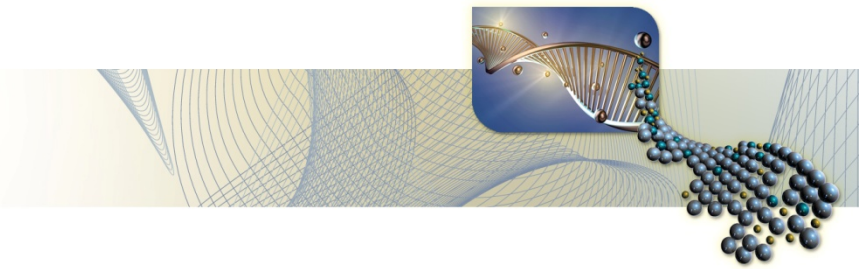


# ARKANSAS



Arkansas has an employment specialization in the agricultural feedstock and chemicals subsector (location quotient of 1.85). In research, testing, and medical laboratories, the State has generally matched the rapid rate of job growth in the national sector, adding 44 percent to its job base since 2001. Bioscience research expenditures at academic institutions have increased at an above-average pace since 2004, increasing by 34 percent to about \$190 million in 2008. Academic R&D in 2008 was led by medical sciences and agricultural sciences, each at \$66 million. NIH funding to Arkansas institutions has seen strong increases since 2004 both in baseline funding (up 16 percent) and in total funding (including ARRA funds, up nearly 40 percent).

## ●●● Bioscience Performance Metrics

### Summary of State Performance in Selected Bioscience-related Metrics

Metrics	Arkansas	United States	Rank*
<b>Bioscience Industry, 2008</b>			
Total Bioscience Industry Employment, 2008	6,254	1,420,324	IV
Bioscience Industry Location Quotient, 2008	0.52	n/a	IV
Biosciences Industry Establishments, 2008	313	47,593	IV
<b>Academic R&amp;D Expenditures, FY 2008</b>			
Bioscience R&D (\$ thousands)	\$189,889	\$31,818,810	35
Bioscience Share of Total R&D	76.9%	61.3%	4
Bioscience R&D Per Capita	\$66.22	\$104.54	40
Change in Bioscience R&D, FY 2004–08	34.2%	22.3%	8
<b>NIH Funding, FY 2009</b>			
Total, Including ARRA Funds (\$ thousands)	\$78,398	\$25,837,590	39
Per Capita Funding	\$27.13	\$84.16	41
Change in Baseline Funding, FY 2004–09**	15.9%	-4.7%	5
Change in Total Funding, FY 2004–09	39.5%	14.6%	6
<b>Clinical Trials, Initiated 2009</b>	202	5,299	33
<b>Higher Education Degrees in Bioscience Fields, AY 2008</b>	1,296	161,811	36
<b>Employment in Bioscience-related Occupations, 2008</b>	4,990	717,510	34
<b>Bioscience Venture Capital Investments, 2004–09 (\$ millions)</b>	\$55.9	\$60,099	35
<b>Bioscience and Related Patents, 2004–09</b>	207	75,593	41

\*State ranking figures for bioscience industry employment metrics are calculated as quintiles (I=Top Quintile; V=Bottom Quintile). All other metrics are ranked 1-52.

\*\*Baseline Funding does not include American Recovery and Reinvestment Act (ARRA) funds for 2009.

For source notes, see end of State Profile.

