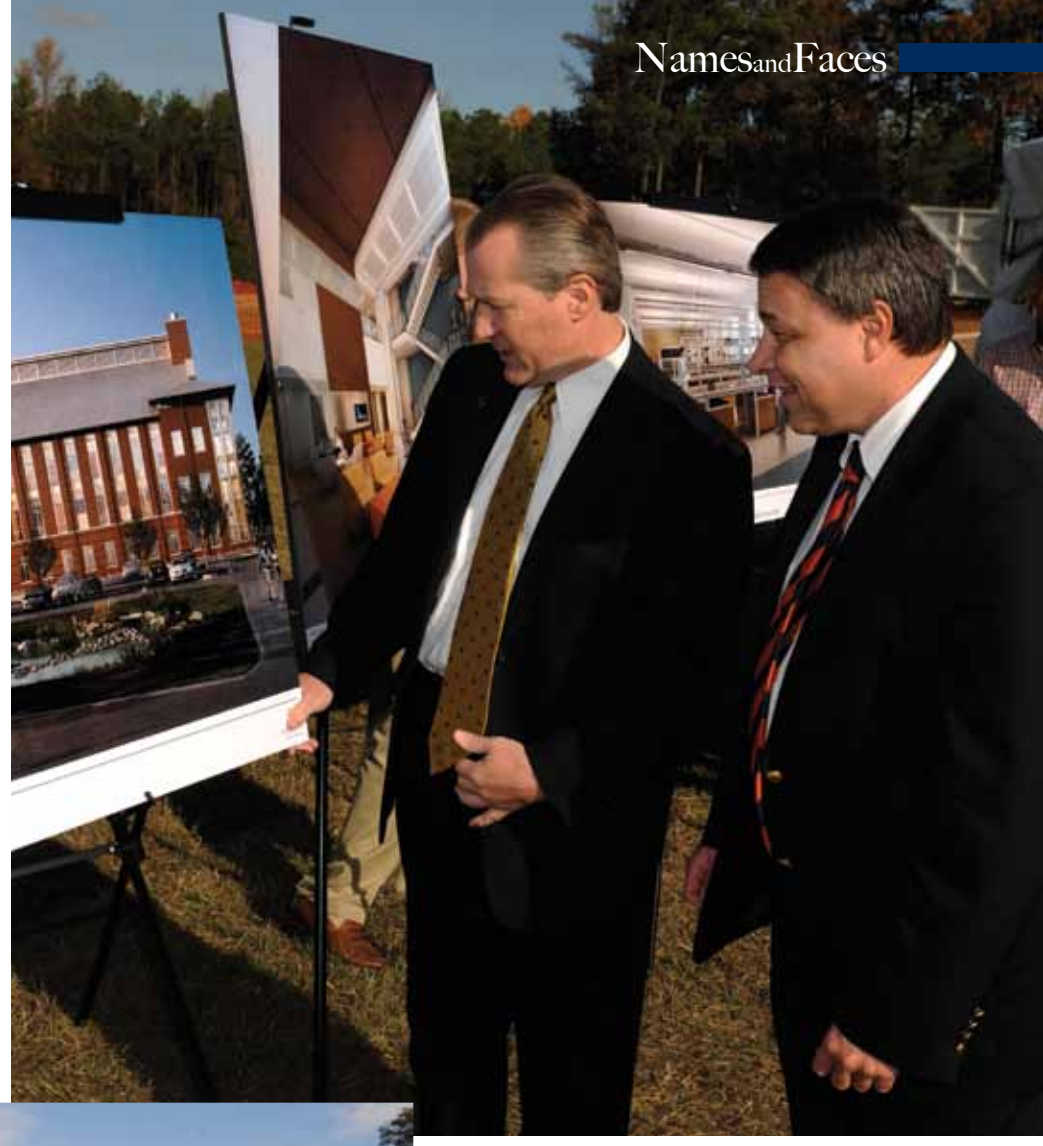
Advancing Science

Building for the Future

Auburn Breaks Ground on Center for Advanced Science, Innovation, Commerce

by KATIE JACKSON



PARTNERSHIP WITH THE STATE—Speaker of the Alabama House of Representatives Mike Hubbard, left, and College of Agriculture Dean Bill Batchelor look at drawings (see illustration below) of the new Center for Advanced Science, Innovation, and Commerce building, construction of which will begin soon in the Auburn Research Park. Hubbard was responsible for obtaining matching state dollars to build the $28.8 million facility, $14.4 million of which was funded by a grant from the Department of Commerce's National Institute of Standards and Technology. The state monies will pay for much of the additional half of the building's cost with additional support coming from Auburn University and the Alabama Agricultural Experiment Station.

Construction will begin soon on a $28.8 million science center designed to foster across the Auburn University campus multidisciplinary research collaborations that will generate new knowledge and technology to benefit Alabama.

Groundbreaking ceremonies for the 84,000-square-foot Auburn University Center for Advanced Science, Innovation, and Commerce were held Friday, Nov. 18, at the Auburn Technology Park. The CASIC building is being funded by a $14.4 million grant from the U.S. Department of Commerce's National Institute of Standards and Technology and matching dollars supplied by the State of Alabama along with support from Auburn University and the Alabama Agricultural Experiment Station.

DIGGING IN—A bevvy of dignitaries helped with the official ground breaking of the CASIC building on Nov. 18. Pictured at the ceremony, from left, are John Liu, associate dean for research, College of Agriculture; John Mason, Auburn University vice president for research; Raymond Harbert, president pro tempore of the Auburn University Board of Trustees; Jay Gogue, Auburn University president; Mike Hubbard, speaker, Alabama House of Representatives; Willie E. May, associate director for Laboratory Programs, National Institute of Standards and Technology; John Blackwell, Auburn University trustee; Bill Batchelor, dean of the College of Agriculture and director of the Alabama Agricultural Experiment Station; and Virginia Thompson, Auburn University trustee.

The new center will feature 20 laboratories as well as shared support spaces and specialized equipment areas for scientific research in bioenergy, water quality, food safety, genomics, information science and ecosystem health. Researchers from Auburn's colleges of Agriculture, Engineering, Sciences and Mathematics, and Architecture, Design and Construction and its School of Forestry and Wildlife Sciences will be housed in the facility.

According to John Mason, vice president for research at Auburn, the new center will be a valuable addition to the university's research portfolio and is crucial to Auburn's strategic research initiatives that aim to provide solutions to critical problems and issues that face our nation, region and state.

"These issues include our focus on cyber systems and security, energy and environment, health sciences and food systems and transportation," Mason says. "To address these critical areas, state-of-the-art research and development laboratories and facilities are essential for encouraging and supporting the high-level of interdisciplinary, collaborative projects that will deliver results.

"This new facility will create the environment and provide the infrastructure required to develop, test and implement solutions for these strategic research initiatives," he says. "We are grateful to the Department of Commerce and the National Institute of Standards and Technology for their financial support and commitment to Auburn University's research efforts"

Bill Batchelor, dean of the College of Agriculture and director of the Alabama Agricultural Experiment Station, notes that, in late October, the world's population reached 7 billion people.

"This is putting a tremendous strain on food, energy and environmental systems around the world," Batchelor says. "This facility will put Auburn at the forefront of research on food, renewable energy and environmental sustainability.

"We expect a lot of the research conducted in this facility will have practical applications to the world and lead to economic development opportunities for the state," he says.

The center, which is expected to have an immediate economic impact in Alabama by creating jobs for its actual construction, has the potential when completed to bring in millions of dollars in grants and contracts annually, which can result in 10 times that amount in amplified economic impact per year.

