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Research Catalog



October 2007

Dr. Thomas C. Meredith, Commissioner

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Research Catalog

Prepared by

Board of Trustees of State Institutions of Higher Learning Office of Policy Research and Planning 3825 Ridgewood Road Jackson, MS 39211

Phone: (601) 432-6742 Fax: (601) 432-6117 www.mississippi.edu/research/default.asp

PREFACE

FY 2007 RESEARCH CATALOG

The external resources identified in the *Research Catalog* are an indication of the national competitiveness of the universities in the state of Mississippi and of the quality research and sponsored programs they conduct. These resources provide essential funds to the state's public universities which strengthen the research, teaching, and service missions of the universities.

The Research Catalog is mandated by the State through the University Research Center Act of 1988 (§ 37-141-17). The publication lists the funding amounts by the sources of funding and by the university disciplines receiving the funding. It is designed for use by state policy makers, the educational community, economic developers, and the general public as a resource to:

- 1. Assist in developing strong legislative funding support for research,
- 2. Improve the regional, national, and international image of Mississippi universities as research institutions,
- 3. Encourage continued and expanded external funding support for state university research and sponsored programs, and
- 4. Enhance further development of technology transfer and practical applications of research which impact the state's economy.

The Research Catalog includes only external awards and non-appropriated state awards for research and sponsored programs. External funds for student financial aid are not included in the totals.

For more specific information about university research programs, contact the designated research official listed for each university. For additional information about the *Research Catalog*, contact the Institutions of Higher Learning Office of Policy Research and Planning at 601-432-6742.

To view the *Research Catalog* online and to download additional copies, visit the web site at www.mississippi.edu/research/default.asp.

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Dr. Thomas C. Meredith Commissioner of Higher Education

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Dr. Vance Watson, Vice President Agriculture, Forestry and Veterinary Medicine *Mississippi State University*

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| Mississippi Education and Research Group (MERG) |

MISSISSIPPI INSTITUTIONS OF HIGHER LEARNING

FY 2007 Research Catalog - IHL System Summary

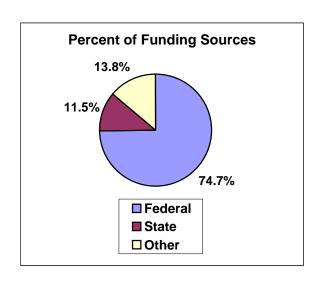
Dr. Thomas C. Meredith, Commissioner

Period Covered: July 1, 2006 - June 30, 2007

Funding Sources

| | Total Funding | | | Private/ |
|------------|---------------|---------------|--------------|-----------------|
| University | Awarded | Federal | State | Corporate/Other |
| ASU | \$22,276,206 | \$21,250,551 | \$387,428 | \$638,227 |
| DSU | 9,446,711 | 3,341,993 | 3,578,409 | 2,526,309 |
| JSU | 66,732,582 | 57,143,476 | 3,115,383 | 6,473,723 |
| MSU | 186,509,706 | 124,578,036 | 32,988,637 | 28,943,034 |
| MUW* | 7,586,371 | 1,927,822 | 5,330,807 | 327,742 |
| MVSU | 8,914,390 | 7,866,712 | 882,443 | 165,235 |
| UM/UMMC | 127,972,973 | 97,394,887 | 9,841,922 | 20,736,165 |
| USM | 98,616,597 | 81,062,845 | 4,486,497 | 13,067,255 |
| SYSTEM | \$528,055,536 | \$394,566,321 | \$60,611,525 | \$72,877,690 |

| | Total Research |
|------------|---------------------------|
| University | Projects Supported |
| ASU | 105 |
| DSU | 74 |
| JSU | 184 |
| MSU | 1,691 |
| MUW* | 33 |
| MVSU | 45 |
| UM/UMMC | 553 |
| USM | 371 |
| SYSTEM | 3,056 |



NOTE:

^{*} MUW figures include the Mississippi School for Math and Science.

