



SPONSORED PROGRAMS ACTIVITY

Externally sponsored grants and contracts enhance the capacity for the University to achieve its mission through education, research, and service projects. Moreover, external funding enables faculty and staff to address the needs of communities, schools and businesses throughout southwest Missouri and beyond.

In 2006-07, Missouri State University was awarded \$21,779,153 to support projects in research, education and service. The funding represents a 20 percent increase over 2005-06, and is the largest amount ever awarded in one year to the University. This funding came from federal agencies (\$13,144,891), state agencies (\$5,164,060), non-profit organizations (\$1,751,558), county/city agencies (\$97,265), businesses (\$1,338,422), and international organizations (\$282,960).

SPONSORED RESEARCH AND PROGRAMS FOR FY 2006

The University’s sponsored program activity for FY 2007 showed total requested (\$41,263,930) and awarded (\$21,779,153) funds, for which the funds awarded was a 20% increase over FY 2006 for the institution. There were 176 named investigators with 154 awards received.

Key Indicators	Activity for FY 2007	% Change From FY 2006
Proposals Submitted	226	14%
Funds Requested	\$41,263,930	28%
Named Investigators	173	-16%
Grants & Contracts Awarded	154	2%
Funds Awarded	\$21,779,153	20%

Federal and State agencies continue to be the leading source of grants and contracts with funding increasing 2% and 23% respectively over FY 2006. Funding from international and business entities also increased in FY 2007 over the previous year.

Sources of Funding	Funds Received For FY 2007	% Change from FY 2006
Federal Agencies	\$13,144,891	2%
State Agencies	\$5,164,060	23%
Non-Profit Organizations	\$1,751,558	297%
County/City Agencies	\$97,265	-52%
International	\$282,960	583%
Business	\$1,338,422	290%

Funding for service projects reached an all time high in FY 2007 with an increase of 263% over FY 2006. Funding for other project types showed a decrease from FY 2006. Highlights of new awards in the different categories appear later in this report.

Project Types	Funds Received For FY 2007	% Change from FY 2006
Research	\$11,758,291	-7%
Education	\$3,158,303	-4%
Service	\$6,811,071	263%
Equipment	\$51,490	-85%

Three of the academic colleges exceeded \$1 million in annual award funding with the College of Natural and Applied Sciences leading the way as they received 57 awards totaling \$4,985,347 (a 63% increase over FY 2006) during FY 2007. The Office of Research and Economic Development received the most funding in FY 2007 with 16 awards totaling \$10,591,614. The College of Education received 16 awards totaling \$2,237,208.

College of Natural and Applied Science received awards for various programs such as an on-going collaboration agreement with the National Park Service's Vital Signs Monitoring Program, providing macro- and microzooplankton species lists and taxa densities following USEPA Environmental Monitoring and Assessment Program protocols, and to identify defense genes that confer the ability of wild grapevines to resist various diseases for the Vitis Gene Discovery Program.

The Office of Research and Economic Development received awards towards China Business Connections, conducting research, in collaboration with Nantero, Inc. and Carbon Nanotechnologies, Inc., leading to the development of a radiation hardened non-volatile Nanotube Random Access Memory device, and to establish the Missouri Innovation Center, which will develop and support advanced materials and biotechnology industries in Missouri.

Some of the College of Education's awards went towards designing and implementing a professional development curriculum for teachers to teach Physics First in 9th grade classrooms, supporting two Reading Specialists that will assist Reading First Schools, and providing a Campus Residential Institute for currently enrolled Kauffman Scholars.

Major Unit	Awards Received for FY 2007	Funds Awarded for FY 2007
College of Arts and Letters	2	\$331,256
College of Business Administration	10	\$594,977
College of Education	16	\$2,237,208
College of Health & Human Services	14	\$723,962
College of Humanities & Public Affairs	16	\$387,995
College of Natural & Applied Sciences	57	\$4,985,347
Library	2	\$90,400
Office of Administrative and Information Services	1	\$362,832
Office of Research & Economic Development	16	\$10,591,614

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Major Unit	Awards Received for FY 2007	Funds Awarded for FY 2007
Office of Student Affairs	3	\$527,061
Office of the Provost	15	\$937,284
Office of University Advancement	2	\$9,219

University Centers continue to be the primary units involved in acquiring external funding with approximately 71% of the total funds awarded in FY 2007. The Center for Applied Science and Engineering received an award of \$6,220,000 from the Office of Naval Research, for ongoing defense-related research projects. The most active Centers in terms of numbers of awards are 1) the Center for Archaeological Research primarily because of the archaeological field work and other cultural resource management projects that are performed on a contractual basis and 2) the Center for Resource Planning and Management, primarily because of its efforts to plan, improve, and educate on water quality and because of the Southwest Missouri Council of Governments Economic Development Program which allows planning services for towns and counties that do not have professional planning resources.