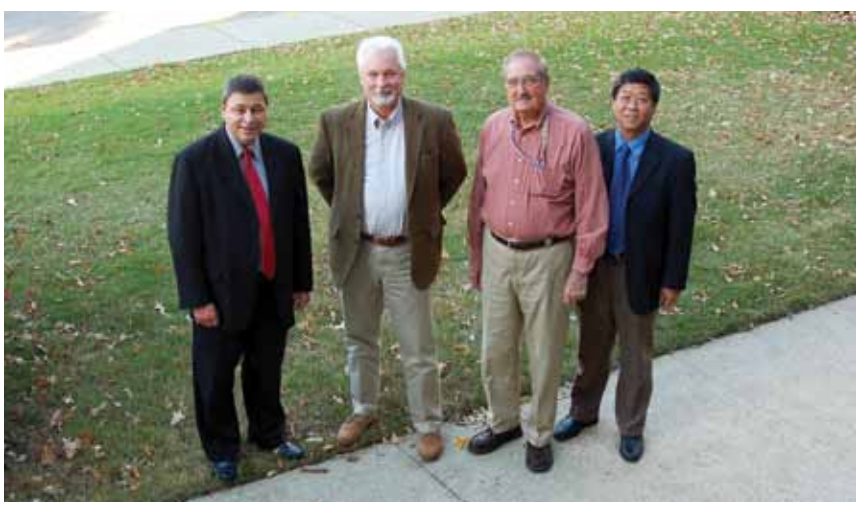
Alabama House Speaker Mike Hubbard, who represents Auburn in the Alabama Legislature and who obtained the matching state money for the project, said the CASIC facility is another example of how Auburn University is an economic engine for the state.

"If this recession has taught us one thing it is that we must continually innovate to improve our economy and create jobs," Hubbard says. "CASIC is the latest embodiment of how Auburn University defines innovation for this state. It is truly an honor to represent Auburn University in the Legislature. Folks around the state probably get tired of hearing me brag about Auburn so much, but projects like this demonstrate how hard it is for me to resist."

Officials said work done in the CASIC building will also be a boon to the state's economy. Its renewable energy focus could lead the state to green jobs for a green economy. Food safety research will position Alabama as a hub for the nation's food safety testing, technology development and training and greatly enhance the university's profile in this area.

Water research at the facility will explore issues such as water availability, quality and use, all of which are vital to Alabama's economic development. Genomics and informatics-based technologies—two recently emerged branches of science that focus on the discovery and utilization of the entire genetic potential of plants, animals and microorganisms—that are developed at the CASIC building could attract new businesses and enterprises to Alabama, creating employment opportunities to foster a science-based and technology-driven economy that attracts additional clean and green industry to Alabama.

TOP EMPLOYEES NAMED—Four staff members in the College of Agriculture and Alabama Agricultural Experiment Station were honored with Employee of the Year awards during the annual college and AAES awards ceremony held in Auburn in November. The awards recognize staff members who have exhibited outstanding performance, professionalism, service and collegiality in the workplace. Pictured, from left, are Bill Batchelor, dean of the college, with Hannah Dixon, art design specialist for the college and AAES; Mitchell Pate, director of the Poultry Science Research and Education Center; Charles Ledbetter, agricultural technician at the E.V. Smith Research Center; and Donn Rodekohr, natural resources program adviser in the Department of Agronomy and soils.



TEAM WINS NATIONAL RESEARCH AWARD—Three College of Agriculture faculty members were part of a nationally recognized research team chosen this fall to receive the 2011 National Experiment Station Section Excellence in Multistate Research Award. Their project, which is aimed at improving the sustainability of livestock and poultry production, was nominated by the Southern Association of Agricultural Experiment Station Directors and won the national award in November. Pictured, from left, are Bill Batchelor, dean of the College of Agriculture and director of the Alabama Agricultural Experiment Station; team members agronomy and soils professor Wes Wood and animal sciences professor Tom McCaskey; and John Liu, associate dean for research in the college and AAES assistant director. Not pictured is team member Frank Owsley, also a professor of animal sciences.

POULTRY TECHNOLOGY CENTER PROJECT WINS TEAM AWARD—Members of the National Poultry Technology Center team were recently awarded the College of Agriculture Project Team Award during a special ceremony held in November. The award recognizes significant accomplishments in one or more of the college's primary mission areas (research, teaching and extension/outreach) realized through the collaborative efforts of faculty and staff members. College of Ag Dean Bill Batchelor, left, and John Liu, right, associate dean for reasearch in the college, pose with team members, from left, Eugene Simpson, professor of agricultural economics and rural sociology; Jesse Campbell, manager of the tech center's agricultural and natural resources program; Dennis Brothers, Alabama Cooperative Extension System specialist from Blount County; and Jim Donald, professor of biosystems engineering.

POUNCEY WINS DIVERSITY AWARD—Sandra Pouncey, an information technology specialist in the College of Agriculture, was recently presented the college's Outstanding Commitment to Diversity Award, which is given in honor of employees who exhibit outstanding commitment to diversity in their performance, service and collegiality in the workplace. Pouncey is a clan chief of the Free Cherokee and works diligently to increase understanding of the Native American culture and heritage in Alabama and beyond. Pictured with Pouncey is Bill Batchelor, dean of the College of Agriculture.

Faculty and Staff Accomplishments

Jorge A. Mosjidis, professor of agronomy and soils, was recently highlighted on Seed Today's website in an article that focused on Sims Brothers Inc., an Alabama-based seed company that has exclusive rights to produce and market certified AU Grazer sericea lespedeza seed, which was developed by Mosjidis and released in 1997.

Cynthia Channell-Butcher

Cynthia Channell-Butcher, academic program administrator in the Department of Horticulture and chair of the College of Agriculture's Diversity Committee, was named a 2011 Minority Access Administrator Role Model during Minority Access Inc.'s 12th National Role Models Conference held recently in Washington, D.C.

Frank Owsley, associate professor and Extension animal scientist at Auburn, was recently named secretary of the Professional Animal Auditor Certification Organization. PAACO's mission is to promote the humane treatment of animals through education and certification of animal audits and auditors.

Rodrigo Rodriguez-Kabana was recently honored by the Organization of Nematologists of Tropical America by having a student poster competition officially named the "Dr. Rod Rodriguez-Kabana Student Poster Competition."

Dennis Shannon, professor of agronomy and soils, was invited by the Norman Borlaug Institute for International Agriculture to give a presentation at the Faculty Summit on International Agriculture at Texas A&M University in October on what makes a great international agriculture program. Shannon also gave an invited presentation on agriculture development needs in Haiti and soil conditions for the Auburn Works in Haiti panel discussion held on the Auburn campus in October.

Codi Runge Plaster, a 2010 graduate of Auburn with a degree in communication disorders, is the new coordinator of student services for the Department of Poultry Science. She is the daughter of **Max Runge** in the Department of Agricultural Economics and Rural Sociology.

Gerald Frazier, construction and heavy equipment operator with the Agricultural Land and Resource Management group, and **Megan Ross**, administrative support associate in the Office of Student Services, both won Spirit of Excellence awards this summer. Frazier won in July and Ross in August. The awards honor staff members who display exceptional performance on the job and as representatives of the university.

Billy Segrest, **Frances Stinson** and **Arnold Dicks**, all employees at the E.V. Smith Research Center, retired recently, each with 25 or more years of service to Auburn and the Alabama Agricultural Experiment Station.

Dale Huffman, professor emeritus of animal sciences who retired in 1995, was recently inducted into the Meat Industry Hall of Fame.