MISSISSIPPI INSTITUTIONS OF HIGHER LEARNING

System History - Research and Sponsored Programs

Total External Funding

| University | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|
| ASU | \$16,222,664 | \$19,120,216 | \$20,426,054 | \$21,999,143 | \$24,372,640 | \$22,276,206 |
| DSU | 5,678,354 | 6,773,064 | 7,087,707 | 6,803,026 | 6,858,729 | 9,446,711 |
| JSU | 47,285,034 | 43,361,165 | 56,907,532 | 49,151,264 | 56,040,700 | 66,732,582 |
| MSU | 123,161,291 | 126,295,941 | 150,045,912 | 127,943,563 | 154,744,232 | 186,509,706 |
| MUW* | 4,413,251 | 5,105,920 | 5,591,936 | 6,715,242 | 7,564,958 | 7,586,371 |
| MVSU | 11,186,322 | 9,238,832 | 9,026,373 | 11,102,780 | 10,295,321 | 8,914,390 |
| UM | 65,327,241 | 78,432,868 | 64,276,622 | 67,986,974 | 63,641,569 | 77,939,971 |
| UMMC | 37,317,418 | 29,282,592 | 38,416,659 | 46,221,934 | 39,254,134 | 50,033,002 |
| USM | 62,688,022 | 67,132,899 | 69,004,140 | 71,379,786 | 102,095,604 | 98,616,597 |
| SYSTEM | \$373,279,597 | \$384,743,497 | \$420,782,935 | \$409,303,712 | \$464,867,887 | \$528,055,536 |

Percent Change in External Funding

| | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 |
|------------|------------|------------|------------|------------|------------|
| University | to FY 2003 | to FY 2004 | to FY 2005 | to FY 2006 | to FY 2007 |
| ASU | 17.9% | 6.8% | 7.7% | 10.8% | -8.6% |
| DSU | 19.3% | 4.6% | -4.0% | 0.8% | 37.7% |
| JSU | -8.3% | 31.2% | -13.6% | 14.0% | 19.1% |
| MSU | 2.5% | 18.8% | -14.7% | 20.9% | 20.5% |
| MUW* | 15.7% | 9.5% | 20.1% | 12.7% | 0.3% |
| MVSU | -17.4% | -2.3% | 23.0% | -7.3% | -13.4% |
| UM | 20.1% | -18.0% | 5.8% | -6.4% | 22.5% |
| UMMC | -21.5% | 31.2% | 20.3% | -15.1% | 27.5% |
| USM | 7.1% | 2.8% | 3.4% | 43.0% | -3.4% |
| SYSTEM | 3.1% | 9.4% | -2.7% | 13.6% | 13.6% |

Percent Change in Total Projects Supported

| Fiscal Year | # of Projects | % Change |
|-------------|---------------|----------|
| FY 2002 | 2,757 | |
| FY 2003 | 2,842 | 3.1% |
| FY 2004 | 2,687 | -5.5% |
| FY 2005 | 2,975 | 10.7% |
| FY 2006 | 3,586 | 20.5% |
| FY 2007 | 3,056 | -14.8% |

NOTE: * MUW figures include the Mississippi School for Math and Science.

ALCORN STATE UNIVERSITY

Annual Report on Research and Sponsored Programs

Dr. Malvin A. Williams - Interim President

Dr. Franklin D. Jackson - Vice President for Institutional Advancement, Planning, and Research Phone (601) 877-6118

Period Covered: July 1, 2006 - June 30, 2007

| Funding Distribution - College/Division | <u>Total</u> |
|--|--------------|
| School of Agriculture, Research, Extension, and Applied Sciences | \$12,105,944 |
| School of Arts and Sciences | 2,463,996 |
| School of General College for Excellence | 909,893 |
| School of Nursing | 368,099 |
| Office of Community Development | 1,403,012 |
| Office of Strengthening Institutions Program (Title III) | 5,025,262 |
| GRAND TOTAL | \$22,276,206 |
| Funding Sources | <u>Total</u> |
| Federal | |
| National Institutes of Health | \$727,614 |
| National Science Foundation | 667,910 |
| U.S. Department of Agriculture | 11,921,776 |
| U.S. Department of Education | 5,930,155 |
| U.S. Department of Engergy | 480,000 |
| U.S. Department of Health and Human Services | 195,084 |
| U.S. Department of Housing and Urban Development | 495,000 |
| U.S. Department of Transportation | 833,012 |
| Total Federal | \$21,250,551 |
| Total State of Mississippi Agencies | \$387,428 |
| Total Private/Foundations/Corporate/Non-Profit | \$638,227 |
| GRAND TOTAL | \$22,276,206 |

III. These awards supported a total of 105 research and sponsored programs in FY 2007.

DELTA STATE UNIVERSITY

Annual Report on Research and Sponsored Programs

Dr. John M. Hilpert - President

Kay Stricklin - Director of Grants and Contracts Phone (662) 846-4311

Total

39,555

2,366,130

\$88,547

\$9,446,711

Period Covered: July 1, 2006 - June 30, 2007

Funding Distribution - College/Division

Total Local Governments

GRAND TOTAL

Center for Community & Economic Development

١.

