After visiting 67 county offices

Gogue cites versatility of ACES as important for Auburn, entire state

Auburn University President Jay Gogue says a recently completed tour of all 67 county offices of the Alabama Cooperative Extension System revealed land-grant ties that are becoming increasingly close and a system adapting rapidly to serve local communities in the 21st century.

Gogue, an Auburn alumnus, began visiting Extension offices and local leaders across the state shortly after returning to Auburn as its president from the University of Houston in July 2007. The Auburn president said he began the tour to see for himself what level of impact the offices had on their communities. “I wanted to get out across the state and meet these leaders and their staffs,” he said, “to better understand the reach of the programs offered and to share this land-grant story which has been so significant to what America has become today.”

Gaines Smith, director of Cooperative Extension in Alabama, said, “Dr. Gogue has a deep knowledge of land-grant university history and how Cooperative Extension became a part of that. In sharing that expertise during his visits, we all felt a strong connection to the history and the benefits of what we do.”

“There is a strong community leadership and economic development component to county offices, and equally strong one-to-one relationships, with a county coordinator in all counties who reaches out to area citizens and finds tailored solutions to improve their quality of life.”

Gogue noted that the ACES partnership involves vital roles for Auburn, Alabama A&M, county Extension offices and local county leaders. The shared roles give ACES the flexibility it needs to identify local needs and provide access to university experts who can help meet those needs, he said.

Chris McClendon, human resources manager at ACES, who attended some of the recent sessions, said staff members in the county offices expressed appreciation for the president’s knowledge of Extension history and his interest in their local operations. “He makes everyone feel very much at ease and that their work is critical to the mission of our university,” McClendon said. “He fully understands the idea and importance of shared governance and how we can play a vital role in the economic development of our state.”

Gogue witnessed examples of locally relevant activities ranging from food and nutrition education programs in counties with high unemployment levels, sharing research findings about cotton production in other counties, beekeeping in others and radon gas testing in others – all based on the environments of specific areas.

“Programming varies widely by county because much of it is tailored to the needs of that county,” Gogue said. “The range of services is significant.”

Extension remains a vital part of counties in every part of the state because of its ties to land-grant institutions, he said. “Extension is literally how a university reaches out to individuals. Today, less than 1 percent live on farms, so Extension is continuing to evolve. This continuing adaptation will keep it relevant to the citizens of Alabama.”

Gogue said Extension must focus on the future, a need which is reflected in Auburn’s current strategic plan. He cited the need for programs involving electronically delivered courses for sharing technical knowledge and teaching English as a second language; increasing numbers of Extension personnel who can converse in Spanish; and the expanded need for service learning programs through which students learn while performing community service.

The Auburn president said he sees three opportunities for growth in Extension for the future.

One focus will include training and using grant writers who can increase funding for current and future needs, since funding will be a continuing challenge. Another focus will remain on valuable programming that currently exists, which is customized based on need.

The other focus will be on USDA recognition of top extension agricultural scientists and other experts, who can be organized as advisors for companies that are leaders in American agriculture.
Cool breakthrough
New uses for material that helps beat excessive heat

While it may look like part of a superhero’s costume, the spongy silver jacket that David Pascoe is holding is actually part of a research project in Auburn’s Thermal Laboratory.

Pascoe is a Humana-Germany-Sherman Distinguished Professor of exercise physiology in the College of Education’s Department of Kinesiology. In his lab in Beard-Eaves-Memorial Coliseum, he studies thermal physiology, which involves body temperature and temperature regulation.

Temperature regulation is crucial to human survival, Pascoe said, because we actually live on a continuum between death and death. “If you get too hot, you die. If you get too cold, you die,” he said. “And as a result, our body really tightly regulates us in a very small but important survival zone.”

Pascoe says much can be learned by studying the body’s core temperature and the different ways humans regulate that temperature. Parameters such as the type of clothing one wears or other environmental factors all affect thermoregulation.