HU WINS INTERNATIONAL AGRICULTURE AWARD—Xing Ping Hu, professor of entomology and plant pathology, was winner of the 2011 Guthrie Award for Achievement in International Agriculture, given in recognition of distinguished achievement in international teaching, research, extension and outreach. Pictured following the presentation of the award are, from left, Bill Batchelor, dean of the College of Agriculture; Hu; Richard Guthrie, retired dean for whom the award is named; and John Liu, associate dean for research in the college.

TEACHING, ADIVISING EXCELLENCE HONORED—Two faculty members in the Department of Animal Sciences were winners of 2011 Dean's Awards for Teaching Excellence and Advising Excellence, which were bestowed during a special faculty/staff meeting held in November. Pictured, from left, are Bill Batchelor, College of Agriculture dean; Elizabeth Wagner, animal sciences assistant professor and winner of 2011 Dean's Award for Teaching Excellence; Christy Bratcher, also an assistant professor in animal sciences and winner of 2011 Dean's Award for Advising Excellence; and Paul Patterson, associate dean for instruction.

Student Accomplishments

Leanne Dillard, a Ph.D. student working under professors **Russ Muntifering** and **Frank Owsley** in the Department of Animal Sciences, is featured on the cover of and in an article inside the latest edition of a biannual publication produced by Auburn's Graduate School. The article describes her research, which focuses on the environmental impact of the cattle industry in the Southeast. Read the article, titled "The Big Picture," at www.ag.auburn.edu/go/224.

Bretford Griffin

Bretford Griffin, a doctoral student in the Department of Agricultural Economics and Rural Sociology, has been awarded the Southern Regional Education Doctoral Fellowship. This fellowship is funded by the Alabama Commission of Higher Education.

Piper Gunderson, a freshman in animal sciences, has been named a product ambassador by Prima Tech, a company specializing in animal health products. Gunderson officially began the appointment at Auburn Oct. 17.

Auburn horticulture graduate students received five of six Graduate Travel Awards that were presented campus-wide. They used the funds to attend the 36th annual meeting of the International Plant Propagators Southern Region of North America in Valdosta, Ga., in October. The students were **Lucy Edwards**, **Chris Marble**, **Taylor Vandiver**, **Tyler Weldon** and **Qian "Julie" Yang**. In addition, Vandiver and Yang were chosen as the top students, based on papers submitted, and were asked to give oral presentations. Vandiver received top honors, and Yang placed second.

Four College of Agriculture students were selected as Camp War Eagle counselors and Student Orientation Leaders for 2012. They are: **Ashley Culpepper**, ag communications (CWE); **Ashantae Smith**, animal sciences/pre-vet (SOS); **Kaila Tiedemann**, ag economics (SOS); and **Emily Vogelgesang**, biosystems engineering (SOS). During several three-day sessions over the summer, CWE counselors educate incoming freshmen on Auburn's history, assist them with class schedules and answer questions related to their new journey at Auburn. SOS leaders have similar responsibilities, but they assist students year-round in an abbreviated educational session.

Auburn, Greene Cited for Outstanding Guard Support

SUPPORTING FREEDOM—Participating in the Freedom Award presentations were, first row, from left, College of Ag Dean Bill Batchelor, ESGR state chairman Bill Kringel, Wayne Greene, ESGR official John Q. Adams and Johnny Green, student services coordinator of veterans at Auburn. Second row, from left, Capt. Soren Rodning and Jim Adams with the ESGR. Third row, from left, Auburn military science professor Lt. Col. Scott Copeland, Auburn senior and Staff Sgt. Elizabeth V. Herrera of the 117th Air Refueling Wing out of Birmingham and Auburn military science faculty member Maj. Stewart Robbins.

Three Alabama Employee Support of the Guard and Reserve Committee officials were in Auburn recently to recognize Auburn University as one of 30 finalists for the 2011 Secretary of Defense Employer Support Freedom Award, the highest honor the U.S. government gives to employers for their outstanding support of National Guard and Reserve employees. College of Agriculture Dean Bill Batchelor accepted the award on behalf of the university.

The committee also presented Auburn the 2011 Pro Patria award for its leadership practices and personnel policies that support employees who serve in the Guard and Reserve and gave Department of Animal Sciences head Wayne Greene the Above and Beyond Award for his personal and professional support of Guard and Reserve faculty and staff.

Auburn and Greene were nominated for the honors by Soren Rodning, assistant professor and Extension specialist in the animal sciences department and a U.S. Army Reservist who was deployed to Afghanistan August 2010-2011 with the 358th Medical Detachment Veterinary Services. Read more about the nomination and award at http://www.ag.auburn.edu/comm/news/2011/rodning.php.

Relevant Research

A Level Playing Field

Auburn Researchers Put Sports Turf Varieties to the Toughness Test *by* JAMIE CREAMER

At Auburn University's Turfgrass Research Unit just south of campus, plant scientist Scott McElroy is putting five bermudagrass sports turf cultivars through the wringer to generate data that should help high-school, college and pro athletic field managers determine which of the many hybrid varieties available will perform best on their fields.

Bermudagrasses have a number of desirable attributes—their fine texture, density, drought tolerance, vigorous growth and color retention—that make them the turfgrasses of choice on sports fields in the South. But at the top of the best-traits list are excellent wear tolerance and quick recovery from injury.

"We're evaluating several of the different characteristics in this project, but our main focus is on how well each one stands up against heavy traffic and how quickly it bounces back from the damage," McElroy says.

McElroy, associate professor in the Department of Agronomy and Soils, and graduate research assistant Philipe Aldahir launched the study in the spring, laying side-by-side plots of the five varieties that include Tifway 419, a classic cultivar that has been covering athletic fields for more than four decades, along with four newer sports turf varieties: TifSport, TifGrand, Celebration and Patriot.

At Jordan-Hare Stadium this season, the Auburn Tigers are playing their home games on Tifway, but Eric Kleypas, manager of all varsity sports fields on campus, says that while Tifway is the standard-setter in sports turf, the research McElroy is conducting will help him determine whether there's something better out there.

"Traffic tolerance and recuperative ability are my major concerns, and one of these other varieties may prove to outperform Tifway in those and other characteristics," Kleypas says. "But installing sports turf is very expensive, more than $2 a square foot, so obviously I can't put some newer variety down just to see if it works.

"This study to simulate play on a football field on a small scale will give us solid information to make that kind of decision," he says. The project is actually a research collaboration between the College of Agriculture and the Athletics Department.

In the project, McElroy and Aldahir are replicating the abuse that a football field endures during a three-hour battle between two teams of 250- and 300-pound athletes with an "athlete traffic simulator," a souped-up version of a walk-behind machine used on golf courses as a greens aerator. The researchers say that, with their modifications, the traffic mimicker simulates both the pounding and the shearing of a cleated athletic shoe and puts down the same number of cleat marks that would occur between the hash marks in a single NFL game.

TURFGRASS TRANSITION—Here's a rare glimpse of a bare-naked Pat Dye Field inside Auburn's Jordan-Hare Stadium, taken back in May after crews had taken up thousands of cubic feet of TifGrand bermudagrass, which covered the field during the 2010 football season, and were preparing to replace it with the ever-reliable Tifway 419 for the Auburn Tigers' 2011 home games. Eric Kleypas, Auburn's athletic turf manager, says a collaborative research project between the Department of Agronomy and Soils and the Auburn Athletic Department will provide valuable data on which bermudagrass varieties are toughest, and that will help him and other sports turf managers make more informed selection decisions. The photo was taken by Kleypas' wife, Vanessa. To view a video segment about and photographs related to the study, go to http://ocm.auburn.edu/featured_story/turfgrass.html.

