

CONNECTICUT

Connecticut has a specialized job concentration in two of the bioscience subsectors—drugs and pharmaceuticals (location quotient of 2.36) and medical devices and equipment (1.71). The State is highly concentrated in a third subsector: research, testing, and medical laboratories (location quotient of 1.18). Academic research expenditures in the biosciences were \$564 million in 2006, representing 81 percent of all academic research, which is higher than the national average. Over the past 6 years, Connecticut's venture capital invested in the biosciences (\$730 million) and bioscience patents issued (2,782) both ranked in the top 15 nationally. The two largest recipients of bioscience venture capital investment were human biotechnology and pharmaceuticals. Patents were heavily concentrated in drugs and pharmaceuticals.

Major Industry Developments and Recent Successes

- Roche Inc. acquired **454 Life Sciences**, a Connecticut-based company active in high-throughput DNA sequencing, in 2007 for \$140 million. Roche will maintain the facility and its employees in Connecticut.
- **CGI Pharmaceuticals (CGI)**, a private-development-stage company based in Branford, has entered into a collaborative agreement with Genentech that provided an up-front payment of \$25 million and could potentially generate payments in excess of \$500 million for CGI.
- **Pfizer Inc.** opened a \$35 million state-of-the-art clinical research facility in New Haven that will be used to confirm the safety and action of potential new medicines.

Recent State Initiatives

In 2007, Connecticut awarded \$20 million to support embryonic stem cell research. The **Connecticut Stem Cell Research Program**, which was enacted in June 2005, is a \$100 million, 10-year initiative that will provide \$10 million a year in 2008 and \$10 million each year for the next 8 years. Connecticut continues to support a number of programs specifically targeted to the biosciences and others that are broader initiatives but provide substantial support to bioscience companies. These include the following:

- The **Connecticut BioSeed Fund**, a \$5 million fund that can invest up to \$500,000 in companies focused in the areas of pharmaceuticals, genomics, molecular science, biomedical engineering, and medical devices.
- The **BioScience Facilities Fund**, which has provided \$54 million for the buildout of wet-lab space since its inception in 1998.
- The **Eli Whitney Fund**, which typically invests \$500,000 to \$1 million in emerging firms in six technology areas, one of which is the biosciences.

For additional information on Connecticut's bioscience policies and programs, please see <http://www.ctinnovations.com> and <http://www.curennet.org>.

Bioscience Industry Base, 2006

Industry Subsector	Connecticut		United States	
	2006	2001-06 Change	2006	2001-06 Change
Agricultural Feedstock & Chemicals				
Establishments	17	-6.8%	2,183	3.8%
Employment	530	-57.0%	105,846	-6.1%
Location Quotient	0.40		n.a.	
Direct-Effect Employment Multiplier	5.52		11.22	
Total Employment Impact	2,923		1,214,709	
Average Annual Wage	\$92,701		\$67,870	
Drugs & Pharmaceuticals				
Establishments	38	31.0%	2,654	1.9%
Employment	9,404	-13.0%	317,149	4.0%
Location Quotient	2.36		n.a.	
Direct-Effect Employment Multiplier	5.80		9.92	
Total Employment Impact	54,578		2,880,242	
Average Annual Wage	\$118,369		\$86,892	
Medical Devices & Equipment				
Establishments	244	8.0%	15,215	0.3%
Employment	9,089	-0.9%	422,993	-0.9%
Location Quotient	1.71		n.a.	
Direct-Effect Employment Multiplier	2.84		4.85	
Total Employment Impact	25,816		1,980,128	
Average Annual Wage	\$54,576		\$59,441	
Research, Testing, & Medical Laboratories				
Establishments	348	16.3%	22,857	32.7%
Employment	6,673	-4.5%	449,991	17.8%
Location Quotient	1.18		n.a.	
Direct-Effect Employment Multiplier	2.17		3.25	
Total Employment Impact	14,460		1,440,500	
Average Annual Wage	\$86,832		\$71,284	
Total Private Sector				
Establishments	107,669	2.9%	8,575,730	10.2%
Employment	1,425,531	-0.3%	113,463,842	3.1%
Average Annual Wage	\$56,003		\$42,272	

Note: n.a. = metric is not applicable.