Archives

| | =,000,.00 |
|--|--------------|
| College of Arts & Sciences | 1,335,632 |
| College of Business | 489,179 |
| College of Education | 1,721,939 |
| Delta Center for Culture & Learning | 1,385,665 |
| Greenville Higher Education Center | 15,000 |
| School of Nursing | 1,222,875 |
| Special Projects | 375,736 |
| Vice President for Finance | 495,000 |
| GRAND TOTAL | \$9,446,711 |
| Funding Sources | |
| Federal | <u>Total</u> |
| Corporation for National & Community Service | 1,138,552 |
| Health Resource and Services Association | 1,000,000 |
| Department of Health & Human Services | 326,189 |
| National Endowment for the Humanities | 307,700 |
| NASA | 8,000 |
| NSF | 29,697 |
| Institute of Museum and Library Sciences | 36,855 |
| Housing and Urban Development | 495,000 |
| Total Federal | \$3,341,993 |
| Total State of Mississippi Agencies | \$3,578,409 |
| Total Private/Foundations/Corporate/Non-Profit | \$2,351,012 |
| Total Other State Governments | \$6,750 |
| Total Other Universities | \$80,000 |
| | |

III. These awards supported a total of 74 research and sponsored programs in FY 2007.

JACKSON STATE UNIVERSITY

Annual Report on Research and Sponsored Programs

Dr. Ronald Mason, Jr. - President

Dr. Felix A. Okojie - Vice President of Research and Federal Relations Phone (601) 979-2931

Period Covered: July 1, 2006 - June 30, 2007

Total

Funding Distribution - College/Division

I.

| | College Science, Engineering & Technology | \$21,256,056 |
|-----|---|---|
| | Office of Research Development & Federal Relations | 11,023,474 |
| | Division International Studies | 19,696,784 |
| | Office of Finance & Operations | 6,450,907 |
| | College of Public Service | 2,867,499 |
| | College of Liberal Arts | 700,226 |
| | Office of the President | 2,452,362 |
| | Division of Lifelong Learning | 464,654 |
| | College of Business | 242,969 |
| | College of Education & Human Development | 1,500,651 |
| | Division of Graduate Studies | 77,000 |
| | GRAND TOTAL | \$66,732,582 |
| | | |
| | | |
| II. | Funding Sources | <u>Total</u> |
| II. | <u>Funding Sources</u> Federal | <u>Total</u> |
| II. | | <u>Total</u> \$14,621,064 |
| II. | Federal | |
| II. | Federal U. S. Agency of International Development | \$14,621,064 |
| II. | Federal U. S. Agency of International Development U. S. Department of Agriculture | \$14,621,064 50,000 |
| II. | Federal U. S. Agency of International Development U. S. Department of Agriculture U. S. Department of Commerce | \$14,621,064 50,000 1,652,988 |
| II. | Federal U. S. Agency of International Development U. S. Department of Agriculture U. S. Department of Commerce U. S. Department of Defense | \$14,621,064 50,000 1,652,988 5,302,289 |
| II. | Federal U. S. Agency of International Development U. S. Department of Agriculture U. S. Department of Commerce U. S. Department of Defense U. S. Department of Energy | \$14,621,064 50,000 1,652,988 5,302,289 364,895 |
| II. | Federal U. S. Agency of International Development U. S. Department of Agriculture U. S. Department of Commerce U. S. Department of Defense U. S. Department of Energy U. S. Department of Education | \$14,621,064 50,000 1,652,988 5,302,289 364,895 8,170,835 |
| II. | U. S. Agency of International Development U. S. Department of Agriculture U. S. Department of Commerce U. S. Department of Defense U. S. Department of Energy U. S. Department of Energy U. S. Department of Education U. S. Department of Environmental Protection Agency | \$14,621,064 50,000 1,652,988 5,302,289 364,895 8,170,835 50,000 |
| II. | U. S. Agency of International Development U. S. Department of Agriculture U. S. Department of Commerce U. S. Department of Defense U. S. Department of Energy U. S. Department of Education U. S. Department of Environmental Protection Agency U. S. Department of Health & Human Services | \$14,621,064 50,000 1,652,988 5,302,289 364,895 8,170,835 50,000 2,901,819 |

| U. S. Department of Small Business Administration | 187,969 |
|---|--------------|
| U. S. Department of Transportation | 620,000 |
| National Aeronautics & Space Administration | 115,481 |
| National Endowment of the Humanities | 10,571 |
| National Institutes of Health | 10,700,448 |
| National Science Foundation | 6,986,796 |
| United Negro College Fund | 170,000 |
| Total Federal | \$57,143,476 |
| Total State of Mississippi Agencies | \$3,115,383 |
| Total Private Foundations/Corporations | \$2,787,445 |
| | |
| Total Foundations and Non-Profit Agencies | \$3,686,278 |