"With the traffic simulator, one pass across and back over the research plot is the equivalent of one NFL game," Aldahir says. "We have a control section that the machine hasn't touched and a section each at one, three and five games a week."

The multiple-game trials are important because, though Auburn and other college and university and pro teams play at home once a week at most, the research applies to all levels of athletics, from the NFL down to high schools and municipalities.

"On a high-school field, you're going to have the varsity, junior varsity and younger football teams playing on it, the marching band both during the game and in practice and whatever else comes along," McElroy says. "Those field managers can use the data we collect here this year and over the next two to three years to decide which cultivars are most wear-tolerant and best suited to their locations."

In addition to wear and tear, McElroy and Aldahir are evaluating the five cultivars on traits such as color intensity, heat tolerance, how quickly they green up, how long they stay green and how well they handle both overseeding with ryegrass as the weather turns cooler and, come spring, the methods used to kill the ryegrass. They also are looking at shade tolerance, McElroy says, because bermudagrasses typically require six to eight hours of direct sunlight a day, but the designs of many college and professional stadiums leave large portions of the fields in shade.

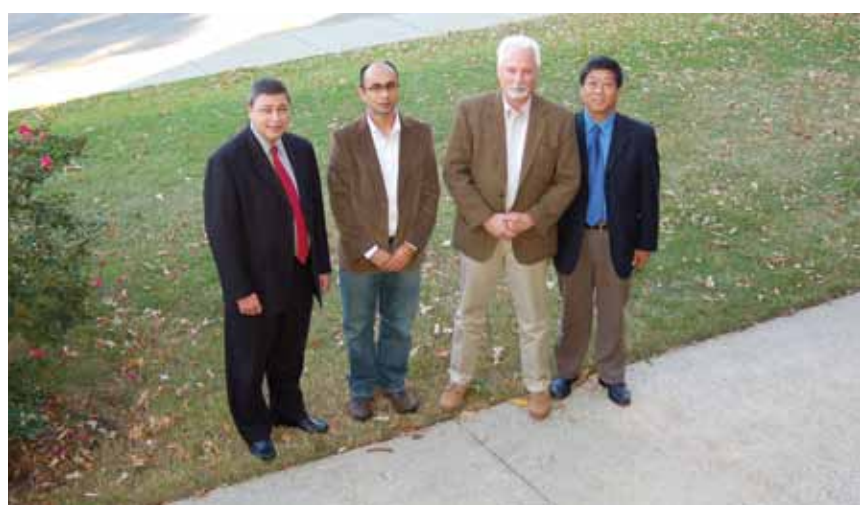
Aldahir, a native of Brazil, says his Ph.D. research will be invaluable in his home country, where bermudagrass cultivars are commonly used on athletic fields.

"Brazil will host the World Cup in 2014 and the International Olympics in 2016," he says. "We will want the best."

Auburn Ranks First in SEC Social Media

Three Alabama Ag Experiment Station research centers—E.V. Smith in Macon County, the Plant Science Research Center on the Auburn University campus and Sand Mountain Research and Extension Center in Crossville—now have Facebook pages and post regularly about upcoming events and day-to-day activities. Find the links to all three pages at www.ag.auburn.edu/comm/socialmedia/.

PHOTOS, FACT AND FUN ON FACEBOOK—In a recent study that measured and ranked university social media activity in all social media channels—including Facebook, Twitter, YouTube, iTunes U, Flickr, MySpace, LinkedIn and Foursquare—Auburn ranked first in the Southeastern Conference and placed third among 270 U.S. universities, trailing only Harvard and Stanford. For more information about this study, released in February 2011 by Web Strategy Research, see http://ocm.auburn.edu/news/social_media/.



SUPERIOR RESEARCH—Veteran agronomy and soils professor Wes Wood and biosystems engineering assistant professor Sushil Adhikari received top honors for their outstanding research programs during the College of Ag/Alabama Ag Experiment Station's annual awards ceremony recently. Wood, who joined the Auburn faculty in 1990 as an assistant professor of environmental soil science, was presented the 2011 Senior Researcher Award, and Adhikari, a faculty member since 2008, won the Junior Researcher Award. Pictured following the award presentations are, from left, Bill Batchelor, College of Ag dean and AAES director; award winners Adhikari and Wood; and John Liu, associate dean for research in the college and AAES assistant director.

$881,829 Grant To Fund Organic Farming Research, Outreach

by JAMIE CREAMER

Auburn University entomologist Henry Fadamiro and a multidisciplinary team of scientists at Auburn and other universities have been awarded a four-year, $881,829 grant by the USDA's National Institute of Food and Agriculture to develop and demonstrate successful integrated pest management, or IPM, strategies for the organic production of cabbage, collard, broccoli and other high-value cruciferous vegetable crops in Alabama and surrounding states.

The ultimate goal of the research and outreach project, titled "Development and Participatory Implementation of Integrated Organic Pest Management Strategies for Crucifer Vegetable Production in the South," is to increase the production and profitability of organically grown crucifers in this region of the country.

"Crucifers are perhaps the most difficult vegetables to produce organically in the South due to high susceptibility to pests," says Fadamiro, who, in addition to research and academic responsibilities, serves as state coordinator of integrated pest management for the Alabama Cooperative Extension System. "Organic producers and small farmers in Alabama and surrounding states cite insects and diseases as their major challenges in growing these crops.

"In our work, we will identify and develop effective, affordable and sustainable pest management tactics for reducing these risks and then encourage farmers to adopt them," he says. "In addition to boosting organic vegetable production and farm income in the region, this grant will result in reduced human-health risks due to pesticide residues in foods."

Integrated pest management is a pest control approach in which growers use a variety of economically and environmentally acceptable practices, such as tillage systems, traps and beneficial insects, turning to chemical pesticides only as a last resort.

In the first phases of the organic crucifer production project, Fadamiro and his research collaborators from Auburn—including plant pathology professor Joe Kloepper, organic vegetable production research fellow Jan Garrett, Extension entomologist Ayanava Majumdar and agricultural economics associate professor Deacue Fields—and from Alabama A&M University and the University of Florida will investigate the effectiveness of a number of IPM tactics that are approved under federal organic production standards, including trap crops that lure pests away from the cash crops, attractants, biocontrol techniques, biopesticides and induced disease resistance.

On-farm research trials will be part of the project, Fadamiro says, noting that at least 10 organic vegetable growers across the state have signed on to participate in the study. Other major components of the project will include analyses of the costs of integrating IPM tools into production systems, identifying possible barriers to on-farm adoption and, finally, transferring the technology to producers through training and education.

GETTING THE BUGS OUT—Insect pests are a major challenge for organic vegetable producers who grow broccoli and other cruciferous crops. Researchers at Auburn are working to develop effective integrated pest management strategies that will help control the insects and increase growers' profitability.

Fadamiro's proposal was one of only 23 projects nationwide selected to receive a portion of a total $19 million in funding awarded through NIFA's Organic Agriculture Research and Extension Initiative and its Organic Transitions Program, both of which aim to help organic producers and processors grow and market high-quality organic agricultural products.

Researchers Honored for Banner Year in Grant Awards

GRANT-GETTERS—College of Ag Dean/AAES Director Bill Batchelor, left, and John Liu, right, associate dean for research for the college and assistant AAES director, stand with 10 of the 12 faculty who received 2011 Grantsmanship Awards, which are presented to researchers who have obtained $250,000 or more in extramural grants and contracts over the year. With Batchelor and Liu are, from left, Brenda Ortiz, agronomy and soils; Jay Spiers, horticulture; Amy Wright, horticulture; Henry Fadamiro, entomology and plant pathology; Jacek Wower, animal sciences; Sushil Adhikari, biosystems engineering; and Dennis Devries, Ash Bullard, Rusty Wright and Terry Hanson, all from fisheries and allied aquacultures. Not shown are award winners Steve Szedlmayer and Bill Walton, also from the fisheries and allied aquacultures department.