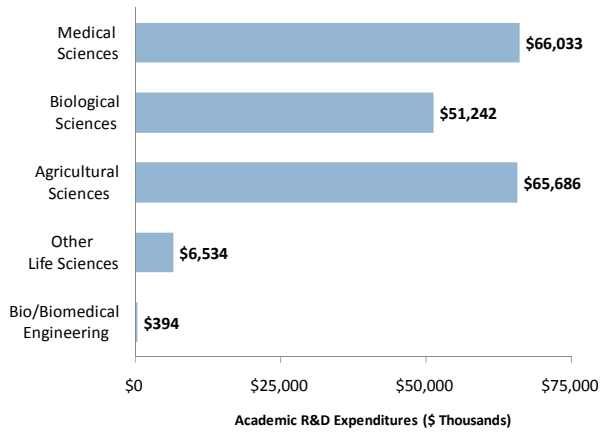
## ●●● Bioscience Industry Base, 2008

INDUSTRY SUBSECTOR	Arkansas		United States	
	2008	2001-08 Change	2008	2001-08 Change
<b>AGRICULTURAL FEEDSTOCK &amp; CHEMICALS</b>				
Establishments	33	-24.6%	2,440	16.0%
Employment	1,807	-8.1%	114,793	1.9%
Location Quotient	1.85		n/a	
Direct-Effect Employment Multiplier	6.92		11.33	
Total Employment Impact	12,509		1,284,650	
Average Annual Wage	\$57,897		\$72,279	
<b>DRUGS &amp; PHARMACEUTICALS</b>				
Establishments	15	114.3%	2,771	6.4%
Employment	143	34.9%	311,882	2.3%
Location Quotient	0.05		n/a	
Direct-Effect Employment Multiplier	3.56		9.92	
Total Employment Impact	509		2,873,278	
Average Annual Wage	\$34,675		\$93,378	
<b>MEDICAL DEVICES &amp; EQUIPMENT</b>				
Establishments	98	7.5%	15,227	0.4%
Employment	2,646	-9.7%	435,509	2.0%
Location Quotient	0.71		n/a	
Direct-Effect Employment Multiplier	2.32		4.87	
Total Employment Impact	6,144		2,029,581	
Average Annual Wage	\$35,769		\$63,606	
<b>RESEARCH, TESTING, &amp; MEDICAL LABORATORIES</b>				
Establishments	167	70.6%	27,154	57.7%
Employment	1,658	44.4%	558,140	46.1%
Location Quotient	0.35		n/a	
Direct-Effect Employment Multiplier	1.94		3.30	
Total Employment Impact	3,209		1,853,127	
Average Annual Wage	\$53,115		\$80,785	
<b>TOTAL BIOSCIENCES INDUSTRY</b>				
Establishments	313	30.5%	47,593	28.3%
Employment	6,254	1.7%	1,420,324	15.8%
Location Quotient	0.52		n/a	
Direct-Effect Employment Multiplier	3.58		5.82	
Total Employment Impact	22,371		8,040,636	
Average Annual Wage	\$46,737		\$77,595	
<b>TOTAL PRIVATE SECTOR</b>				
Establishments	81,354	18.3%	8,860,956	13.8%
Employment	971,321	2.7%	113,917,377	3.5%
Average Annual Wage	\$34,442		\$45,229	

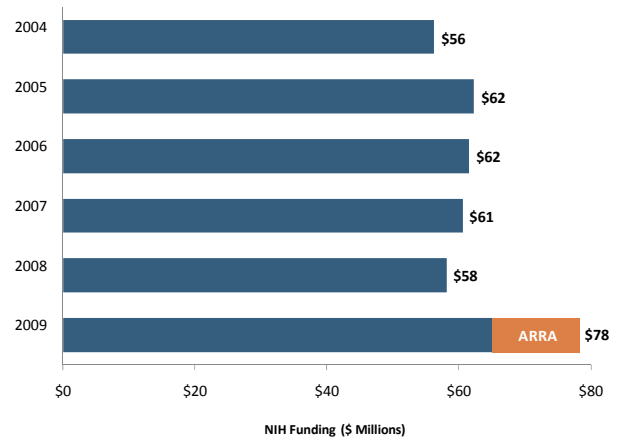
Note: U.S. employment metrics include Puerto Rico. Estimates of total employment impacts do not include Puerto Rico.