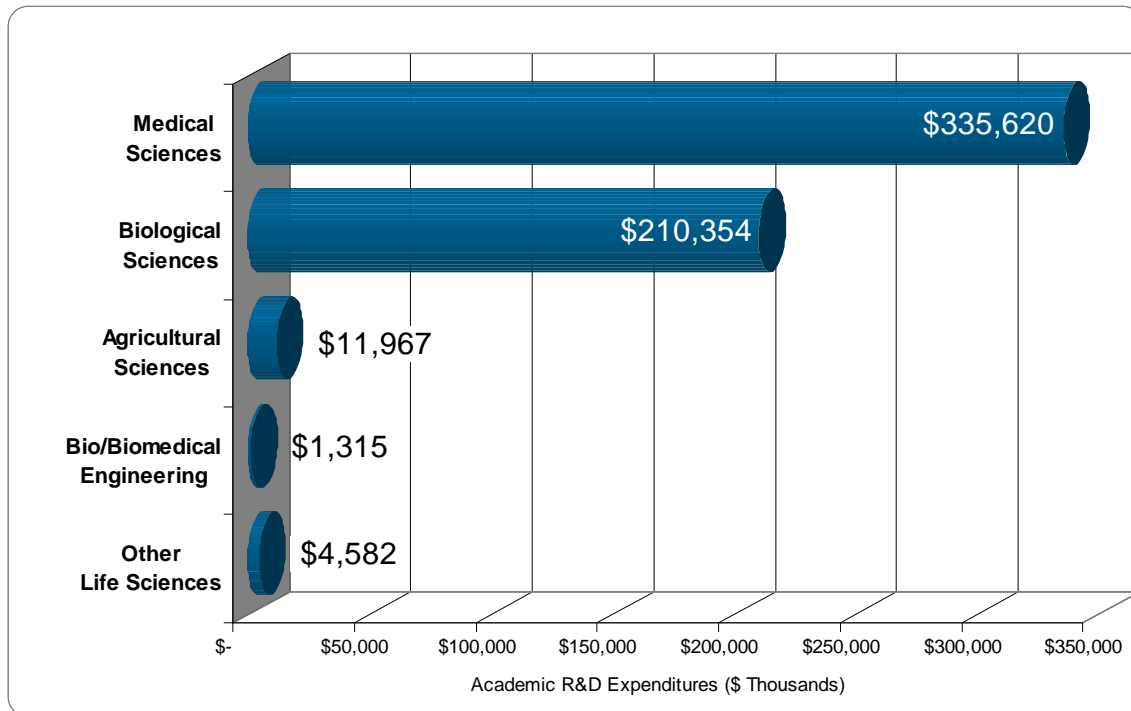
Additional Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

	Connecticut	United States	Rank
Academic R&D Expenditures, FY 2006			
Total (\$ thousands)	\$692,524	\$47,760,402	22
Bioscience R&D (\$ thousands)	\$563,838	\$29,307,628	16
Bioscience Share of Total R&D	81.4%	61.4%	
Bioscience R&D Per Capita	\$161.29	\$98.10	
Change in Bioscience R&D FY 2002–2006	32.1%	36.9%	
NIH Funding, FY 2007			
Total (\$ thousands)	\$469,207	\$21,066,389	13
Per Capita Funding	\$133.97	\$69.84	
Change in Funding, FY 2002–2007	20.0%	11.2%	
Higher Education Degrees in Bioscience Fields, AY 2006	1,630	143,433	32
Employment in Bioscience-related Occupations, 2006	9,380	588,520	21
Bioscience Venture Capital Investments, 2002-2007 (\$ millions)	\$730.1	\$51,260.9	13
Bioscience and Related Patents, 2002-2007	2,782	121,817	15

