Auburn has added several new programs to recruit and retain minority faculty and students since Overtoun Jenda assumed the post of associate provost for diversity and multicultural affairs in January.

“It’s exciting to see some of these programs already under way and working,” Jenda said.

One such program, AU’s Summer Salary Assistance Program, provides financial assistance to nine African American junior faculty to allow them to focus on research this summer without having to teach classes. The program is designed to help African American tenure-track faculty with four years or less of rank enhance their chances toward tenure and promotion through encouraging their summer research projects.

Through the Summer Salary Assistance program, AU provides up to $20,000 per faculty member for summer research. The faculty member’s college, school or department may supplement the university assistance, as long as those additional funds are not contingent on teaching.

In addition, AU is providing one year of financial support for five African American postdoctoral fellows, each of whom will study for a year with an AU faculty member.

Each fellow is awarded up to $45,000; in many instances the award is supplemented by the faculty member’s department and/or research grants.

Auburn is also supporting African American junior faculty under the Mentor Research Grant Project initiative. The junior faculty member works with an experienced and successful senior colleague in his or her department. The grant award of up to $25,000 supports the junior faculty member’s salary, technical and secretarial assistance, product or proposal development costs and travel.

AU is providing financial assistance to 16 African Americans to allow them to focus on research this summer and/or next academic year.

“As we are able to spread the word about these programs, these opportunities for young African American faculty will serve to make Auburn a more attractive place for them to come and build a career in higher education,” Jenda said.

AU is also awarding scholarships of $2,000 per year, renewable for up to three years, to 40 incoming freshmen under the new Provost Leadership Undergraduate Scholarship program. The scholarship recipients must be first-generation college students, exhibit need under federal guidelines and be Alabama residents or have a diverse background.
Message from the President

Dear Auburn Alumni and Supporters,

As we conclude our sesquicentennial year and approach a new academic year here at Auburn, we have much of which to be proud. As I look back, it is not difficult to find ways in which Auburn University has excelled:

- We achieved one of our highest-ever academic rankings, being ranked 38 among public universities in the country by U.S. News & World Report;
- With excellent management by our Board of Trustees and Executive Vice President Don Large and by maintaining a united front with the University of Alabama in the state Legislature, we have remained strong financially;
- An Auburn education remains in great demand, as evidenced by the number of applications received and strong attendance numbers at Camp War Eagle this summer;
- We are planning, building and occupying new space that will allow the university infrastructure to meet the demands of education in the 21st century;
- Under the leadership of co-chairs Sam Ginn and Buddy Weaver and Vice President for Development Bob McGinnis, our capital campaign has progressed well ahead of schedule;
- We recently announced the October launch of the Auburn Alternative Fuels Initiative, which will build on ongoing Auburn research that could lead to the development of alternatives to petroleum-based fuels; and
- An optical microscopy-imaging system invented by AU Professor Vitaly Vodyanoy was recently selected by R&D Magazine as one of the top 100 most technologically significant products introduced in 2005.

In athletics, Auburn won four national championships in the past year as the men’s and women’s swimming and diving teams continued their record of success and the AU equestrian and women’s track & field teams also brought home national championships.

Indeed, it has been a great year. But it has not been without its challenges. I’m sure by now most of you are aware of an ongoing internal investigation here at Auburn regarding directed-studies classes. We will take whatever steps necessary for Auburn to maintain its well-earned academic reputation. I am confident that the new policies to be announced by the provost will allow us to do so and prevent such isolated cases from reoccurring.

My administration continues to move forward with initiatives designed to make Auburn more attractive to potential presidential candidates. We are searching for a vice president to head the new agricultural institute and will continue current initiatives, including those relating to post-tenure and academic program review, assessing student achievement and expanding our relationship with Auburn University Montgomery.

Of course, an important issue for the university is the search for its next president. The Presidential Search Advisory Committee and the Board are committed to the identification of the right person to lead Auburn over the next several years. From all accounts, the search is going well and I remain confident that Auburn will be successful in its quest for an outstanding leader.