University Centers	Awards Received for FY 2007	Funds Awarded for FY 2007
Center for Applied Science and Engineering	3	\$8,829,750
Center for Archaeological Research	15	\$383,195
Center for Biomedical and Life Sciences	3	\$446,503
Center for Business & Economic Development	1	\$282,960
Center of Continuing and Professional Education	0	\$0
Center for Research and Service	3	\$7,082
Center for Resource Planning and Management	10	\$1,994,726
Center for Scientific Research and Education	1	\$18,000
Center for Social Science and Public Policy Research	0	\$0
Community and Social Issues Institute	1	\$20,000
Institute for School Improvement	4	\$781,316
Management Development Institute	2	\$54,306
Ozarks Public Health Institute	6	\$277,251
Ozark Environmental Water Research Institute	8	\$726,850
Small Business Development Center	1	\$148,331
Southwest Missouri Area Health Education Center	3	\$246,335
Southwest Regional Professional Development Center	7	\$1,281,274

HIGHLIGHTS OF FY 2007 PROJECTS

Projects selected for inclusion in this report highlight the types of activities underway at Missouri State University through the support of external organizations. Many of these projects have multiple aspects, e.g., research and equipment. These projects are organized according to their primary focus.

Research Projects:

- **Dr. Ryan Giedd, Director, and Mr. Matthew Curry, Assistant Director, of the Center for Applied Science and Engineering**, received \$6,220,000 from the Office of Naval Research for to conduct research, in collaboration with Nantero, Inc. and Carbon Nanotechnologies, Inc., that will lead to the development of a radiation hardened non-volatile Nanotube Random Access Memory device. Traditional radiation-hardened non-volatile random access memories are reaching process limitations as physical sizes continue to shrink. Nevertheless, radiation-hardened memories remain a high priority for space applications and hostile radiation environments.
- **Dr. Alicia Mathis, Department Head, of Biology**, was awarded \$248,184 from the National Park Service via the Upper and Middle Mississippi Valley Cooperative Ecosystem Studies Unit for an on-going collaboration agreement with the National Park Service's Vital Signs Monitoring Program. The program monitors "vital signs" of ecosystem health, such as water quality and species diversity, providing early detection of emerging threats to park resources. This monitoring is implemented through national parks working together and sharing resources. The University is working directly with Heartland Inventory and Monitoring Network, 15 national parks located in Midwestern states. Funding will support the addition of monitoring fire effects on ecosystems to the original monitoring plan, and will allow the addition of a full-time Research Specialist, student internships and office maintenance.
- **Dr. Wenping Qiu, Assistant Research Professor, and Dr. Laszlo Kovacs, Associate Research Professor of Fruit Science**, received \$332,068 from the U.S. Department of Agriculture, via the University of Missouri-Columbia, for the Vitis Gene Discovery Program. This program is a multi-institutional research collaboration that also includes researchers at the Danforth Plant Science Center. The goal of this project is to identify defense genes that confer the ability of wild grapevines to resist various diseases. The ultimate goal of the Program is to exploit these genes for the improvement of cultivated grapevines.
- **Dr. Charles Rovey, Associate Professor of Geography, Geology, and Planning**, received \$18,838 from the National Science Foundation in collaboration with the University of Washington to support field work, and laboratory preparation of samples from paleosols developed atop glacial tills in northern Missouri. After collection and initial preparation, samples will be sent to the University of Washington for analysis of cosmogenic-isotope ratios. These ratios will provide the age of "burial" for each respective till, and hence, will give the age of respective overlying glacial tills. The respective ages will provide, for the first time, a full chronology of glacial events in northern Missouri.
- **Dr. Kevin Evans, Assistant Professor, and Dr. James Miller, Professor, of Geography, Geology, and Planning**, received \$133,000 from the National Science Foundation to investigate the Age and Origin of the Weaubleau Structure: A possible Meteorite Impact Structure in Missouri. Exposed along Missouri Highway 13, about 75 miles north of Springfield, is an unusual geologic feature that may be a meteorite impact. Faculty and students of Missouri State University will study the deformed strata, the breccia deposit, and will test the hypothesis that this feature was caused by a meteorite impact. The research involves mapping of deformed

strata in the area, study of drill cores, minerals deformed in an unusual way, and fossils of different ages mixed together in the breccia.

- **Dr. John Havel, Professor of Biology**, received \$29,250 from the Environmental Protection Agency, via the University of Louisville, to process zooplankton samples, collected from the Ohio River in 2005, for the USEPA Great River Ecosystems Monitoring and Assessment Program. They will provide macro- and microzooplankton species lists and taxa densities following USEPA Environmental Monitoring and Assessment Program protocols.

