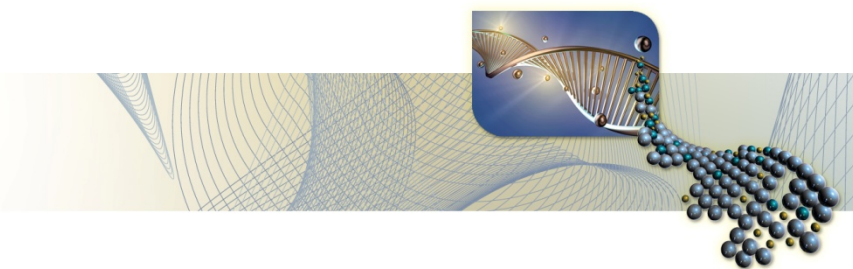


# COLORADO



Colorado's employment in the medical devices and equipment subsector is specialized (location quotient of 1.34), and since 2001 each of the four major bioscience subsectors in Colorado has outpaced the nation in job growth. Overall, the State bioscience industry has increased its employment base by about 26 percent since 2001. Academic bioscience research expenditures totaled \$437 million in 2008, dominated by the medical sciences. Venture capital investments in Colorado bioscience companies totaled \$1.46 billion in the last six years, placing the state higher than its population rank. The largest venture investment category was human biotechnology, with smaller but significant shares in biofuels and industrial biotechnology. The largest share of the state's 1,528 patents over the same period was in surgical and medical instruments, followed by biochemistry and drugs and pharmaceuticals.

## ●●● Bioscience Performance Metrics

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

Metrics	Colorado	United States	Rank*
<b>Bioscience Industry, 2008</b>			
Total Bioscience Industry Employment, 2008	21,268	1,420,324	II
Bioscience Industry Location Quotient, 2008	0.88	n/a	III
Biosciences Industry Establishments, 2008	1,088	47,593	II
<b>Academic R&amp;D Expenditures, FY 2008</b>			
Bioscience R&D (\$ thousands)	\$437,412	\$31,818,810	24
Bioscience Share of Total R&D	47.3%	61.3%	42
Bioscience R&D Per Capita	\$88.63	\$104.54	29
Change in Bioscience R&D, FY 2004–08	16.7%	22.3%	33
<b>NIH Funding, FY 2009</b>			
Total, Including ARRA Funds (\$ thousands)	\$375,244	\$25,837,590	20
Per Capita Funding	\$74.68	\$84.16	19
Change in Baseline Funding, FY 2004–09**	-6.1%	-4.7%	35
Change in Total Funding, FY 2004–09	12.5%	14.6%	35
<b>Clinical Trials, Initiated 2009</b>	383	5,299	21
<b>Higher Education Degrees in Bioscience Fields, AY 2008</b>	2,865	161,811	20
<b>Employment in Bioscience-related Occupations, 2008</b>	10,190	717,510	23
<b>Bioscience Venture Capital Investments, 2004–09 (\$ millions)</b>	\$1,460.5	\$60,099	11
<b>Bioscience and Related Patents, 2004–09</b>	1,528	75,593	19

\*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.