“Unlike most of my colleagues who study thermal regulation, my students and I are looking at how the body regulates to the various temperatures,” Pascoe said. “We try to look at the influence clothing might have on that so we’ve looked at different materials and clothing to see how we could best temperature-regulate in a work setting and in an athletic setting.”

That’s where the shiny jacket comes in. Made from a material called Aluminet, which was originally designed to regulate turf temperatures on golf courses, Pascoe and his team in the thermal lab are finding new applications for the space-age-looking material. This past fall, Pascoe’s research was utilized by members of Auburn’s football team who wore capes made from Aluminet on the sidelines to stay cool when they weren’t in action on the field.

Pascoe said the material blocks about 50 percent of radiant heat. “So we’re blocking 50 percent of that sunlight from coming in and providing heat,” he said. “And its properties can actually change some of the air flow that is around the individual or animal that is going to use it.”

By adding a little water or a light mist, the material is even more effective at keeping those who wear it cool. Pascoe is now looking at applying the material to animals.

“I find animal and human temperature regulation are similar in a lot of ways and we can really learn from both,” he said.

After his success with Aluminet on the football field, Pascoe introduced the material to Auburn’s Raptor Center. Trainers at the center drape the material over bird cages to keep the temperature inside the cage cooler. This method has been particularly helpful in keeping eagles cool before their pre-game flights at Jordan-Hare Stadium during football season.

Apart from his work with Aluminet, Pascoe does research using an infrared thermography machine. “It detects the heat that the body or any object gives off,” he said. Because the equipment is non-contact and non-invasive, it allows Pascoe to quickly obtain a digital image of a person’s body temperature.

Pascoe said the technology is becoming increasingly instrumental in helping to stop the spread of pandemic diseases, like the recent outbreak of H1N1 or “swine flu.” By installing infrared thermography scanners at areas such as airports that see thousands of people everyday from many different locations, officials are able to quickly determine who might be carrying a disease by noting core body temperatures.

“There are some strains of disease that actually show up with a fever so this temperature, which we call a febrile temperature, is an indicator of a diseased state,” he said. Pascoe said individuals who record higher than normal core body temperatures would then be sent for a secondary screening to determine whether their febrile temperature was the result of a pandemic disease, another physiological condition or just heavy activity, like racing through the airport to catch a flight.

“A secondary screening might include another method of measuring core temperature to try to determine if they had a fever and whether this fever was related to a pandemic outbreak symptom or not.”

While thermography screening does prove to be a great way to isolate individuals with elevated temperatures, Pascoe said it is not a foolproof method for eliminating the spread of disease.

“With the current pandemic there is some concern because there is a portion of the period in which I can be carrying the disease and I may not have had a temperature and that’s unlike some of what we see with SARS and Avian flu,” he said. “The importance here is on those kinds of diseased states that actually have an elevated temperature where this would become very valuable.”

— Katie Wilder

Keeping cool
Troy Johnson, right, of Auburn’s College of Education tries on a jacket made of Aluminet. Professor David Pascoe, left, has found new applications for the material, which keeps an individual cooler by blocking radiant heat. Although Aluminet was initially developed for use on golf course turf, Pascoe has applied it to human use and even animals.

Campus Calendar

**MONDAY, AUGUST 10**
Graduation 2 p.m., Beard-Eaves-Memorial Coliseum

**THURSDAY, AUGUST 13**
Farmers Market The Market at Ag Heritage Park, 3 p.m.-6 p.m., Donahue Drive entrance

**THURSDAY, AUGUST 20**
Farmers Market The Market at Ag Heritage Park, 3 p.m.-6 p.m., Donahue Drive entrance

**MONDAY, AUGUST 17**
Classes Begin First day of fall semester

**FRIDAY, AUGUST 21**
Next Auburn Report; first edition of fall semester
In first for Alabama, research institute team installs solar power system at Lee County Justice Center

Researchers with Auburn’s Space Research Institute played an integral role this summer in installing a solar power system at Lee County’s T.K. Davis Justice Center, the first public building in the state to be outfitted with such a system.

After months of research and analysis, the Auburn team managed the installation of a 16.56 kilowatt grid-connected solar-powered system on the new addition to the center. The system will help offset the cost of electricity in the building.