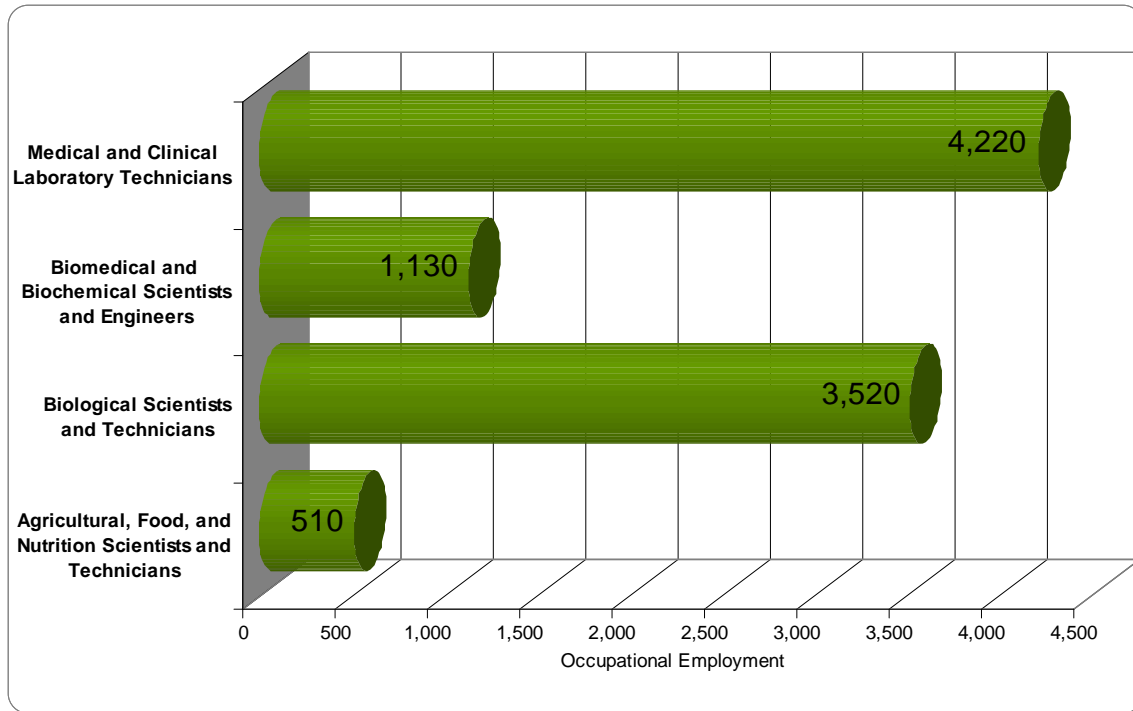
Bioscience R&D Base

Bioscience Academic R&D Expenditures in Connecticut, FY 2006

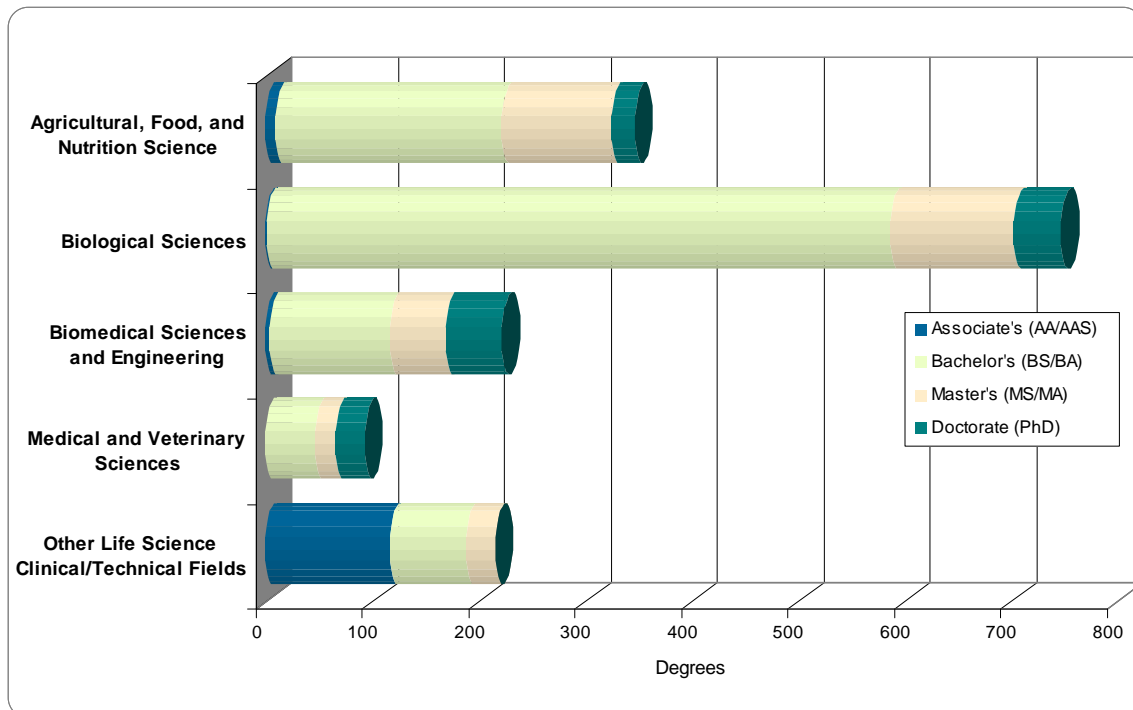