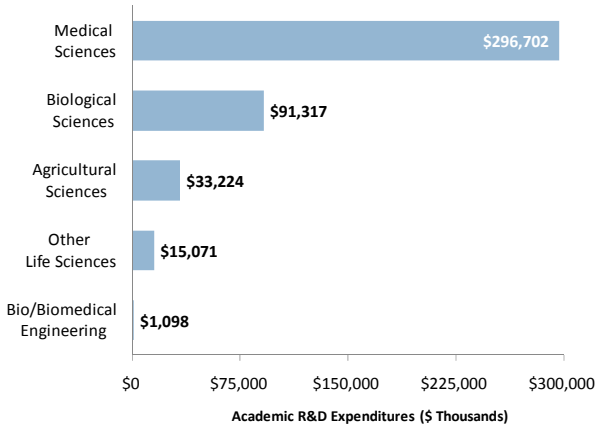
## ●●● Bioscience Industry Base, 2008

INDUSTRY SUBSECTOR	Colorado		United States	
	2008	2001-08 Change	2008	2001-08 Change
<b>AGRICULTURAL FEEDSTOCK &amp; CHEMICALS</b>				
Establishments	30	33.2%	2,440	16.0%
Employment	440	2.8%	114,793	1.9%
Location Quotient	0.22		n/a	
Direct-Effect Employment Multiplier	4.96		11.33	
Total Employment Impact	2,181		1,284,650	
Average Annual Wage	\$60,836		\$72,279	
<b>DRUGS &amp; PHARMACEUTICALS</b>				
Establishments	52	-3.7%	2,771	6.4%
Employment	3,051	3.6%	311,882	2.3%
Location Quotient	0.57		n/a	
Direct-Effect Employment Multiplier	6.00		9.92	
Total Employment Impact	18,318		2,873,278	
Average Annual Wage	\$85,820		\$93,378	
<b>MEDICAL DEVICES &amp; EQUIPMENT</b>				
Establishments	349	6.0%	15,227	0.4%
Employment	9,988	13.3%	435,509	2.0%
Location Quotient	1.34		n/a	
Direct-Effect Employment Multiplier	3.35		4.87	
Total Employment Impact	33,461		2,029,581	
Average Annual Wage	\$64,560		\$63,606	
<b>RESEARCH, TESTING, &amp; MEDICAL LABORATORIES</b>				
Establishments	657	109.6%	27,154	57.7%
Employment	7,789	64.4%	558,140	46.1%
Location Quotient	0.82		n/a	
Direct-Effect Employment Multiplier	2.68		3.30	
Total Employment Impact	20,906		1,853,127	
Average Annual Wage	\$82,659		\$80,785	
<b>TOTAL BIOSCIENCES INDUSTRY</b>				
Establishments	1,088	51.3%	47,593	28.3%
Employment	21,268	25.7%	1,420,324	15.8%
Location Quotient	0.88		n/a	
Direct-Effect Employment Multiplier	3.52		5.82	
Total Employment Impact	74,866		8,040,636	
Average Annual Wage	\$74,161		\$77,595	
<b>TOTAL PRIVATE SECTOR</b>				
Establishments	175,401	16.1%	8,860,956	13.8%
Employment	1,943,280	3.8%	113,917,377	3.5%
Average Annual Wage	\$46,722		\$45,229	

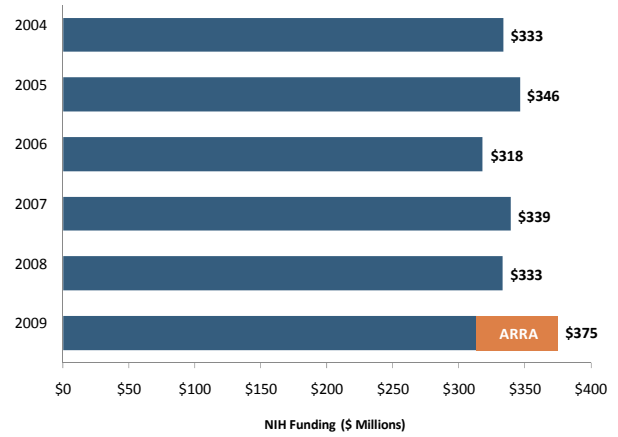
Note: U.S. employment metrics include Puerto Rico. Estimates of total employment impacts do not include Puerto Rico.