“The Lee County Commission contracted with Auburn University to procure and install the system, to develop and manage a Web site and to conduct systems analysis and modeling,” said Henry Brandhorst, director of the Space Research Institute. “We want to show that solar power is successful and to have others invest in it.”

The photovoltaic power system at the justice center utilizes 72 of the highest-efficiency solar panels currently available on the market, with eight of the panels mounted to a pole on the ground and the rest of the panels mounted on the center’s roof. The system can withstand hurricane force winds up to 110 miles-per-hour and is certified for use on rubber roofs.

Brandhorst and his team spent months designing the system and reviewing site constraints including the center’s roof to determine which portion received the most sunlight throughout the year as the best location for the panels to ensure maximum efficiency. Using models based on 30 to 40 years of weather data for the east Alabama area, he said the team was able to predict the system’s performance.

With the system now up and running, the institute’s researchers are now collecting information from the site including wind speed, actual temperature and how bright the sunshine is. They are comparing the actual data they receive from the system to the information previously generated by the models.

“This gives us a way to make better models and to show people what a cost-benefit solar power is,” Brandhorst said. “We can do modeling for residences and show people the amount of power they have to generate until the power becomes free.”

Solar power is a renewable resource and because sunlight is “free,” the cost of this “fuel” is zero. The major costs associated with the project included the purchase of the photovoltaic panels and the electrical inverter equipment to convert the direct current, or DC, electricity from the solar panel into the alternating current, or AC, that is used in the particular loads in the center.

“Every amount of power that we generate is power they don’t need from the grid,” Brandhorst said. And, if the center does not use all the power generated by the solar system on a given day, then their power meter literally runs backwards. The system will pay for itself as soon as the cost savings from the solar panels equals the cost of equipment and installation.

“Solar power systems are costly but costs are continuing to decrease every year,” Brandhorst said.

The project took about eight days to install. Brandhorst said researchers will continue to monitor and collect data regarding the amount of solar power that is generated from the building and its efficiency. The public can view the building’s solar power output in real time on the Web at http://sri.auburn.edu/solardata.htm.

Funding for the project came from the Alabama Research Alliance, Alabama Department of Economic and Community Affairs Energy Division and the Lee County Commission.

— Katie Wilder

Agreement clears way for MRI Research Center at Auburn

Siemens Medical Solutions USA Inc. has signed a master research agreement with Auburn to establish the Auburn University Magnetic Resonance Imaging Research Center. The MRI center, to be constructed in the Auburn University Research Park, brings together Auburn’s expertise in the areas of engineering, science and pharmaceuticals with Siemens’ expertise in magnetic resonance imaging.

University officials said the alliance with Siemens, one of the world’s largest suppliers to the health care industry, will advance Auburn to the forefront of biomedical engineering and has the potential to bring lifesaving technologies to the citizens of Alabama and the region. Examples of current and potential areas of MRI-related research include cognitive neuroscience, metabolic imaging and pharmaceuticals, as well as research into diabetes and heart disease.

“This effort supports Alabama’s goal of becoming known as a key state in advancing the biomedical frontier,” said Auburn President Jay Gogue. “We believe that this collaboration sets an example and establishes a precedent on which programs between Auburn University and other institutions, both private and public, can build to strengthen Alabama’s future.”

The first phase of this center involves the location of Siemens 7 Tesla (7T) Investigational Device and 3T MRI scanners in a newly constructed facility in the Auburn University Research Park. MRI scanners are classified by the strength of the magnet used for imaging. The equipment is designed to produce finer anatomic detail with shorter scan times.

The 3T open bore scanner contains the strongest magnet certified for clinical diagnostic use and will see clinical and research use. The 7T scanner, now in the research and development stage, is not yet cleared by the FDA for commercial distribution. The 7T scanner is cited as the next generation of MRI scanner for cutting-edge research and is designed to provide unprecedented insight into how the human body is structured and how it works. Auburn faculty in engineering, science and pharmaceuticals will solely direct the research needed to bring the benefits of 7T MRI to the general population. The Auburn unit will be the first actively shielded whole body 7T MRI scanner in the world.