Twelve Alabama Agricultural Experiment Station scientists who brought in more than a quarter of a million dollars each in grants this year have been recognized as winners of the 2011 Dean's Grantsmanship Award and are using their funds on research projects focused on issues ranging from blueberry production to Gulf red snapper populations.

The Grantsmanship Award honors faculty members who have successfully applied for grants of $250,000 or more over the course of the year. Six of the 12 award recipients and some of the research they are conducting with the funding they received include:

- Brenda Ortiz, assistant professor, Department of Agronomy and Soils: assessing the impact of weather and climate on wheat and corn production in Alabama, developing a risk index for aflatoxin contamination in corn and using precision ag technologies to improve nitrogen stewardship in Alabama corn production.
- Jacek Wower, professor, Department of Animal Sciences: developing biological sensors that will rapidly detect disease-causing bacteria in foods.
- Sushil Adhikari, assistant professor, Department of Biosystems Engineering: investigating the process of converting Southern pines into synthetic gas and developing gasification processes for loblolly pine that would improve the quality and enhance the stability of bio-oil.
- Henry Fadamiro, associate professor, Department of Entomology and Plant Pathology: developing effective integrated pest management strategies for the organic production of cruciferous crops. (See story, above).
- Jay Spiers, assistant professor, Department of Horticulture: developing kiwifruit production recommendations for Alabama and developing an early-ripening blueberry hybrid that could lead to increased profitability of blueberry production in Alabama.
- Amy Wright, associate professor, Department of Horticulture: compiling footage of production practices in nursery operations across the nation into virtual tours that will enhance on-campus and distance education courses in nursery production at Auburn and elsewhere.

The other six Grantsmanship Award–winning researchers are from the Department of Fisheries and Allied Aquacultures, including three—professors Dennis Devries and Stephen Szedlmayer and associate professor Rusty Wright—who are co-principal investigators on a $2.4-million, BP-funded project to assess and restore Alabama's coastal fisheries in the aftermath of the 2010 Deepwater Horizon oil spill. For their part in the project, Devries and Wright are investigating the spill's direct and indirect effects on coastal, estuarine and freshwater flora and fauna. Szedlmayer is focusing on its impact on Gulf red snapper populations and the spawning and survival success of the important and overfished species of reef fish and is using ultrasonic telemetry to estimate natural and fishing mortality of red snapper

Also in the fisheries department, assistant professor Ash Bullard received three grants to study the short- and long-term ecological impacts of the oil spill in the Gulf's hardest-hit coastal areas and another to reconstruct the evolutionary history of a group of blood-dwelling parasites that cause diseases in marine and freshwater fish; assistant professor Bill Walton is collaborating with Louisiana State University scientists in newly funded projects to establish an intensive oyster aquaculture industry along the northern Gulf Coast and to develop disease-resistant oyster stocks; and Terry Hanson, associate professor of aquaculture economics, is using the six grants he was awarded to fund projects that include assessing the economic value of recreational fishing on Lake Guntersville and of striped bass fishing on Lewis Smith Lake and developing potential marketing structures for the catfish industry.

Nims, Smith Join Development Office Staff

Amanda Nims and Grace Smith

The Development Office has two new employees—Amanda Nims and Grace Smith—both of whom joined the staff this fall.

Nims is serving as development coordinator for the college, supporting the college and its development officers with giving and donation efforts. She handles agreements, drafts proposals and coordinates and executes events for the college. Nims also prepares, maintains and monitors the annual development budget and monthly gift reports.

A native of Birmingham, Nims earned a bachelor's degree in public relations at Auburn in 2006 and a master's in administration of higher education in 2008. Nims has worked with the Auburn University Office of Development since June 2009 and joined the college's staff in October.

Smith, a 2006 Auburn agricultural communications alumna, is the college's new development officer. In her position, she secures private funding for key projects and initiatives of the college with special emphasis on the Ag Hill Society and annual gifts. She also meets with alumni and friends to establish and strengthen their connection with the college.

Raised on a beef cattle and hay operation in north Autauga County, Smith worked as communications specialist for the Alabama Farmers Cooperative for five years before assuming her new position. While a student at Auburn, she was active in several agricultural organizations, serving as the Alabama state FFA president in 2002, College of Ag president in 2005 and an Ag Ambassador.

In Memoriam

William E. "Bill" Hardy, professor of agricultural law and finance in the Department of Agricultural Economics and Rural Sociology, passed away Oct. 14 in Auburn. Memorial contributions may be made to The Dr. William E. Hardy Jr. Ag Ambassador Scholarship by contacting Mark Wilton at 334-844-1198 or wiltomt@auburn.edu. Hardy joined the faculty at Auburn in 1972; he served as associate dean for instruction in the College of Ag from January 2000 through August 2007.

Evangelos John Biblis, 82, professor emeritus in the School of Forestry and Wildlife Sciences, passed away Nov. 4 in Auburn.

Alumni Updates

James Farmer III, a Department of Horticulture alumnus, was featured Oct. 21 on NBC's Today show. The video segment can be viewed at www.ag.auburn.edu/go223. For more information about Farmer or his book "A Time to Plant: Southern Style Garden Living," visit www.jamesfarmer.com.

Charlie Jones, a Department of Agricultural Economics and Rural Sociology alumnus, was recently promoted to senior vice president of Arrow Exterminators, the eighth largest pest control company in the United States.

Zeke

Larry "Biff" Balko, a Department of Agronomy and Soils graduate, has a cover dog in his family. His beloved toy fox terrier, Ezekiael "Zeke the Great" Balko, was chosen for the cover shot of the 2012 Dog Days of Golf calendar produced by LebanonTurf. Zeke will be competing for the title of 2012 Dog of the Year, which will be voted on during the Golf Industry Show in Las Vegas, Nev., Feb. 29-March 1. Anyone attending the industry show can go by the LebanonTurf booth and vote for Zeke. Calendars are available while supplies last from Cynthia Andrews at 1-800-532-0090, Ext. 253, or candrews@lebanonturf.com.

Auburn Equestrian Holds on to No. 1, Boasts Strong 2012-13 Signing Class

Midway into the 2011-12 competition season, Auburn University's defending national champion varsity equestrian team remains atop the Women's Intercollegiate Equestrian National Coaches Poll. The No. 1 team in the nation finished the fall portion of the season with a 6-1 record, its only loss coming in the final meet of the season against the University of Georgia.