I am equally confident that an even better record will result from this year’s work. Auburn is very fortunate to have outstanding faculty, remarkable students and an excellent staff and administration. The Auburn Spirit is alive and well.

War Eagle!

Ed Richardson
Sometime in the coming decades, most fruits and vegetables in your local supermarket could be organically grown, says an Auburn University scientist who is at the forefront of a type of research to develop natural alternatives to man-made chemicals in farming.

This emerging scientific field is examined in the new book *Multigenic and Induced Systemic Resistance in Plants*, edited by plant pathologist Sadik Tuzun of AU’s College of Agriculture and Elizabeth Bent of the University of California, Riverside.

In the book, published by Springer Science Media, the authors and other scientists describe the breakthroughs and potential of research to unlock the secrets by which plants can overcome disease or pathogen attack by activating their otherwise inactive defense mechanisms without the use of commercially manufactured chemicals.

The study of multigenic and induced systemic resistance combines 21st century technologies such as molecular genetics with concepts of agricultural research that were well established before the 20th century began. Tuzun, a faculty member at Auburn since 1990, said scientists using this approach to their research also look to history—plant history—as a guide.

“Plants have been around for millions of years and have developed very efficient mechanisms for identifying, resisting and defeating pathogens,” he noted. “Over the long term, these mechanisms are more effective at defeating pathogens than the methods humans take to protect their crops.”

The “Green Revolution” of the 20th century was made possible through applied agricultural research that led to new strains of fruits, vegetables and grains. Combined with intense cultivation practices and frequent use of chemical insecticides, herbicides and fungicides, these advances led to previously unheard of yields.

The phenomenal growth in agricultural production had its downside, however. To sustain high yields year after year, farmers had to invest heavily in costly seed, fertilizers, insecticides, fungicides and herbicides. By the end of the century, environmentalists complained about the heavy reliance on chemicals, farmers complained about the cost of production and consumers complained about a seemingly missing ingredient—taste. To address those concerns, land-grant universities since the mid-1970s have expanded their basic research capabilities, leading to several new branches of study in biological and other sciences.

In recent decades, many agricultural and biological scientists have taken advantage of advances in technology to try new approaches in the search for solutions to agricultural problems. The best known of these approaches, molecular genetics, with its success in isolating genes with wanted or unwanted characteristics, became a quick way to speed up generations of selective breeding.

However, many scientists recognized that too much attention to a single gene or characteristic could lead to crops that could be devastated by a single, previously unknown strain of a pathogen. Adopting a multigenic approach to produce broader natural resistance, some scientists are using combinations of genes in a pyramiding effect over generations of plants.

One drawback of that method, however, is that the process may lead to plants that are resistant to more pathogens but lack the yields, market appeal or another desirable feature of plants that have been bred for a single characteristic.

A closely related discipline involves the search for ways in which plants develop and build natural resistance against pathogens, a process known as induced systemic resistance or ISR. For instance, while a new fungus or disease may wreak havoc with a crop one year, scientists have observed that subsequent crops on the same land seem to become immune to the pathogen.

This type of activated-resistance is similar to “immunization” in humans, Tuzun said; plants that survive an attack by pathogens or insects become resistant to subsequent attack. However, heavy use of chemicals against the pathogen can disable this natural phenomenon, he said.

The key, Tuzun said, involves understanding the natural defense mechanisms of plants and then using that knowledge to improve agricultural practices. “We do not need to add new genes to plants; we just need to learn to regulate them,” he said.

While the ultimate goal is to prevent plant diseases from devastating food supplies, Tuzun said gardeners, homeowners and consumers can benefit as much as farmers from what is already known about plants and their resistance to diseases. Farmers and gardeners, for instance, can help avoid future crop losses to many types of plant disease by plowing under, rather than burning fields in which diseases appear, he said.

In many cases, homeowners can protect their lawns by leaving them alone, Tuzun added. “People compete with their neighbors to have the prettiest lawn, but they may be doing more damage than good,” he said. “The healthiest lawn is not always the prettiest one.”