## ●●● Bioscience Performance Metrics

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

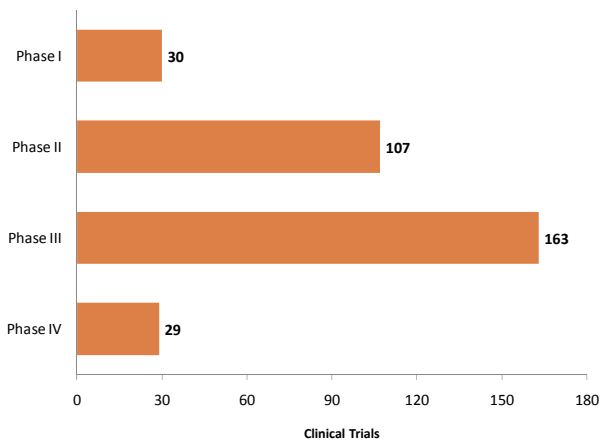


**NIH Awards in Colorado, 2004–2009**

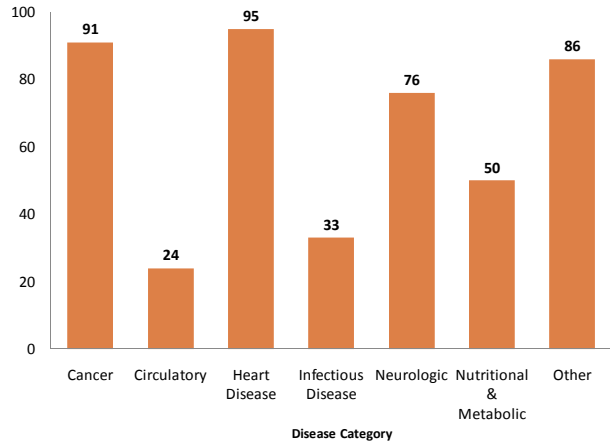


## ●●● Recent Clinical Trial Activities

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

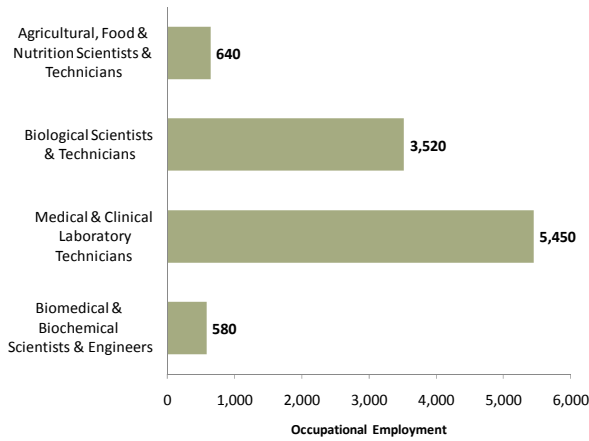


**Clinical Trials by Major Disease Category in Colorado, 2009**

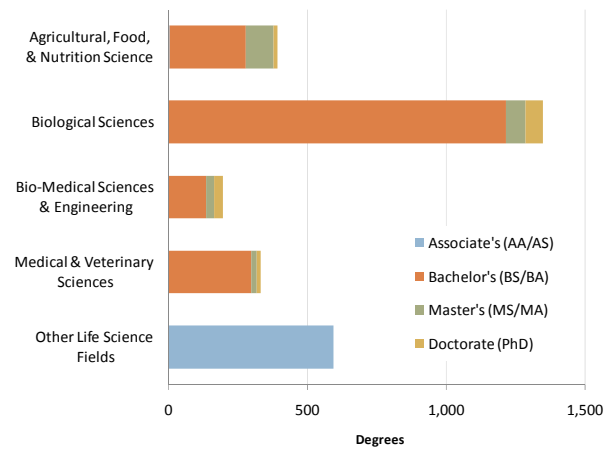


## Bioscience Talent Base

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

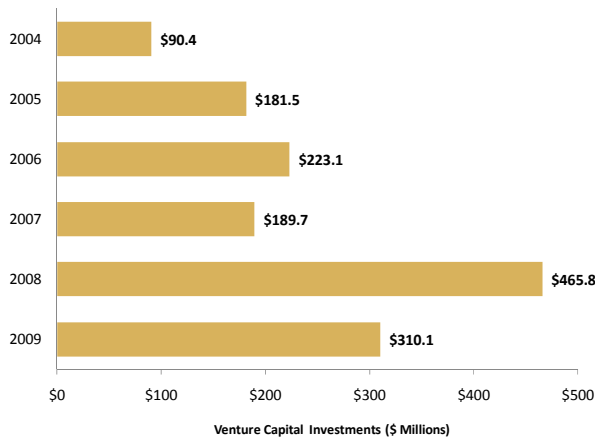


**Bioscience-related Degrees in Colorado, AY 2008**

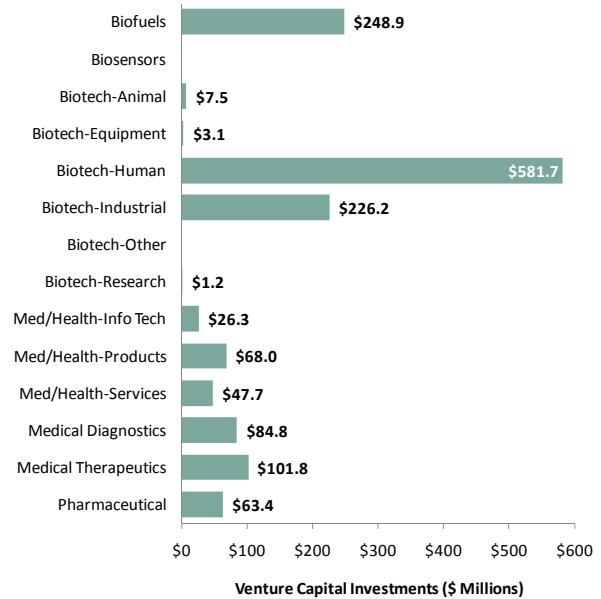