University and company officials said the Auburn MRI Research Center represents the first step in a broader initiative designed to bring together Alabama’s intellectual and business capital to create a unique resource for the state. “This collaboration will provide a research platform of the highest level,” said Heinrich Kolem, president and CEO of Siemens Medical Solutions USA. “We believe this alliance will result in improvements in health, education and economic growth for the state of Alabama and the nation.”

Imaging technologies developed at the MRI Research Center will be made available to the School of Medicine at UAB and other medical schools for use in clinical trials.

“The MRI Research Center and the supporting alliances it will generate are prime examples of how state funds can be invested and state educational institutions collaborate with the private sector to develop a world-class research center to advance science and technology, improving quality of life in the global community and promoting economic development for the state of Alabama,” said Larry Benfield, dean of Auburn’s Samuel Ginn College of Engineering.

— Cheryl Cobb
Advisers coming to campus to discuss employee deferred annuity options

Representatives of the university-approved companies will be on campus during August to meet with Auburn employees on a one-to-one basis to provide a review and better understanding of Auburn’s tax-deferred annuity program.

Regardless of whether or not you currently participate in the plan or with which company you participate, you may meet with any of the listed representatives.

All sessions will be at the Payroll and Employee Benefits Office, 212 Ingram Hall. Company representatives, session dates and contact information are:

- VALIC, Cindy Haynes and Sarah Fucci, Aug. 14, 19 and 26. To schedule an appointment contact Haynes at 334-444-1533 or e-mail cindy.haynes@valic.com or Fucci at 334-740-9067 or e-mail sarah.fucci@valic.com.
- TIAA-CREF, Jim Hogan, Aug. 17-18. To schedule an appointment, contact Doret Simpson at 800-842-2003, extension 26-3565, or log-on to their Web site at www.tiaa-cref.org/MOC.
- Lincoln Financial Group, Che’ Bailey, Aug. 20. To schedule an appointment, call 866-489-4821 or e-mail che.bailey@LFG.com.

Fidelity Investments, Jeff Juday, Aug. 27-28. To schedule an appointment, call 800-642-7131 or contact Juday directly at 800-550-4068 or e-mail at jeff.juday@fmr.com.

Exhibit in Dudley Gallery shows impact of Slow Design Movement on craft

The College of Architecture, Design and Construction’s Dudley Gallery is presenting the exhibit “Craft: The Slow Food of Design” through the month of August.

The exhibit features work from the college’s 2009 interior architecture thesis studio, which focused on materials and the craft of making as a generative mechanism for the form and use of the design work. The craft of experience and procedure was enhanced through research of design-craft workshops.

Slow design, a derivative of the Slow Food International movement, places emphasis on design that supports small-scale production, artisan expertise and regional culture. The students’ design work was inspired by slow design concepts such as natural time cycles, human behavior and environmental responsibility. Dudley Gallery hours are 8 a.m.-4 p.m. Monday through Friday.

National forestry society honors Zhang for achievements in Forest Science

The Society of American Foresters has announced that Daowei Zhang, a professor in Auburn’s School of Forestry and Wildlife Sciences, will receive its Award in Forest Science during the 2009 SAF National Convention, Sept. 30–Oct. 4 in Orlando.

Presented annually, the Award in Forest Science recognizes distinguished individual research in any branch of the quantitative, managerial or social sciences leading to the advancement of forestry.

Zhang, an international authority on forest economic and policy matters, has received more than $1.3 million in extramural and competitive research grants in the past 14 years, and he has authored or coauthored 64 refereed journal publications, two books, “Softwood Lumber War” and the forthcoming “Forest Resource Economics” as well as book chapters and more than 40 technical reports and proceedings papers.

The Auburn professor previously received a Research Recognition Award and the Director’s Research Award from Alabama Agricultural Experiment Station in 2001 and 2002, and three USDA National Research Initiative Competitive Grants.

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