Gov. Bob Riley met at AU with researchers Graeme Lockaby, center, and David Bransby, right, in June to discuss state support for research to convert agricultural and forest products to liquid fuels. Lockaby, a forestry professor, and Bransby, an agriculture professor, described AU research initiatives and discussed plans for a symposium on biofuels research at Auburn in August.
Auburn’s Autism Center Planning Move to Campus

The AU Autism Center, now operating out of Yarbrough Elementary School, will soon have a new 5,000-square-foot on-campus home in the Dawson Building on Donahue Drive.

The center staff are preparing for a move to the new facility that could come as early as August, said Caroline Gomez, co-director of the center, which is part of AU’s Department of Rehabilitation and Special Education within the College of Education.

“We’re excited about the opportunities the move will afford us,” Gomez said. “It will give us considerably more space, allow us to, over time, greatly expand our services and give us a good, central location on campus. But, primarily, we’re excited because it’s going to allow us to do so much more for children and others with autism and their families.”

At Yarbrough, three miles from campus, the Autism Center has one classroom and one small observation room that doubles as an on-site office for co-directors Gomez and Robert Simpson. The campus facility will feature a diagnostic clinic, three classrooms (two opening in August and another in August 2007), a conference room and office space for Gomez, Simpson, two outreach consultants and up to five graduate teaching assistants.

The date of the move will depend on preparations under way in the Dawson Building. The facility now houses Parking Services, which is scheduled to move to the Wallace Center and establish a satellite office in the Solar House on South Donahue to issue visitor passes. The planning staff in Facilities is working on schedules and other details of the moves.

The diagnostic clinic will allow the Autism Center to provide multidisciplinary diagnostic evaluations, something parents now must wait six months to a year to receive. The evaluations will be conducted by Gomez, an educational specialist, a speech language pathologist and an occupational therapist.

“We hope that, by providing these diagnostic services, we can help reduce the wait times that a lot of parents have to endure,” Gomez said.

The two classrooms that are scheduled to be available by August will serve children ages 3-5. Each classroom will accommodate five children with autism and five “peer models” or children without the disorder.

“Placing peer models in the classroom with the autistic children is something that is an approach that is receiving a lot of positive response and attention lately,” said Gomez. “Children learn from other children what they cannot learn from adults, even when the children have disabilities.”

A third classroom will open in August of next year as a transition laboratory serving ages 17-21. Gomez said she hopes the center can fill the need for help preparing autistic individuals for adult life.

“This service will be a new one for us, but it is one that there is a great need for,” said Gomez. “We want to be able to prepare individuals with autism for productive and enjoyable adult lives.”

She added, “Of course, the range of needs for these individuals will be very diverse, so our plans are to hire a Ph.D.-level individual with experience in this area. That person will have the help of three instructional assistants.”

DoD Grants to Provide Research Instrumentation in College of Engineering

A program of the U.S. Department of Defense has awarded grants to two faculty members in AU’s Samuel Ginn College of Engineering to provide vital instruments for research.

Hareesh Tippur, alumni professor of mechanical engineering, and Brian Thurow, assistant professor of aerospace engineering, received grants from the Defense Department’s Defense University Research Instrumentation Program.

The grant for Tippur’s laboratory supports high-strain testing to identify failure rates of materials. The award provides for instruments such as a high-speed camera capable of capturing failure events at up to 2 million frames per second and supports a high velocity gas gun for use in the experiments.

Thurow’s research focuses on the development of laser diagnostics for fluid dynamic measurements. His lab houses a pulse-burst laser system that can produce high energy laser pulses at rates exceeding 1 million pulses per second. When used with a high-speed camera, this system can measure pulses up to that amount.

The award will provide Thurow’s lab with a high-speed imaging system capable of framing rates up to 250,000 frames per second.
Auburn INDD Students Design Canine Heart Monitors

Outfitted with a nylon harness, Simon the Bassett Hound looks like a canine entering combat. In reality, Simon is helping Auburn students test prototypes of wireless heart monitors and harnesses that could lead to healthier, longer lives for beloved pets.

Students in the Department of Industrial Design spent last semester developing and designing the concepts. Their challenge? Most heart monitors now on the market are designed for humans even though some are used primarily for animals. Also, supporting wires make their use in the operating room inefficient and render home use of the monitors nearly impossible.