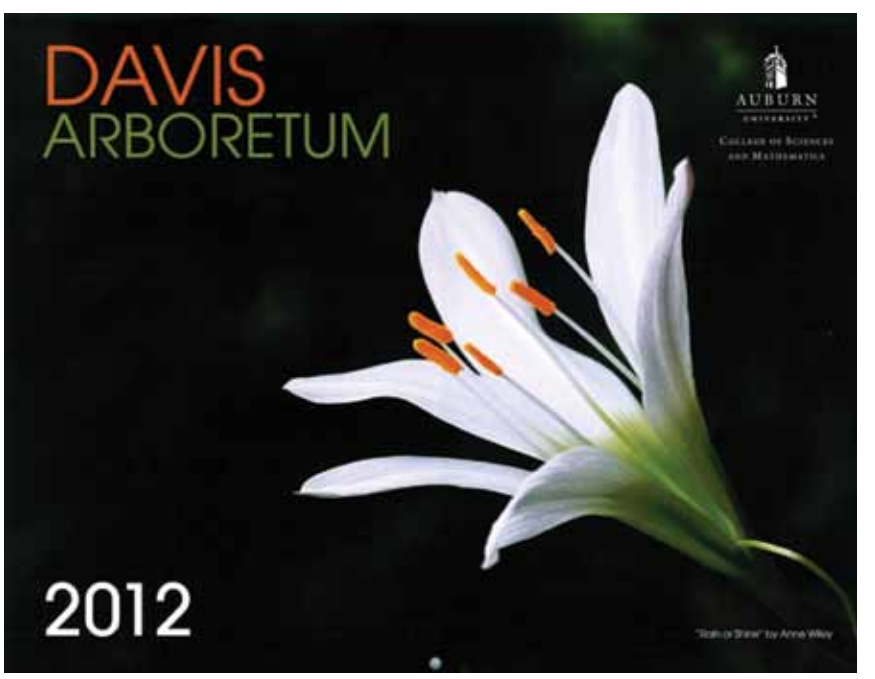
Spring competition will get under way Saturday, Jan. 28, 2012, when the Tigers host Oklahoma State at the Auburn University Horse Center.

SITTING AT THE TOP—Auburn's varsity equestrian team, co-sponsored by the Athletics Department and the College of Agriculture, is No. 1 in the nation and on track to win its second consecutive national equestrian championship. The spring season resumes Jan. 28, when the Tigers will take on Oklahoma State at the Auburn University Horse Center on Wire Road. All meets are free and open to the public.

Meanwhile, head coach Greg Williams wrapped up the fall signing period for the 2012-13 school year with an impressive class of signees. He pulled off at least one major coup with the signing of hunt seat competitor Hasbrouck Donovan, a native of Gainesville, Fla., and daughter of Florida Gators men's head basketball coach Billy Donovan.

In other Auburn equestrian-related news:

- Team members, coaches and staff along with employees from the College of Agriculture/Alabama Ag Experiment Station's Ag Land and Resource Management unit worked together to clean up at the horse center after an EF-1 tornado that roared through Auburn Nov. 16 damaged fences and barns and uprooted trees. No horses or people were injured in the storm.
- The team has launched a new website that offers videos and photos, information about the College of Ag's equine science program, advice on horsemanship and more. Visit it at www.ag.auburn.edu/EquineConnections.



COA PHOTOGRAPHERS FEATURED—The 2012 Donald E. Davis Arboretum calendar features photos from several College of Agriculture employees including Julia Bartosh and Patty Tyler from animal sciences and David Cline from fisheries and allied aquacultures. Calendars are available for purchase and can be ordered by contacting the arboretum at 334-844-5770 or by emailing arbinfo@auburn.edu.

COMFORT AND JOY—George Richburg, at left, manager of Auburn's Stanley P. Wilson Beef Teaching Laboratory, spends his Christmas mornings and evenings making the rounds to ensure that all the cattle he's responsible for have plenty of water and food and are comfortable and, as best he can tell, happy. Both Richburg and Brian Anderson, below, co-manager of the Swine Research and Education Center at Auburn, always pull the Christmas Day shift to allow their student employees to be home with their families.

The Human Touch

The Cattle Are Lowing

At Beef, Swine Teaching Units, Animals Need Care, Christmas or Not

by JAMIE CREAMER

For the cattle that graze the pastures at Auburn University's Stanley P. Wilson Beef Teaching Lab, one day is the same as the next. They don't live for the weekends, or the Thanksgiving break, and they for sure don't take a couple of weeks off at Christmas.

And, on that latter count, neither do the folks who care for them.

"Seven days a week, 365 days a year, they're here, and we're here," says George Richburg, manager of the facility located on Shug Jordan Parkway. "Holidays, Saturdays, Sundays—we may not necessarily work all day long on those days, but every morning and every evening, somebody's got to come check the cows and make sure everybody's OK."

He isn't complaining; he's simply stating fact.

"It comes with the territory; it's the nature of the livestock business," he says. "The whole campus basically closes over the Christmas holidays, but here, we can't just shut things down and everybody go home."

In the days leading up to and following Christmas Eve and Christmas Day, the "somebody" Richburg refers to would be one of the three students who work part-time at the unit.

"Part of the job is, they know they're going to have to work some weekends and holidays," says Richburg, a 2003 College of Agriculture ag business and economics alumnus. "I don't care how they decide who works when; they can draw straws or pick a number or whatever. I just tell them to make sure every day's covered and then show me the schedule."

It's the same basic scheduling system that was in place a decade ago, when Richburg himself was a student worker at the facility, but with one exception: In years past, students who had jobs at the teaching lab were assigned to work so many days during the entire two-week winter holiday break. Richburg, an Auburn native who by virtue of that fact wound up getting stuck with the Christmas Day shift a time or two as a student, changed that when he was hired as beef unit manager five years ago.

"I'm not going to tell any of them they have to be here working Christmas Day or Thanksgiving Day," he says, noting that managers Mike Carroll and Brian Anderson at the Swine Research and Education Center located across from the beef unit share that philosophy.

"These kids will be out in the real world soon enough; while they're students, they need to be at home with their families, having Christmas."

That leaves Richburg, who is single, as the one who spends his Christmas mornings checking up on the 60 black Angus at the beef teaching unit and adjacent Lambert-Powell Meats Lab and another 15 or 20 on pasture across the road and about that many more located at a facility on Alabama Highway 280 north of town. And checking up means more than making sure the animals have plenty of fresh water and hay. It means ensuring that all are healthy, comfortable and content and that nothing unusual is going on.

"Cattle are creatures of habit; they love a routine," Richburg says. "Working with them day after day, you know their personalities, so if something's out of sorts, you're going to know it by how they're acting."

At the swine unit, Anderson works the Christmas Day shift.

"I grew up on a farm, and we had animals, and one thing we had to do every day was take care of them, so it's nothing I'm not used to," he says. "How long I'm here on Christmas depends on what we've got going on, because our animals are here for teaching and research purposes, and if research is going on, you can't just leave it and start it back up in January. Plus, we have four groups of sows farrowing every five weeks here, too. One Christmas Day, we wound up with six or eight of them farrowing at one time. That was a long Christmas."

Anderson is married and has a daughter, so what does his wife think about his working on special days, especially Christmas?

"She's probably OK with it; she understands," he says. It helps that she, too, grew up on a farm and also that she is Lisa Kriese-Anderson, an associate professor of beef cattle breeding and genetics in the Department of Animal Sciences.

For both Richburg at the beef unit and Anderson at the swine, ensuring that life is as comfortable as possible for the animals in their care is a top priority, and if that means spending Christmas in their midst, so be it.

College of Veterinary Medicine

New Minor in Public Health

Auburn University's College of Veterinary Medicine is offering a new undergraduate minor in public health. The minor is envisioned as an interdisciplinary program that will benefit career prospects for students in pre-health, nutrition, agriculture, kinesiology, sociology, health administration and engineering.

"To the best of our knowledge, this is the only undergraduate public health program in the U.S. spearheaded by a college of veterinary medicine," says Frank Bartol, associate dean for research.

The minor is organized on a nationally recognized curriculum consisting of three required courses: introduction to public health, introduction to epidemiology and global and comparative health systems, a relevant elective and a service learning experience.

Emily Brennan, an Auburn senior majoring in animal sciences from Jacksonville, Fla., is pursuing the public health minor, which, she says, has dramatically changed her perspective and broadened her view of science and medicine.