III. These awards supported a total of 184 research and sponsored programs in FY 2007.

MISSISSIPPI STATE UNIVERSITY

Annual Report on Research and Sponsored Programs

Dr. Robert H. Foglesong - President

Dr. Kirk H. Schulz - Vice President for Research and Economic Development Phone (662) 325-3570

Dr. Vance H. Watson - Vice President for Agriculture, Forestry, and Veterinary Medicine Phone (662) 325-1215

Period Covered: July 1, 2006 - June 30, 2007

| | GRAND TOTAL | \$186,509,706 |
|----|--|---------------|
| | Vice President for Student Affairs | 307,344 |
| | Vice President for Research & Economic Development | 3,064,921 |
| | College of Veterinary Medicine | 4,723,289 |
| | Other | 5,332,827 |
| | MS State University Extension Service (MSU ES) | 10,509,616 |
| | MS Agricultural and Forestry Experiment Station (MAFES)/CALS | 25,378,284 |
| | Office of the President | 1,142,190 |
| | Office of Graduate Studies | 465,330 |
| | General Administration | 495,000 |
| | College of Forest Resources/FWRC | 7,709,122 |
| | Bagley College of Engineering | 63,302,614 |
| | College of Education | 13,724,715 |
| | Division of Academic Outreach & Continuing Education | 4,085 |
| | University Centers and Institutes | 46,096,663 |
| | College of Business and Industry | 202,366 |
| | University Branch Campus | -25,073 |
| | College of Arts and Sciences | 3,657,269 |
| | College of Architecture, Art, and Design | \$419,147 |
| l. | Funding Distribution - College/Division | <u>Total</u> |

| II. | Funding Sources | <u>Total</u> |
|-----|--------------------------------|--------------|
| | Federal | |
| | U.S. Department of Agriculture | \$22,043,553 |
| | U.S. Department of Education | 2,266,740 |
| | U.S. Department of Commerce | 8,249,877 |
| | U.S. Department of Defense | 37,928,896 |

| Total Foundations and Non-Profit Agencies Total Other State Governments Total Other Universities Total Local Governments GRAND TOTAL | \$10,462,034 \$805,271 \$4,932,698 \$1,613,243 \$186,509,706 |
|--|--|
| Total Other State Governments | \$805,271 |
| _ | . , , |
| Total Foundations and Non-Profit Agencies | \$10,462,034 |
| | *** *** *** |
| Total Private/Corporate | \$11,129,789 |
| Total State of Mississippi Agencies | \$32,988,637 |
| Total Federal | \$124,578,036 |
| Other Federal | 410,947 |
| National Security Agency | 273,599 |
| National Science Foundation | 7,209,617 |
| National Aeronautics and Space Administration National Institutes of Health | 14,114,106 2,557,772 |
| U.S. Small Business Administration | 6,170,175 |
| U.S. Environmental Protection Agency | 492,600 |
| U.S. Department of Transportation | 3,590,172 |
| U.S. Department of Labor | 1,065,000 |
| U.S. Department of Justice | 2,468,070 |
| U.S. Department of Interior | 629,552 |
| U.S. Department of Homeland Security | 273,150 |
| U.S. Department of Health and Human Services | 4,056 |
| | 3,970,800 |
| U.S. Department of Housing and Urban Development | |

III. These awards supported a total of 1,691 research and sponsored programs in FY 2007.

MISSISSIPPI UNIVERSITY FOR WOMEN

Annual Report on Research and Sponsored Programs

Dr. Claudia A. Limbert - President

Ms. Nora Miller - Vice President for Finance and Administration Phone (662) 329-7145