“There is clearly a need for a more practical dog-specific EKG monitoring device as well as a monitor that can be used at home,” said Ray Dillon, Jack O. Rash Professor of Medicine in AU’s College of Veterinary Medicine.

Graduate Survey to Focus on AU Experience

Auburn graduates often think about their college experience long after they leave. Now they will have the opportunity to evaluate that experience two years after graduation.

Beginning with 2003-04 recipients of undergraduate degrees, AU will send recent graduating classes a letter inviting them to complete a confidential Web-based survey. The letter will contain a Web address and password to access the survey. The information they provide should suggest ways to improve many aspects of the Auburn experience. This is an opportunity for alumni to let key administrators, faculty and professionals know what they wanted from an Auburn education and how well those goals were met. Survey respondents will also be able to provide career updates two years after graduation, which may provide further evidence about the quality of their Auburn University education.

Information collected from this confidential survey will be used only to improve the university’s performance. Reports of survey results will protect the identities of participants; only summary information will be released.

The survey of 2003-04 graduates will be conducted this summer and fall. Graduates who respond by the closing date of Jan. 1, 2007, will be eligible for a random drawing of two awards of $200. Invitations will be mailed to addresses provided at graduation by recipients of undergraduate degrees between summer 2003 and spring 2004. The Office of Institutional Research and Assessment will administer the survey and the random drawing of the two awards.

Dillon worked with the six students in Assistant Professor Tsai Lu Liu’s design class to develop concepts for new monitors. Three members of the class focused their research and design on developing wireless EKG devices to be used in clinical settings. The other three students devoted their time to designing harnesses and devices that pet owners could use at home to monitor their pets’ EKG or electrocardiogram, which is a test that measures the electrical activity of the heartbeat.

“After some initial research, the students learned that it was impossible to design one product for both uses,” Liu said. “In the hospital, the animal is asleep and doesn’t need the harness to hold the monitor. The clinical devices needed a more professional look while the home devices needed to be more user friendly.”

Liu said the harnesses would allow pet owners to take their animals home where they could continue to monitor them without an extended stay at the clinic.

Graduate student Brett Curtis was one of the three students to develop a harness prototype. His final design consisted of an adjustable harness made from coated nylon and webbing. His EKG device clips to the top of the harness between the dog’s shoulder blades.

“I learned that there is a big difference in designing for animals versus humans, specifically because of the amount of wear and tear a product will endure,” Curtis said.

Curtis and his fellow students test-fitted their monitors and harnesses on dogs at AU’s College of Veterinary Medicine. “I quickly determined that one size does not really fit all when it comes to dogs. The product needs to come in sizes small, medium and large.”

Unlike Curtis, senior Matt Gunter designed an EKG monitor for clinical use. His research resulted in a monitor that transmits the EKG information wirelessly to a PDA or personal digital assistant, which can then be synced to a desktop computer.

“Using a PDA was the most cost efficient method and also provides a convenient package, eliminating the number of cables needed in the operating room,” Gunter said.

This aerial view shows the large scale of Auburn’s new Transportation Technology Center, which is rising along Magnolia Avenue between other buildings of the Samuel Ginn College of Engineering at the top left of the photo and the College of Business, which is housed in the Lowder Building, one of the larger academic facilities on campus, at lower right. The first phase of the project, budgeted for $54 million, will provide a home for work in several departments in connection with the development and study of advanced technologies in transportation.
AU Graduate Students Going to Lee, Macon Schools to Assist Math, Science Teachers with NSF Grant

AU and Tuskegee University will send 13 graduate students into classrooms in five Lee and Macon county schools this fall to assist science and mathematics teachers.

The two universities will send the students into East Alabama schools through a partnership with Lee County Schools and Macon County Schools with support from a three-year, $2 million grant by the National Science Foundation.

Working with grades 9-12, the GK-12 Fellows in Science and Mathematics for Schools in East Alabama program will focus on Beauregard, Beulah and Loachapoka schools in Lee County and Booker T. Washington and Notasulga schools in Macon County.