"I've realized that 'health' is so much more than just seeing your doctor when you feel sick," Brennan says. "Public health is concerned with preventing health risks and conditions at the population level, and this encompasses an endless variety of factors, from nutrition to environment to policies by the federal government."

Students registered in the public health minor will be invited to program-relevant seminars, meetings and related activities at the College of Veterinary Medicine.

To learn more about the public health minor, visit www.vetmed.auburn.edu/academics/public-health-minor, or contact CVM minor coordinator James Wright at wrighj3@auburn.edu or program coordinator Ken Nusbaum at nusbake@auburn.edu.

College of Human Sciences

FedEx Founder, Young Artist Win Honors

Frederick W. Smith

Olivia Bouler

The Auburn University College of Human Sciences honored the founder of FedEx and a 12-year-old girl devoted to protecting and preserving natural habitats at the 18th annual International Quality of Life Awards at the United Nations in New York City Dec. 5.

Frederick W. Smith, founder, chairman, president and chief executive officer of FedEx, was presented the 2011 International Quality of Life Award, and Olivia Bouler was recognized with a special Youth in Action Humanitarian Award.

Smith founded FedEx, the first overnight delivery service, in 1971 and grew it into a global conglomerate, revolutionizing how the world communicates. He also created a corporate environment that is committed to improving the quality of life for its people and communities around the world.

Fortune magazine has recognized FedEx in its industry rankings for "World's Most Admired Companies," "100 Best Companies to Work For" and "Blue Ribbon Companies." Smith also was named to Forbes' list of "America's Favorite Bosses."

"His unparalleled professional achievements and vast contributions to the greater good validate his selection as the embodiment of what the IQLA represents," says June Henton, dean of the College of Human Sciences.

Henton says Bouler was ideal for the Youth in Action Humanitarian Award, which honors a member of the Auburn family who has achieved distinction at an early age. Her father, James Bouler, is an Auburn alumnus, as are her grandparents, James M. and Jane Bouler. James M. Bouler also serves on the college's Dean's Advisory Board.

The young Bouler earned national recognition after she used her artistic talent and love for birds to aid wildlife recovery efforts following the April 2010 Deepwater Horizon oil spill. Throughout that summer, Bouler drew and donated 500 original drawings and thousands of limited edition prints. The effort generated more than $200,000 for organizations helping wildlife in the Gulf region.

Since 1994, the College of Human Sciences has presented the International Quality of Life Award to people and partnerships that have made significant and lasting contributions to individual, family and community well-being locally and around the world.

"WAR EAGLE" HEARD FROM SPACE—AubieSat-1—a 4-inch, cube-shaped satellite—responds to AU Student Space Program participants' commands with the phrase "War Eagle" in Morse Code. Auburn's famous battle cry, heard from space, indicates that the satellite is operating correctly.

College of Sciences and Mathematics

Student-built Satellite Launched

AubieSat-1—the first student-built satellite in Alabama to be accepted by NASA—was one of only five CubeSats satellites in the nation launched aboard a NASA-sponsored Delta II rocket in late October. A CubeSat is a miniaturized satellite for space research.

The satellite was constructed as part of the undergraduate-operated Auburn University Student Space Program and has provided approximately 100 students experience working on every aspect of the project, from designing and building to testing the satellite. Before the launch, several students traveled to California for a mission-readiness review, which they passed with flying colors.

Since the launch, students have been tracking AubieSat-1 from a control center located in Allison Lab on the Auburn campus. Of the satellite's 96 daily orbits, four present optimal conditions for the students to connect with it, and they have been sending commands to the satellite and receiving data, such as temperature, battery charge and voltage. The ultimate goal of the project is to measure the decrease of solar cell efficiency over time on protected versus non-protected solar panels.

Numerous universities and individual ham radio operators around the globe also help track AubieSat-1. The first signal was received shortly after launch from Vigo University in Spain, and signals have been reported from Japan and the University of Alaska.

The Auburn University Student Space Program is part of the College of Sciences and Mathematics. AubieSat-1 is sponsored by Auburn University and the Alabama Space Grant Consortium. For more information on AubieSat-1, go to the website at www.space.auburn.edu, or watch the video www.youtube.com/watch?v=xnlJ58pABT4&NR=1.

Daowei Zhang

Hanqin Tian

Graeme Lockaby

School of Forestry and Wildlife Sciences

Faculty Receive Awards

Three faculty members from the School of Forestry and Wildlife Sciences were recognized at Auburn University's annual faculty awards ceremony in October. The awards presented at the ceremony are the highest honors the university gives to faculty.

Daowei Zhang, professor of forest policy and forest economics, was named an Alumni Professor. Zhang is one of five professors university-wide to receive the appointment this year. Alumni Professors receive five-year, non-renewable professorships sponsored by the Auburn Alumni Association with funds endowed from Auburn Annual Giving. These awards are presented on the basis of research, publishing and teaching.

Hanqin Tian, who also is an Alumni Professor, received the Creative Research and Scholarship Award. This is considered the highest research award at Auburn University and is presented to only two professors annually. Tian's teaching emphasis is ecology and forest biology. He also serves as the school's Solon Dixon Professor.

Graeme Lockaby, associate dean of research in the school and director of the Center for Forest Sustainability, received the President's Outstanding Collaborative Units Award. This is the first year this award has been presented. As director of the Center for Forest Sustainability, Lockaby facilitates interdisciplinary research focused on the socioeconomic and ecologic implications of forest conversion to urban land uses. Lockaby was also named the Clinton McClure Professor in the School of Forestry and Wildlife Sciences. All three are Alabama Ag Experiment Station researchers.

Brazil Study Tour Expands Extension Educators' Knowledge

Professionals with the Alabama Cooperative Extension System are always looking for ways to help farmers enhance their profitability. Margins have been even tighter than usual for many Alabama producers because of high fuel costs.

Recently, a group of Extension educators traveled to Brazil to learn more about ways to modify agricultural practices to reduce dependence on foreign oil. Ray Rice, Extension state leader for public and international programs, says tour participants learned how biofuels and grass-fed beef operations are key elements of Brazil's sustainable agriculture efforts.

"The trip gave our educators a chance to observe innovative farming and energy conservation practices in action," he says. "Energy conservation is critical for Brazilian farming operations. Energy costs in that nation are substantially higher than here in the United States."

BRAZILIAN AG EXPO—Chris Beck, regional Extension agent in home grounds, gardens and home pests, checks out an exhibit at the Londrina (Brazil) Ag Expo, one of many stops Beck and fellow Alabama Cooperative Extension System employees made on a recent educational tour of Brazil.

The group saw many examples of the Brazilian emphasis on energy self-sufficiency, Rice says.

"Our group was particularly struck by a farm that heated its poultry houses with eucalyptus wood that is grown on the farm for that specific purpose," he says. "They also plant trees around the poultry houses to help keep structures cool in the hotter months."

Heating poultry houses isn't the only use Brazilian producers have for eucalyptus. The wood is used to dry grains and coffee beans and is an energy source at one poultry processing facility that processes more than 350,000 birds per day.

During the tour, the Alabama delegation had several opportunities to interact directly with Brazilian farmers.

"I think they learned that farmers are very similar, no matter the language they speak," Rice says. "They all worry about many of the same things—fuel, labor and weather."

One noticeable difference, however, was in terms of age. Brazilian farmers, Rice says, are much younger on average than farmers in the United States.

Rice says the tour also was an excellent way to teach Extension professionals about international agriculture.

"It will allow them to share with Alabama farmers the production practices and innovations used by farmers in other countries," he says. "Many of these practices can be used to advance sustainable agriculture programs in Alabama."