Period Covered: July 1, 2006 - June 30, 2007

| Funding Distribution - College/Division | <u>Total</u> |
|--|--------------|
| College of Arts and Sciences | \$994,131 |
| College of Education and Human Sciences | 317,243 |
| College of Nursing and Speech Language Pathology | 1,141,534 |
| Academic Support * | 4,853,133 |
| Other Units | 280,330 |
| GRAND TOTAL* | \$7,586,371 |

| | Funding Sources | <u>Total</u> |
|-----|--|--------------|
| II. | Federal | |
| | U. S. Department of Education | \$480,124 |
| | U. S. Small Business Administration | 200,008 |
| | U. S. Department of Health and Human Services | 892,414 |
| | National Institute of Health | 355,276 |
| | Total Federal | \$1,927,822 |
| | Total State of Mississippi Agencies | \$5,330,807 |
| | Total Private/Foundations/Corporate/Non-Profit | \$327,742 |
| | GRAND TOTAL* | \$7,586,371 |

III. These awards supported a total of 33 research and sponsored programs in FY 2007.

^{*} MUW totals include \$4,703,657 funding for the Mississippi School for Math and Science.

MISSISSIPPI VALLEY STATE UNIVERSITY

Annual Report on Research and Sponsored Programs

Dr. Roy C. Hudson - Interim President

Dr. Moses Newsome, Jr. - Vice President for Research, Planning, Community & Econ. Dev.

Jannette Adams - Director of Sponsored Programs/ Interim Director Title III Phone (662) 254-3434

Period Covered: July 1, 2006 - June 30, 2007

| Funding Distribution - College/Division | <u>Total</u> |
|---|--------------|
| College of Arts and Sciences | \$1,368,034 |
| College of Continuing Education | 1,219,660 |
| College of Education | 384,786 |
| College of Public Service | 2,088,306 |
| Title III | 3,198,848 |
| University College | 654,756 |
| GRAND TOTAL | \$8,914,390 |

| Funding Sources | Total |
|--|-------------|
| Federal | |
| U. S Department of Education | \$5,107,368 |
| U. S Department of Agriculture | 5,000 |
| U. S Department of Health and Human Services | 1,444,000 |
| National Institute of Health | 193,000 |
| National Science | 979,778 |
| Other Agencies | 137,566 |
| Total Federal | \$7,866,712 |
| Total State of Mississippi Agencies | \$882,443 |
| Total Private/Foundations/Corporate/Non-Profit | \$165,235 |
| GRAND TOTAL | \$8,914,390 |

III. These awards supported a total of 45 research and sponsored programs in FY 2007.

UNIVERSITY OF MISSISSIPPI

Annual Report on Research and Sponsored Programs

Dr. Robert C. Khayat - Chancellor

Dr. Alice M. Clark - Vice Chancellor for Research and Sponsored Programs
Phone (662) 915-7482
Dr. Daniel W. Jones - Vice Chancellor for Health Affairs
Phone (601) 984-1010

Period Covered: July 1, 2006- June 30, 2007

| I. | Funding Distribution - College/Division | <u>Total</u> |
|----|---|---------------|
| Α. | Oxford Campus | |
| | College of Liberal Arts | \$3,734,053 |
| | Croft Institute for International Studies | 280,983 |
| | Division of Outreach and Continuing Education | 493,558 |
| | Graduate School | 1,418,010 |
| | Jamie Whitten National Center for Physical Acoustics | 17,127,172 |
| | National Food Service Management Institute | 4,158,900 |
| | National Institute of Undersea Science Technology | 4,096,203 |
| | Office of Research and Sponsored Programs (Oxford) | 5,668,428 |
| | School of Applied Sciences | 901,012 |
| | School of Business Administration | 3,156,477 |
| | School of Education | 2,766,255 |
| | School of Engineering (not including NCCHE) | 8,398,036 |
| | Natl.Ctr for Computational Hydroscience and Engineering | 2,255,698 |
| | School of Law | 5,186,543 |
| | School of Pharmacy (not including NCNPR) | 12,128,231 |
| | National Center for Natural Products Research | 6,030,412 |
| | University Museums | 100,000 |
| | University Relations | 40,000 |
| • | Total Oxford | \$77,939,971 |
| В. | Medical Center | |
| | Office of Research | \$2,417,250 |
| | Office of Strategic Research Alliances | 707,671 |
| | School of Dentistry | 496,232 |
| | School of Health Related Professions | 310,368 |
| | School of Medicine | 44,450,170 |
| | School of Nursing | 1,245,487 |
| | Teaching Hospital | 405,824 |
| • | Total Medical Center | \$50,033,002 |
| | GRAND TOTAL | \$127,972,973 |