The letters “GK-12” refer to graduate students, called “Fellows,” on the NSF fellowships and participating teachers in K-12 (kindergarten through 12th grade) school systems. GK-12 Fellows will take a course in pedagogy in the AU College of Education the summer before entering the classroom, and GK-12 Teachers will attend a two-week professional development workshop.

Jack Feminella and Anotida Madzvamuse at Auburn and Mohammed Qazi and Roberta Troy at Tuskegee University are co-principal investigators on the project. In AU’s College of Sciences and Mathematics, Feminella is an associate professor of biological sciences, and Madzvamuse is an assistant professor of mathematics and statistics.

Supervised by teachers at the participating Macon County and Lee County schools, the AU and Tuskegee graduate students will assist in laboratories, develop curriculum modules and design research activities and demonstrations.

Overtoun Jenda, AU associate provost for diversity and multicultural affairs, said the graduate students will bring their scientific research experience to the schools, explain concepts to individual students, participate in after-school enrichment activities, serve as mentors and role models for students and assist teachers with related duties.

“The GK-12 Program will give teachers a rare opportunity to provide individual attention to each student and present the opportunity for students in general to receive more high-quality, one-on-one instruction,” Jenda said.

“Teachers will now have much-needed help in utilizing more challenging science and mathematics instructional strategies,” he added.

Jenda said the graduate students will gain teaching experience to complement their research, and the participating teachers will learn more about the subject matter as they participate in workshops and work with the graduate fellows.

Students in the participating Macon and Lee County schools will be the program’s primary beneficiaries, Jenda said. “Benefits to the students will include better knowledge of subject matter and hence better academic performance on ACT, SAT and high school graduation exams in sciences and mathematics.”

Women Win National Title in Track and Field

The AU women’s track and field team won its first national title on June 10 at the NCAA Outdoor Track and Field Championships, scoring 57 points. Southern California placed second with 38.5 points.

The Tigers posted All-American performances in nine events, including two individual national champions and three second-place finishers, and broke two school records during the four-day event.

For Auburn, it was the first national championship in men’s or women’s track and field. Previously, the women’s team’s highest finish was seventh at the 2003 Indoor Championships. The men’s team finished second at the 2003 NCAA Outdoor Championships and at the 1978, 1997 and 2003 Indoor Championships.

“It’s a sweet, sweet feeling,” said Auburn head coach Ralph Spry. “It’s a hard meet to win. A lot of things have to happen for you to win it. But our girls have been consistent all year long. I knew if we came in and did what we’ve done all year long, we could put up the numbers to give us a shot at being a factor. It’s real exciting.”

Auburn Athletics Director Jay Jacobs added, “We’re extremely proud and very excited for our women’s track and field program. You can’t say enough about the efforts of our women and the leadership from Coach Ralph Spry and his staff.”
Auburn University Faculty in the News

Bevly Wins Grant from U.S. Navy
The Office of Naval Research in the U.S. Department of Defense has awarded a Young Investigator grant to David Bevly of AU’s Samuel Ginn College of Engineering.

The grant will support work by Bevly, an assistant professor of mechanical engineering, in the use of global positioning sensors and micro-controllers to enable specially trained dogs to perform security duties without the immediate presence of a handler. Faculty from the College of Veterinary Medicine are also participating.

Greenleaf’s Work Played at Baylor
AU Music Professor Robert Greenleaf’s orchestral work “Celebration” was a part of two major events in Texas.

The Baylor University Symphony Orchestra, directed by Stephen Heyde, performed the piece as part of the inauguration program for John Lilley, the 13th president of Baylor University.

With a commission from Ruth and Marvin Engel of Birmingham, Greenleaf composed “Celebration” in 1997 to celebrate the rebirth of the Alabama Symphony Orchestra. Since then, orchestras have performed the piece in Poland and China as well as in the United States.

Concrete Institute Honors Schindler
Anton Schindler, Gottlieb assistant professor of civil engineering at Auburn, has received the American Concrete Institute’s Wason Medal for Concrete Materials Research.

The Wason medal is presented annually to the author of a peer-reviewed paper that reports the best original research work on concrete materials and advances knowledge of materials used in the construction industry during the previous year.

