RESEARCH PROFILE 2008
Vice President for Institutional Research, Planning and Sponsored Programs

Alabama A&M University
Overview

In fiscal year 2008 (October 1, 2007 to September 30, 2008), Alabama A&M University made tremendous progress in its research programs as proposed and executed by our faculty and supported by our research administrative units. Just as in past years, our faculty, scientists, scholars and students worked closely in interdisciplinary teams, along with partners in industry and the community, to approach critical issues from many different viewpoints. The record $47.2 million in research funding for this period, a 48-percent increase over the previous reporting cycle, is a reflection of their hard work.
While funding levels for sponsored projects provide one clear indicator of the vitality of the University’s research and enterprise, the distinction of our faculty is also evidenced by membership in prestigious national academies and societies, awards from preeminent grant and fellowship programs, citations and other recognition and honors. For instance, Dr. Teferi Tsegaye, a soil physicist and chair of the Department of Natural Resources and Environmental Sciences, was selected to serve on a national, 30-member advisory committee to advise the U.S. government on environmental policy issues impacting farms, ranches and rural communities.

In collaborative and interdisciplinary efforts, Dr. Kaveh Heidary, associate professor of Electrical Engineering in the School of Engineering and Technology, is leading a team of scientists from his school and the School of Arts and Sciences in a $783,000 U.S. Department of Defense-funded program to investigate, develop and integrate two nanotechnology-enhanced cooling mechanisms for applications in electromagnetic detection systems such as infrared focal plane arrays.

Also in the School of Arts and Sciences, Dr. Razi Hassan, associate professor of Chemistry, as the principal investigator working with a co-investigator from the School of Education, won a $2 million grant from the U.S. Department of Health and Human Services to re-establish a Health Career Opportunity Program (HCOP) at AAMU.

In international partnership, Dr. Mary Spor, professor of Reading/Literacy, also in the School of Education, is leading a three-year, $5.5 million collaborative program with the Ethiopian Ministry of Education and the U.S. Agency for International Development (USAID) to develop English textbooks and teacher’s manuals for grades 1, 2, 6, 7 and 8. The effort, named the Textbooks and Learning Materials Program, is part of USAID’s Africa Education Initiative to develop and distribute quality and culturally based textbooks and learning materials for schools in Sub-Sahara Africa. Already, grades 1, 6, 7 and 8 English textbooks and teacher’s guides are in the hands of over 3 million students and their teachers in 11 regions of Ethiopia.

**Alabama EPSCoR**

Giving additional impetus to our collaborative effort, AAMU received the distinction of being the lead institution for the state’s EPSCoR (Experimental Program to Stimulate Competitive Research) with a five-year, $15 million grant from the NSF. The fund, intended to continue the work of four Centers of Excellence, will help to build Alabama’s ability to participate in, conduct and compete for nanotechnology research. AAMU will house the Center for Interdisciplinary Discovery via Engineered Nanofabrication (CIDEN). The other centers will be housed at Tuskegee University, Auburn University and the University of Alabama at Birmingham.
During the year under review, we initiated open discussions with faculty and other administrators to develop a more strategic direction for research, as well as to develop policies to guide the conduct of research on campus, facilitate and promote technology transfer and economic development, and a service-oriented administrative infrastructure to serve the faculty and staff involved in research. Also, more faculty members took advantage of training workshops, seminars and other incentives to hone their skills in identifying and seeking supplemental funding to address the growing demand for quality research and innovation. In addition to already available resources in IRPSP, which developed a one-on-one needs assessment approach to training in the various schools, the office hosted nationally recognized trainers from funding agencies such as the National Institutes of Health (NIH) and the National Science Foundation (NSF) to conduct training in how to be successful grant writers.

As a result, our department saw a marked increase in faculty participation in grant writing. One hundred and thirty proposals were submitted in the last funding cycle (Sept. 2007 – October 2008), accounting for participation by 98 faculty members including PIs and co-PIs. This increased participation accounts for the $47.2 million reported earlier.
As the economic downturn hit home with budget cuts and reductions in key services, the University looked in other areas to fill potential gaps that could negatively impact its research and development base. Hence, funding, such as the intake for this reporting cycle, is impacting areas such as salaries, purchase of new equipment, community outreach, education in food technology for small farmers, and many more. The charts on these pages indicate awards received by way of function, school and type. Indicated in the charts also are the sources of the funds.
Research Institute

In addition to our various units, the Alabama A&M Research Institute (AAMURI) recorded a number of achievements in 2007/2008. For the ninth year in a row, the Institute attracted major federal and private research and development agencies to its annual SBIR/STTR HBCU/MI conference to afford participants the opportunity for partnerships among representatives of small businesses in the Tennessee Valley. This yearly gathering has been largely responsible for a marked increase in the number of funded SBIR and STTR proposals. Also for the sixth consecutive year, AAMURI received the prestigious Nun-Perry Award at the annual U.S. Department of Defense Mentor-Protégé Conference. The Institute was prominently featured in The Huntsville R&D Report as a “Can do it conduit” for research and development in the region. During the past year, AAMURI doubled the number of graduate and undergraduate students supported by the Institute who are working at various schools, corporations and R&D centers across the nation.