## Bioscience Performance Metrics

**Bioscience Academic R&D Expenditures in Arkansas, FY 2008**

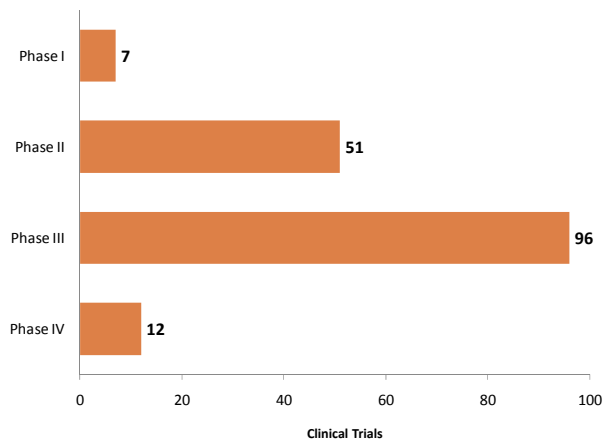


**NIH Awards in Arkansas, 2004–2009**

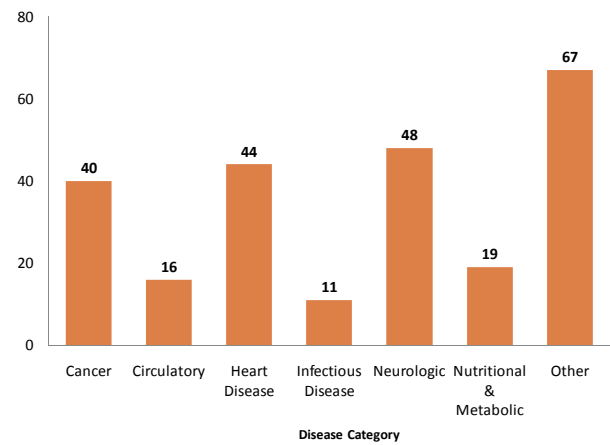


## Recent Clinical Trial Activities

**Clinical Trials by Phase in Arkansas, 2009**

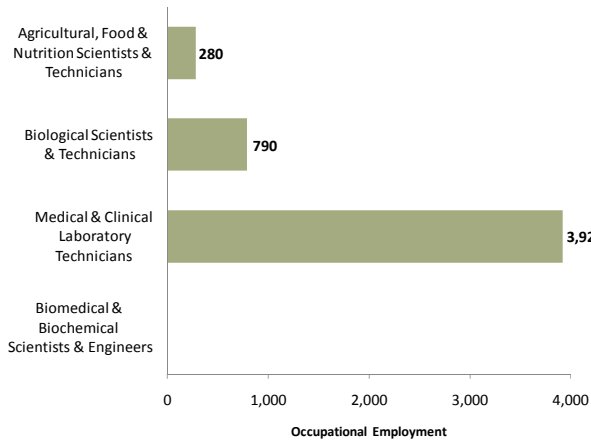


**Clinical Trials by Major Disease Category in Arkansas, 2009**

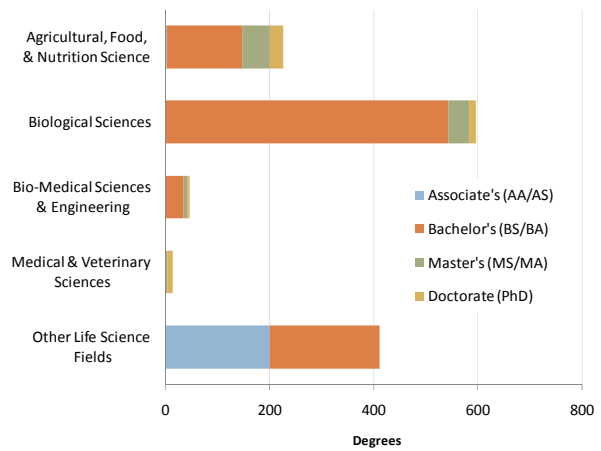


## Bioscience Talent Base

**Bioscience-related Occupational Employment in Arkansas, 2008**

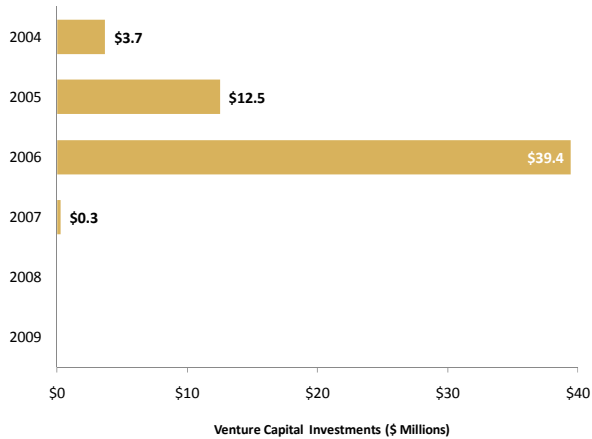


**Bioscience-related Degrees in Arkansas, AY 2008**

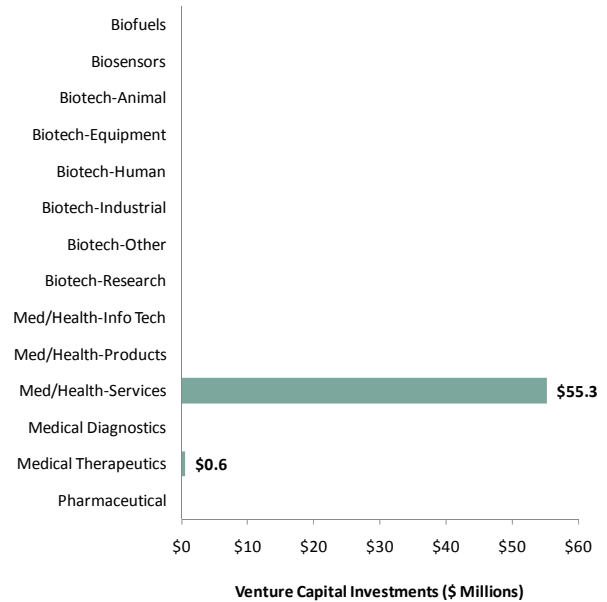


## Bioscience Venture Capital

**Bioscience-related Venture Capital Investments in Arkansas, 2004–2009**

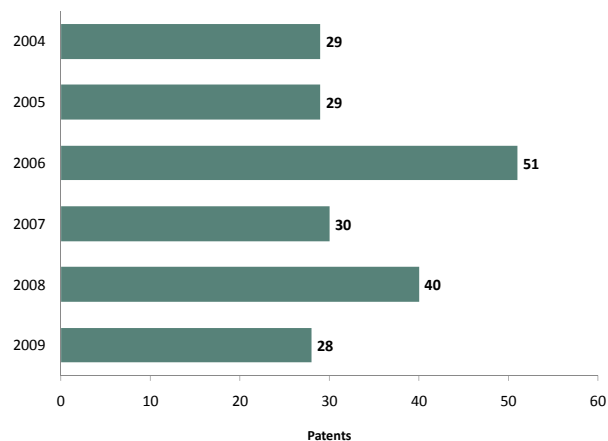


**Bioscience-related Venture Capital Investments in Arkansas by Segment, 2004–2009**

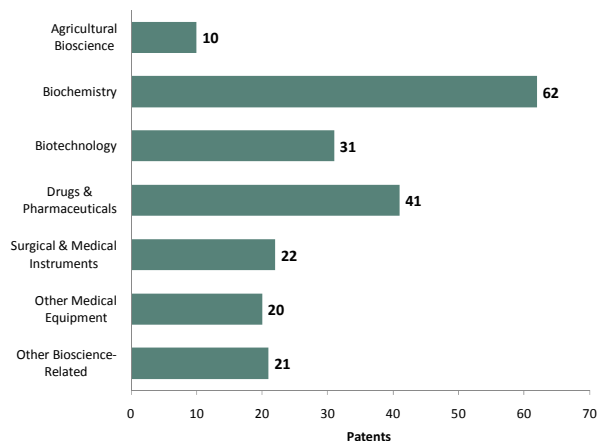


## ●●● Bioscience Patents

**Bioscience-related Patents in Arkansas, 2004–2009**



**Bioscience-related Patents by Classification Group in Arkansas, 2004–2009**



### State Bioscience Contact

No designated contact