## Bioscience Venture Capital

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

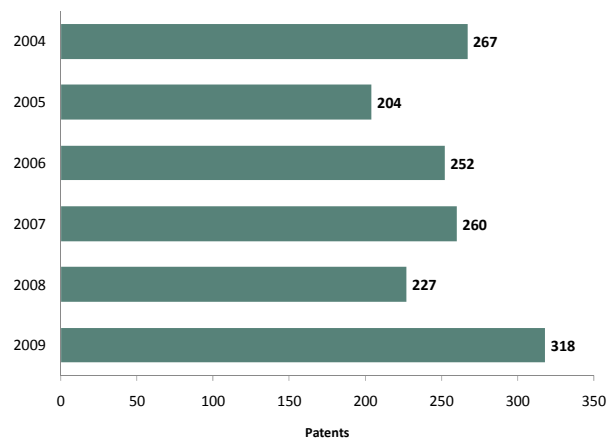


**Bioscience-related Venture Capital Investments in Colorado by Segment, 2004–2009**

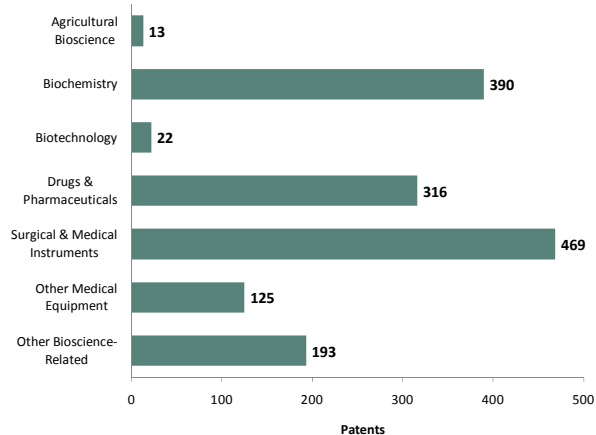


## ●●● Bioscience Patents

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



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



### State Bioscience Contact

#### Colorado BioScience Association

216 16th Street, Suite 850

Denver, CO 80202

P: (303) 592-4071

F: (303) 592-4061

[www.cobioscience.com](http://www.cobioscience.com)

### 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](http://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