| Funding Sources | <u>Total</u> |
|--|---------------|
| Federal | |
| National Aeronautics and Space Administration | \$2,532,301 |
| National Endowment for the Arts | 10,000 |
| National Endowment for the Humanities | 110,786 |
| National Science Foundation | 3,280,091 |
| U.S. Department of Agriculture | 9,790,180 |
| U.S. Department of Commerce | 7,539,975 |
| U.S. Department of Defense | 13,686,722 |
| U.S. Department of Education | 240,043 |
| U.S. Department of Energy | 1,453,709 |
| U.S. Department of Health and Human Services | 50,973,154 |
| U.S. Department of Justice | 3,149,264 |
| U.S. Department of the Interior | 850,930 |
| U.S. Department of Transportation | 6,500 |
| U.S. Department of Veterans Affairs | 47,099 |
| U.S. Small Business Administration | 3,724,133 |
| Total Federal | \$97,394,887 |
| Total State of Mississippi Agencies | \$9,841,922 |
| Total Foundations and Professional Organizations | \$5,638,787 |
| Total Business and Industry | \$4,405,527 |
| Total Foreign Governments and Organizations | \$65,000 |
| Total Other | \$10,626,850 |
| GRAND TOTAL | \$127,972,973 |

III. These awards supported a total of 553 research and sponsored programs in FY 2007.

Oxford Campus - 342

Medical Center - 211

II.

UNIVERSITY OF SOUTHERN MISSISSIPPI

Annual Report on Research and Sponsored Programs

Dr. Martha D. Saunders - President

Dr. Cecil Burge - Vice President for Research and Economic Development Phone (601) 266-5116

Period Covered: July 1, 2006 - June 30, 2007

| Funding Distribution - College/Division | <u>Total</u> |
|---|--------------|
| Arts and Letters | \$561,705 |
| Business | 188,624 |
| Education and Psychology | 4,972,513 |
| Health | 11,200,226 |
| Office of the Provost | 5,851,646 |
| Research and Economic Development | 32,053,337 |
| Science and Technology | 43,229,279 |
| Student Affairs | 559,267 |
| GRAND TOTAL | \$98,616,597 |

| II. <u>Funding Sources</u> | <u>Total</u> |
|---|--------------|
| Federal | |
| National Aeronautics and Space Administration | \$7,831,363 |
| National Endowment for Humanities/Arts | 42,130 |
| National Science Foundation | 5,878,690 |
| U.S. Department of Agriculture | 2,301,161 |
| U.S. Department of Commerce | 15,332,010 |
| U.S. Department of Defense | 6,948,786 |
| U.S. Department of Education | 15,613,017 |
| U.S. Department of Energy | 1,824,727 |
| U.S. Department of Health and Human Service | 12,053,201 |
| U.S. Department of Interior | 777,386 |
| U.S. Department of Justice | 5,713,009 |
| U.S. Department of Transportation | 866,656 |
| U.S. Environmental Protection Agency | 375,136 |
| Other Federal Agencies | 5,505,573 |
| Total Federal | \$81,062,845 |