### Source Notes:

**Employment, Establishment, and Wage Data:** U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW) industry data provided by the Minnesota IMPLAN Group, 2001 and 2008.

**Employment Multipliers:** U.S. Bureau of Economic Analysis RIMS II Employment Multipliers, 2006 (most currently available).

**Academic R&D Expenditures:** National Science Foundation (NSF) Survey of Research and Development Expenditures at Universities and Colleges, 2004 and 2008.

**NIH Funding:** National Institutes of Health, Office of Extramural Research, Award Trends, Dollars Awarded by State, 2004 and 2009.

**Clinical Trials:** National Institutes of Health, Clinicaltrials.gov, trials that were initiated in 2009.

**Higher Education Degrees:** National Center for Educational Statistics, Integrated Postsecondary Education Data System (IPEDS), 2008.

**Occupational Employment:** U.S. Bureau of Labor Statistics, Occupational Employment Statistics (OES) survey data, 2008.

**Venture Capital:** Thomson Reuters' VentureXpert Database, 2004–2009, as of January 15, 2010.

**Patents:** U.S. Patent & Trademark Office data as available from the Thomson Reuters' Delphion Patent Analysis Database, 2004–2009, as of January 15, 2010.

For a more detailed discussion of the data and methodology used, please see the Appendix to the full national report. ©2010