Tour participant Warren Griffith, Fayette County Extension coordinator, says the trip was an eye-opening experience.

"We learned quickly that Brazilian agriculture is anchored by young farmers who are very progressive and advanced," he says. "We in American agriculture cannot be complacent. We have to be aggressive in research and technology."

Griffith says he and his fellow Extension travelers noticed, too, how focused Brazilian agriculture is on the future.

"They are keyed on planning for the future," he says. "And I mean long-range planning—30 or more years down the road."

In a recent meeting with Fayette County cattle producers, Griffith highlighted the Brazilians' drive for expanding their agriculture output.

"Our farmers have to be willing to change in order to stay competitive, not just with other American farmers but with farmers from Brazil and other countries who are driving to expand their nations' output," he says.

To see a video about the Brazilian visit, go to www.YouTube.com and search for ACES Brazil Educational Tour.

New Toll-Free Number Source for Radon Info

The Alabama Cooperative Extension System's radon education program has a new toll-free number Alabamians can call for the latest information on radon.

The number is 1-85-ALRADON, or 1-855-257-2366, and anyone interested in learning more about radon testing, certified mitigation specialists and more can call during regular business hours to talk with a knowledgeable professional, program coordinator Pat Smith says.

Radon is a colorless, odorless and tasteless radioactive gas produced by the breakdown of uranium in soil, rock and water. Though harmless when dispersed in outdoor air, radon trapped in buildings can increase the risk of lung cancer, especially at elevated levels. Several Alabama counties, mostly in north and east-central Alabama, have a high risk for radon pollution. View a map of these counties at www.ag.auburn.edu/go/225.

The U.S. Surgeon General's office says exposure to radon is the second leading cause of lung cancer in the United States. According to the EPA's 2003 Assessment of Risks from Radon in Homes, radon is estimated to cause about 21,000 lung cancer deaths per year.

Extension Realigns Animal Science, Forages Field

In a move to better serve the state's cattle producers, the Alabama Cooperative Extension System has redrawn its program regions for animal science and forages. The changes will take effect Jan. 1, 2012.

For the past several years, Extension has provided education and support to cattle producers through regional Extension agents, with each agent responsible for working in a group of four to nine counties and trained to specialize in the assigned subject-matter area. Paul Brown, associate Extension director for rural and traditional programs, says the realignment will improve Extension's abilities to serve farmers.

"The Extension Animal Science and Forages team worked to redraw the regions using current statistics regarding the distribution of beef producers across the state," Brown says. "This will allow regional Extension agents to work with their producers more effectively as well as enhance the scope of the educational programs they conduct."

Ten regional Extension agents will work in animal science and forages. The regional Extension agent has a physical office in one county but is expected to be available and accessible to clients in all assigned counties.

The Extension Animal Science and Forages team will continue to offer educational programming in 2012 covering a wide range of topics, including nutrient management, herd genetics and farm management among others.

"One exciting new venture is the ACES 'Forage Focus Program: Growing Pastures… Growing Profits,' " Brown says. "While forages have always been a critical component of Extension animal science program efforts, we believe that this new program will be a great asset to cattle producers as well as as other livestock and forage producers."

He notes that the Forage Focus Program will be comprehensive and will target increasing producers' abilities to establish and sustain viable forage bases for their operations.

RANKINS WINS EXCELLENCE IN EXTENSION/OUTREACH AWARD—Darrell Rankins, professor of animal sciences, was recently awarded the 2011 Dean's Award for Excellence in Extension and Outreach by the College of Agriculture. The award recognizes faculty in the college who demonstrate outstanding service and scholarship through Extension and outreach programs. Rankins is a ruminant nutritionist who, for the past 20 years has focused his research on evaluating various byproduct feeds for use in southeastern beef cattle production systems. Currently, his efforts are focused on constructing a new cattle backgrounding facility and implementing new studies in the facility. In his role as an Extension professional he provides educational programs in the areas of beef cattle nutrition and management.

Calendar of Events

December • 2011

s	m	t	w	t	f	s
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

January • 2012

s	m	t	w	t	f	s
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

February • 2012

s	m	t	w	t	f	s
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

Jan. 16
Martin Luther King, Jr. Holiday

Feb. 23
AU Agricultural Alumni Association Annual Meeting and Hall of Honor Banquet
6:15 p.m.
The Hotel and Dixon Conference Center
Auburn
This event includes a board meeting, a membership meeting and the Hall of Honor awards banquet.
Contact: Elaine Rollo at 334-844-3204 or rollome@auburn.edu

Feb. 28
Arthur Caplan
E.T. York Distinguished Lecturer
4 p.m.
Auburn University Student Center
Auburn
The E.T. York Distinguished Lecturer Series in partnership with Auburn University's Littleton-Franklin Lecture Series will co-host Arthur Caplan, Emmanuel and Robert Hart Professor of Bioethics at the University of Pennsylvania and director of its Center for Bioethics.
Contact: Paul Patterson at 334-844-4768 or paul.patterson@auburn.edu or visit www.ag.auburn.edu/yorklecture

Mar. 12-16
AU's Spring Break

May 2-3
15th Annual Ag Classic
Auburn
Ag Classic has become one of the greatest traditions within the College of Agriculture providing alumni and friends a reason to visit Auburn, share in a little friendly competition and mostly enjoy lots of fun and fellowship. In addition to fishing and golf tournament events, Ag Classic includes a social hour, dinner and an auction.
Contact: Amanda Nims at 334-844-1475 or freinal@auburn.edu or go to www.ag.auburn.edu/adm/development/agclassic/

For more information on these and many other upcoming College of Ag and AAES events go to www.ag.auburn.edu and click on the "Calendar" button or use your mobile device to scan the code above.

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Recipe File

Comfort Food

Food Scientist Perfects Formula for Mac and Cheese

As an Auburn University food science professor, Leonard Bell frequently analyzes foods for their caloric value and their fat, protein and carbohydrate content, but it's probably safe to say that he has not conducted such a probe on this macaroni and cheese dish that's a favorite at his house. And that's a good thing because, after all, mac and cheese ranks right up there with meatloaf, mashed potatoes and chicken pot pie on America's list of favorite comfort foods, and sometimes, you just need comforting. A heaping helping of Bell's version of this ultimate feel-good food is sure to do the trick. For more about Bell and Auburn's food science program, see the article on page 1.

Leonard Bell's Macaroni and Cheese

1 (8-ounce) package (2 cups) uncooked elbow macaroni
2 tablespoons flour
½ teaspoon salt
2 tablespoons butter
1 cup milk, warmed
⅛ teaspoon garlic powder
⅛ teaspoon black pepper
Dash of cayenne pepper, or more to taste
2 cups shredded sharp cheddar cheese, divided
2 tablespoons dried bread crumbs

In a large pot, cook macaroni in 4 to 6 cups rapidly boiling water for 15 minutes, stirring to prevent the pasta from sticking to the pan. Drain the cooked macaroni in a colander, and set aside. Meanwhile, prepare a cheese sauce: Blend flour and salt in a small bowl. In a saucepan, melt the butter over medium heat and add the flour mixture, stirring until smooth. Gradually add the warm milk to the mixture, stirring continuously; add the spices and continue heating and stirring until the mixture just begins to bubble and is thick. Remove from heat and immediately add 1 cup of the cheese, stirring until all cheese is melted. Combine the cheese sauce, macaroni and 1/2 cup of the remaining cheese and pour into a 10-inch casserole dish. Sprinkle remaining 1/2 cup cheese and bread crumbs over top. Bake at 350 degrees for 10 minutes, or until cheese on top melts. Makes 8 servings.