Total State of Mississippi Agencies

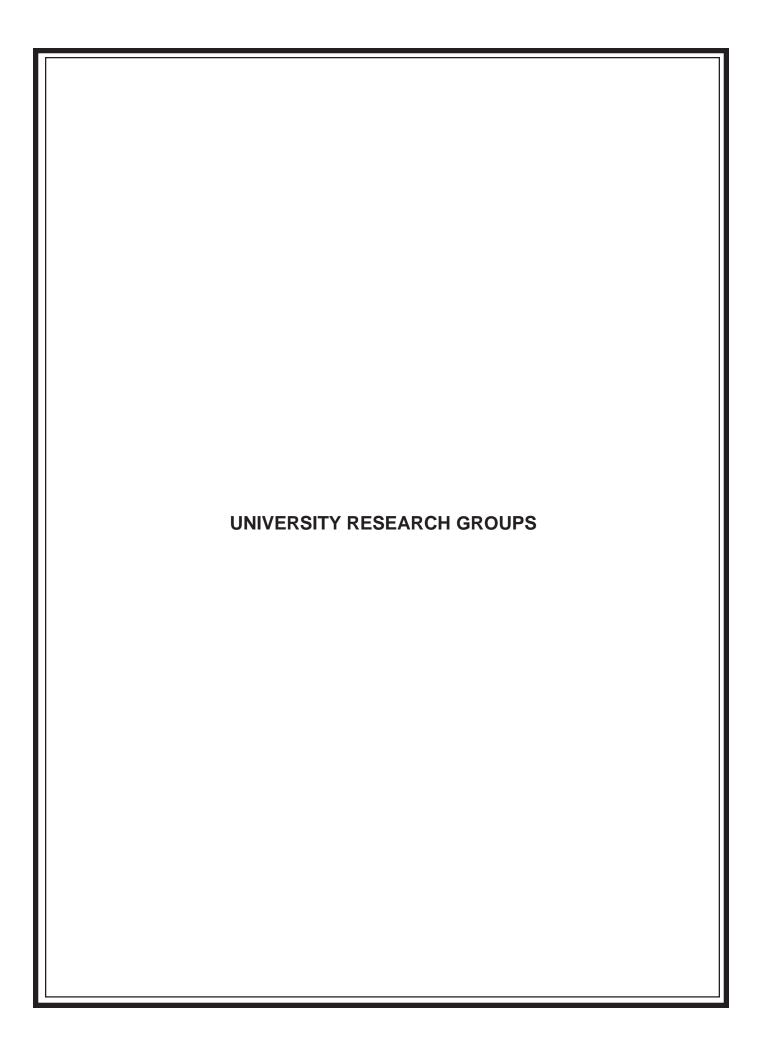
\$4,486,497

Total Private/Foundations/Corporate/Non-Profit

\$13,067,255

GRAND TOTAL \$98,616,597

III. These awards supported a total of 371 research and sponsored programs in FY 2007



Mississippi University Research Authority (MURA)

The primary role of the Mississippi University Research Authority (MURA), authorized by the Legislature in 1992 through the Mississippi University Research Authority Act, is to promote the public welfare and prosperity of the people of Mississippi and to foster economic development within the state by forging links among the state's educational institutions, businesses and industrial communities, and state government through the development of cooperative ventures of innovative technological significance which will advance education, research, or economic development within the state. These ventures facilitate the commercialization of technologies developed or discovered in campus environments and enhance the economic development of the state through such commercialization. Before the MURA Act was passed, the ethics laws of Mississippi effectively prohibited university faculty from commercializing their research. These laws were established to prohibit public servants from engaging in activities which would be in conflict with their public positions. Although the ethics laws were directed toward public officials, the language in the laws is such that attempts to commercialize technology by faculty members of a university could be construed as a violation of the laws.

The MURA Board is composed of the University Research Vice-Presidents from the three comprehensive public universities and from the urban public university, a representative from the Mississippi Development Authority, the president of the Mississippi Resource Development Corporation, the president of the Mississippi Education Research Group (MERG), and the Vice President of the IHL Board of Trustees. The Commissioner of Higher Education serves as an ex officio member, and members of the Board staff serve as the Executive Director and as the Administrative Assistant.

MURA was established in such a way that there is an extensive review process for any proposal for technology transfer or commercialization. The process is initiated with the Chief Research Officer of the affected university. The proposal is then recommended to the President of the university, who must certify that there is no conflict with the university and that the participation of the faculty member in the commercialization of the technology will not bring harm to the university or to the economic development of the state. The President then recommends that the proposal be reviewed by the MURA Board, which objectively assesses the nature of the proposed commercialization. This process of full disclosure and evaluation first by the university and then by the MURA Board serves to assure that each proposal is of economic interest to the state and is not in conflict with the interests or commitments of the state, the university, or the faculty member(s).

MURA enables faculty members who conceive of new technologies to copyright and/or patent their discoveries, to participate in the development of the technologies, and to realize some commercial benefit. It allows individuals who have developed or discovered new technologies through campus-based research to be a part of new spin-off businesses in Mississippi, rather than being forced to channel their discoveries through agencies and businesses outside Mississippi, thus allowing Mississippi to realize the economic benefits of the commercialization. The impact from university research, particularly when commercialization occurs, can be far reaching and long-term. The MURA process for facilitating technology transfer and commercialization holds tremendous future possibilities for the state of Mississippi.

Mississippi Research Consortium (MRC)

The Mississippi Research Consortium, formed in 1986, is a coalition of Mississippi's four research universities, Jackson State University, Mississippi State University, the University of Mississippi, and the University of Southern Mississippi. The four Chief Research Officers constitute the Board of Directors. The Board members serve as the driving force for collaborative university-based research. The MRC Board also serves as the Science and Technology Research Advisors to both the Governor and the Legislature with the responsibility for integrating science and technology initiatives with economic development plans in Mississippi. The Board links the physical and intellectual resources of the universities to identify needs and opportunities for the state and to address appropriate responses to those needs and opportunities. A member of MRC also serves on the Board of the Mississippi Enterprise for Technology and the Mississippi Science and Technology Commission.