Institutional Research and Planning

In 2007/2008, the Office of Institutional Research and Planning (OIRP) met all of the state and federally mandated reporting requirements. The office supported NCAA and ABET data needs, responded to SACS-driven data requests, and many other internal requests. With respect to its role, OIRP serves as a center for the gathering, analysis, and dissemination of institutional information and data. Additionally, the office is responsible for developing routine and ad hoc reports in response to both internal and external requests from state and government regulatory bodies, accrediting agencies, professional associations, and other higher education institutions.

In August of 2008, OIRP began transitioning to administering surveys electronically. This new enhancement is in keeping with the University’s move toward increasing the use of electronic processes to improve operational efficiencies and reducing costs. As a result, the office reports that it is saving nearly $10,000 annually by administering surveys online.
Other achievements/marketing

Among other noted achievements, IRPSP has updated its online presence to more clearly attract visitors to its programs and services. Grant seekers now have a new source that provides guidance in answering key questions about putting a proposal together. The new Principal Investigator’s Guide gives answers to FAQs, provides guidance and direction for proposal development and post-award grant management activities, and provides insights on agency regulations, policies, compliance issues, etc.

Considering that information about the University’s research endeavors was not being adequately filtered to the public and the community, IRPSP put into place a number of outlets as marketing tools to provide wider visibility about the work going on in R&D at the University. In October 2007, IRPSP launched The Essence, a bi-weekly online publication to better connect students, faculty and staff with research activities on campus. Armed with the mission of timely communication, The Essence provides the University family and clients with current and noteworthy happenings in research in an easily accessible and manageable format. IRPSP also revised the University’s Capabilities Statement to reflect new endeavors and innovations. The 18-page document, Innovation, packaged in a glossy, 11x17 folder with pocket for handouts, is in circulation. Also, IRPSP has launched the University’s first national research magazine, AAMUresearch, whose focus is to pinpoint research activities that distinguish AAMU, build on our unique strengths, and that involve, educate and inspire our students, the community and other stakeholders. Also, with an overwhelming response to its “Call for Paper” of a year ago, IRPSP hopes to launch the University’s first research journal in late 2009.

With achievements such as these, and a continued emphasis on collaborations, strong strategic focus on interdisciplinary research, teaching and student mentoring, we are glad to report that our research operations are much stronger. Our goal is to continue the upward spiral in excellence and innovation.

Research strengths at AAMU include biofuel production and its added value, dietary chemoprevention of colon cancer, global climate change studies, bioinformatics, food and fiber production, medicinal crops, water resource management, remote sensing/GIS application, plant biotechnology, wetland restoration and analysis, health disparity, genetics, biofilms, materials science (particularly nanomaterials and composites research), laser chemistry, sensor/actuator science and technology, air pollution, computational studies of poly-nitrogenous molecules, nonlinear optical materials, Czochralaski crystal growth from melt, space sciences, optics, bio and chemical sensors, spectroscopy/interferometry analysis, computational fluid dynamics, environmental engineering, geotechnical engineering, transportation engineering, structural engineering, microelectronics, high performance computing, pattern recognition, electromagnetics, and antennas and communications. We are also versed and recognized for scholarly and creative achievements in many areas of the arts and humanities, including teacher education, reading/literacy, philosophy, counseling, art and music. Our business school, in addition to its well recognized MBA program, is also well known for its management education that promotes the development of students’ potentials as managers, entrepreneurs, leaders, productive employees and socially responsible individuals.
Centers of Excellence

School of Agricultural and Environmental Sciences (256) 372-5781
• Center of Excellence for Watershed Management
• Center of Excellence in Forestry
• Center for Urban and Rural Research
• CREST NSF Center
• Geospatial Data Analysis Center for Forecasting Drought and Flood and Expansion of the Alabama Mesonet (ALMNet)
• Small Farms Resource Center
• Teaching Laboratory/Planning Studio

School of Arts and Sciences (256) 372-5300
• Center for Biomedical, Behavioral and Environmental Health Research (CBR)
• Center for Interdisciplinary Discovery via Engineering Nanofabrication (CIDEN)
• Center for Learning, Teaching and Research in Nanoscale Science and Technology (CLTR)
• Center for Social Work Development and Research
• Howard J. Foster Center for Irradiation of Materials (CIM)

School of Business (256) 372-5092
• Center for Disadvantaged Business Enterprise (DBE)
• Center for Entrepreneurship and Economic Development (CEED)
• Small Business Development Center (SBDC)

School of Engineering and Technology (256) 372-5560
• Center of Excellence in Integrated Sensor Systems

Office of Academic Affairs (256) 372-5275
• Center of Excellence in Teaching and Learning (CETL)

ALABAMA A&M UNIVERSITY
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Research is a major focus of Alabama A&M University. Visit us on the web at www.aamu.edu or see our research magazine, AAMUresearch, at www.aamu.edu/irps/publications.aspx.

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