Schindler received the award for a paper on differences in behavior of materials under certain conditions experienced in the industry.

Silvern Receives Achievement Award
Steven Silvern, a professor in the AU College of Education, is the first recipient of the Lifetime Achievement Award for Volunteerism from the Association of Childhood Education International.

Silvern, a faculty member in the Department of Curriculum and Teaching since 1978, also presented the keynote address at the association’s annual conference in Texas.

The association honored the Auburn faculty member for his service as an ACEI member and as “an invaluable source of information, inspiration and wise counsel in the true spirit of volunteerism.”

In ACEI, Silvern has served as chair of the research, publications and technology committees. Also, he has been editor of the Journal of Research in Childhood Education.

Gerber Elected to Third Term in AAUP
Larry Gerber, a professor of history in the AU College of Liberal Arts, was recently elected to a three-year term as first vice president of the American Association of University Professors.

At Auburn, Gerber is a former chair of the University Senate and of the Department of History. With the AAUP, he has also served as chair of the association’s national Committee on the Governance of Colleges and Universities and as a representative of the Southeastern District on the AAUP National Council.

Halanych Leads Antarctic Expedition
Ken Halanych of AU’s College of Sciences and Mathematics and Rudy Scheltema of the Woods Hole Oceanographic Institution recently led two groups of scientists studying the biology of marine invertebrate animals on a five-week voyage through Argentine and Antarctic waters.

The scientists examined invertebrates living in the water column and on the ocean’s bottom to learn why Antarctic animal life is so unique. The team also studied how larval forms disperse between South America and Antarctica, and if there is unrecognized genetic variation in marine Antarctic species.

They chronicled their journey through the coldest place on earth on the Web under “Icy Inverts” at www.auburn.edu/antarctica.

Bailey Aiding Restoration Program
The U.S. Geological Survey has appointed Rural Sociology Professor Conner Bailey of the AU College of Agriculture as social science representative on the Science Board of the Louisiana Coastal Area Ecosystem Restoration Program.

The restoration program has gained emphasis among federal programs since hurricanes Katrina and Rita devastated the Louisiana coast in 2005. The Science Board will provide oversight of the program’s general scientific processes and structure.

Sumners Heads Economic Institute
Joe Sumners, former director of AU’s Economic Development Institute, has been named director of the new AU-ACES Economic and Community Development Institute, a partnership between the AU Office of University Outreach and the Alabama Cooperative Extension System.

In his new role as a University Outreach director and as a member of the Extension program management team, Sumners will lead economic and community development for both Extension and the main campus.

Sumners said the partnership presents new opportunities for the people of Alabama. “There is a lot that needs to be done to improve economic conditions throughout Alabama, especially in our rural areas. We believe that combining the resources of AU and ACES in a common effort puts us in the best position to make a positive difference for our state.”

Faculty/Staff Set Campaign Record with 43 Percent Participation
AU wrapped up this year’s Faculty-Staff Campaign with 43 percent participation, setting a campus record for faculty-staff participation in fundraising on behalf of the university.

The campaign among faculty and staff is part of the $500 million “It Begins at Auburn” fundraising effort for the university. Bob McGinnis, vice president for development, said both the campus campaign’s success and the sense of unity it demonstrates to alumni will add to momentum that followed the kickoff of the national campaign’s public phase in February.

The nationwide “It Begins at Auburn” campaign has raised more than $366 million, or 73 percent of the total goal. The campaign encompasses all AU colleges and schools as well as the library, athletics, Auburn University Montgomery and the Jule Collins Smith Museum of Fine Art. Endowments for students, faculty, programs and unrestricted dollars make up 58 percent of the campaign’s goal.
AU’s front gates at Toomer’s Corner are again welcoming visitors to campus after being out of commission for several weeks this spring. The gates were repaired and restored and the eagle statues were cleaned and returned to their perches during May. At left, the photo of the unfinished front gates is from the 1917 Glomerata, which also included sketches of the entrance as it would appear a few months later, with lights attached to and stone spheres atop the brick columns, where carved eagles now perch.