The goals of the MRC include to develop, support, and sustain basic and applied research that is nationally competitive; to increase public awareness of science, engineering, and mathematics at every educational level in order to develop a scientifically literate citizenry who will fuel the science and engineering pipeline with the state's own human resources and who will attract external scientific expertise; to establish and maintain a solid scientific infrastructure, including equipment, collaboration, facilities, private sector linkages, and federal laboratory partnerships; and to expand the economic opportunities of the state though technology/knowledge transfer activities that include commercialization, technical assistance, and education of a workforce that can support technology-based industries. The creation of the Mississippi Universities Research Authority (MURA) Act of 1992 was the culmination of the Mississippi Research Consortium Technology Transfer Task Force working with the IHL Board Office.

Member institutions work from an attitude of mutual respect and trust. All agree that the individual institutions have secured more resources through their combined efforts than any one of them could have received working independently. This attitude has been successfully conveyed to the faculty, who often initiate the collaborative efforts and recommend that certain proposals go through MRC. Generally, MRC operates by forming faculty teams from several universities to address the research opportunities. The organization has received visibility as a national model, especially from the National Science Foundation, as a way to put together a state science and technology infrastructure. Often MRC works with all eight public universities and the medical center to strengthen research components.

Very quickly MRC became involved not only in joint research activities but also in human resource development programs and in science policy issues both within the state and the nation. Through the successful cooperative agreement with the Stennis Space Center, agencies located in the Stennis Center issue task requests, and MRC puts together the mechanism from the institutions to develop the proposal to address that task.

The cooperative structure of MRC removed the political problems of perceived favoritism that state agencies had in using the state's public universities for technology support. Now, rather than going out of state for such support, many state agencies work with MRC.

Mississippi Education and Research Group (MERG)

The Mississippi Education and Research Group (MERG) was established in 1990 with representation from each of the eight public universities in the state. The primary goals of MERG are to promote collaboration, resource sharing, and communication concerning education and research matters that have an impact on all of the public universities. The result of these efforts is that opportunities which would have been outside the budgetary capabilities of an individual university are made available to the universities through MERG.

The conception of and the need for the establishment of MERG originated in the Mississippi Research Consortium (MRC), comprised of the Chief Research Officers of the four Research Universities (Jackson State University, Mississippi State University, the University of Mississippi, and the University of Southern Mississippi). The MRC had successfully promoted collaborative research and collaborative funding among themselves. However, MRC realized that Mississippi would best be served if a separate organization was created for the coordination of statewide projects. Additionally, this new organization provided a vehicle for sharing the research and education expertise of the research universities with the four other universities (Alcorn State University, Delta State University, Mississippi University for Women, and Mississippi Valley State University).

MERG was initially involved with two projects, the Mississippi Alliance for Minority Participation (MAMP) and the Rural Science Initiative (RSI). However, many new and important outcomes have evolved from the activities of MERG. The accomplishments and initiatives of MERG may best be reviewed in three broad categories: (1) Educational Efforts, (2) Research Efforts, and (3) Administrative and Legal Consulting.

Educational Efforts: MERG served as the coordinating agent for the development of the Mississippi Alliance for Minority Participation, a major grant from the National Science Foundation which provides financial and academic support to under-represented minorities wishing to pursue careers in science, engineering, and mathematics. MERG members worked from a nuclear concept, developing plans for each of the universities and continuing as the primary coordinating group in the oversight of changes and new directions throughout the program's implementation. MERG has also served in the coordinating role for the successful Rural Science Initiative Grant, which supports public school education in Mississippi, Louisiana, and Arkansas, and has developed a proposal for Science-Humanities initiatives in undergraduate teaching.

Research Efforts: The MRC developed and received major research funding under the EPSCoR programs, designed to advance the research capabilities of universities in selected states. Numerous collaborative research projects have resulted among the research universities. MERG has served as a means of disseminating related research opportunities to the regional universities and of sharing both human resources and research facilities among all eight public universities. MERG has also made contacts with the National Science Foundation about developing proposals to support the use of the Internet as a research resource and for research discussion groups.

Administrative and Legal Consulting: Through MERG, the research universities, which have major grants and development offices, have been able to provide assistance to the regional universities concerning grant proposals, rapidly changing federal regulations, and sources of funding.