Education Projects:

- **Ms. Suzanne Cutbirth, Director of the Southwest Regional Professional Development Center** received \$236,835 from the Missouri Department of Elementary and Secondary Education. This grant is funded by No Child Left Behind Act, to support two Reading Specialists, whose role is to assist funded Reading First Schools by providing content expertise in scientifically-based reading instruction, assessment, and professional development.
- **Ms. Marilyn Martin, Director of the Management Development Institute**, received \$44,000 from the Missouri Department of Elementary and Secondary Education, for Adult and Postsecondary Vocational Education Programs. This program provides for the production and delivery of short-term noncredit seminars and short courses for the currently employed adults in business and industry. The grant partially supports the salary of the principle investigator and an assistant. In addition, it partially supports, through a yearly-determined formula, salaries for teachers in the program.
- **Dr. Kandiah Manivannan, Associate Professor of Physics, Astronomy, and Materials Science**, received \$18,010 from the Missouri Department of Elementary and Secondary Education, via Columbia Public Schools for A-TIME for Physics First. This program is formulated on the needs and ideas expressed by our partner school districts, higher-education institutions, and business and non-profit organizations. The immediate goal is to design and implement professional development curriculum for teachers, and to teach Physics First in 9th grade classrooms, thus increasing the number of highly qualified physics/physical science teachers. The long-term goal is to increase the proficiency of students in science as evidenced by 11th grade MAP scores, and to increase students' interest and success in science and engineering degree programs.
- **Dr. Don Aripoli, Vice President for Student Affairs, and Ms. Charlotte Hardin, Assistant Vice President for Multicultural Programs** received \$41,441 from Kauffman Scholars, Inc. to provide a Campus Residential Institute for currently enrolled Kauffman Scholars. The Institute will allow Scholars the opportunity to interact with University personnel and students, while activities on campus and in the community will allow Scholars to become familiar with Missouri State and Springfield.

Community Service Projects:

- **Catherine Boling, Director of Field Education for the School of Social Work**, has received \$135,000 from the Missouri Department of Social Services for the Missouri Mentoring Partnership. This project assists at-risk youth between the ages of 16 and 22, by finding them structured job-sites and community-mentoring. Program activities include job readiness training, training for community mentors and job-site mentors, and needed supports for youths to be successful in acquiring and keeping a job. The program emphasizes the importance of continuing their education to acquire a high school diploma. There also is a teen-parent

component with goals of increased positive parenting skills, which can be achieved through trained community-based mentors and support groups.

- **Dr. Ryan Giedd, Executive Director of the Center for Applied Science and Engineering, and Dr. James P. Baker, Vice President of Research and Economic Development,** have received \$143,435.75 from the Missouri Department of Department of Economic Development to establish the Missouri Innovation Center, which will develop and support advanced materials and biotechnology industries in Missouri. This Center also will provide assistance to entrepreneurs and companies involved in medical instrumentation and materials, bio-processing techniques and equipment, agribusiness research and development, and chem./bio sensors and systems.
- **Ms. Anita Davis, Assistant Director, and Ms. Diane May, Director, of the Center for Research Planning and Management, along with Dr. Robert Pavlowsky, Associate Professor of Geography, Geology, and Planning,** have received \$62,175 from the Missouri Department of Natural Resources to eliminate point source pollution caused by failing wastewater systems in the Bennett Spring Branch Sub-Watershed. This will be accomplished through the use of a wastewater system feasibility study to determine the most cost-effective wastewater system that will meet the area's needs. A sewer district plan will be created to implement a wastewater district within, and under the authority of, the existing water district. Water quality education will be provided to enhance public awareness of the sub-watershed's water quality issues and to build grassroots support for implementing a wastewater system that sustains the quality of the environment. The water quality of the area will be monitored and assessed to establish baseline data and to determine future needs
- **Ms. Julie Bloodworth, Director of the Missouri Fine Arts Academy,** received \$329,764 from the Missouri Department of Elementary and Secondary Education to coordinate a three-week residential program for approximately 200 of Missouri's artistically gifted students who are ready to begin their junior or senior year in high school. The Missouri Fine Arts Academy is the fine arts equivalent of the Missouri scholars Academy, a three-week program for academically gifted students. Together, both academies spark some of the brightest and most talented students to new heights of educational achievement.
- **Dr. Suzanne George, Head of the Early Childhood and Family Development Department,** received \$250,000 from the Missouri department of Social Services, Children's Division, to provide funds for the Crisis Nursery of the Ozarks to set up a 24/7 Crisis Nursery. Missouri State faculty and students will be involved in research projects as well as on-site practicum students.
- **Mr. Allen Kunkel, Associate Vice President for Economic Development,** received \$23,333.32 from the Springfield Business and Development Corporation to provide assistance for technology-based economic development consulting services to organizations in southwest Missouri. This assistance includes services to support the Sponsor during a transition period for the regional economic development program, the Partnership for Prosperity capital campaign, and the coordination of a capital formation network in conjunction with JVIC, Inc.

Equipment Project:

- **Drs. Mark McKnight, John Steiert, and Thomas Perkins** received \$51,490 from Beckman Coulter. These funds will enable the Biology and Agriculture Departments to purchase a new genetic analyzer that will enhance the ability to teach several courses in these two departments. The equipment has two main functions, both of which will be used to for DNA sequencing and Fragment Analysis.