Bioscience Talent Base

Bioscience-related Occupational Employment in Connecticut, 2006

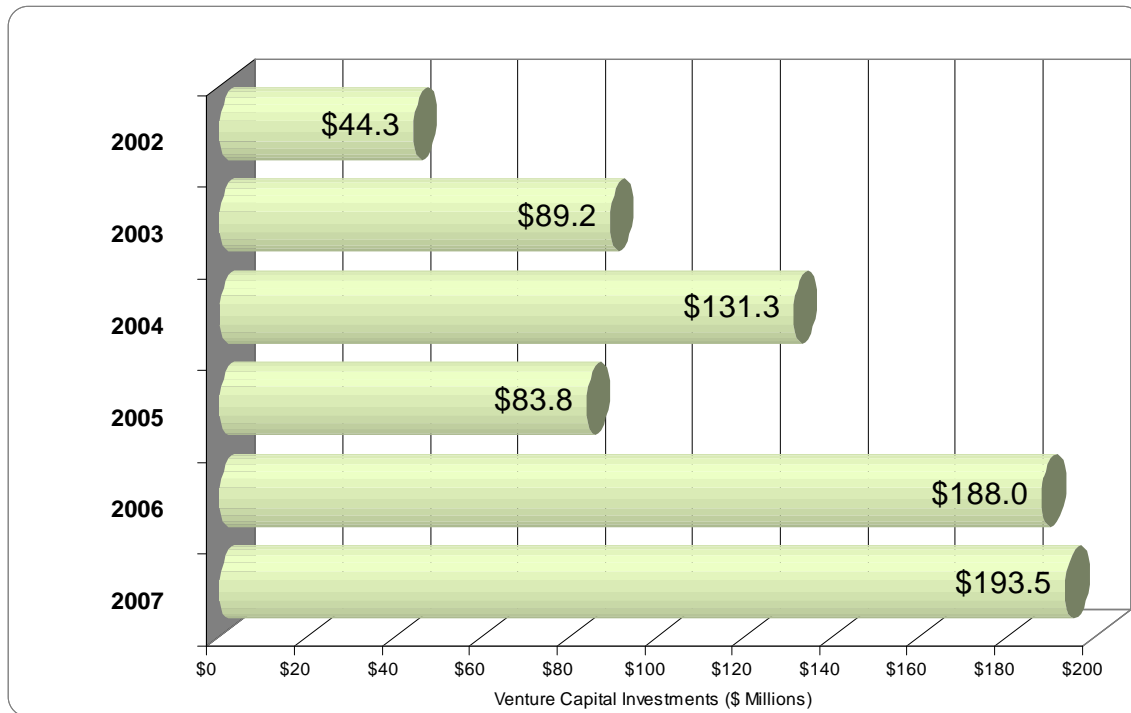


Bioscience-related Degrees in Connecticut, AY 2006

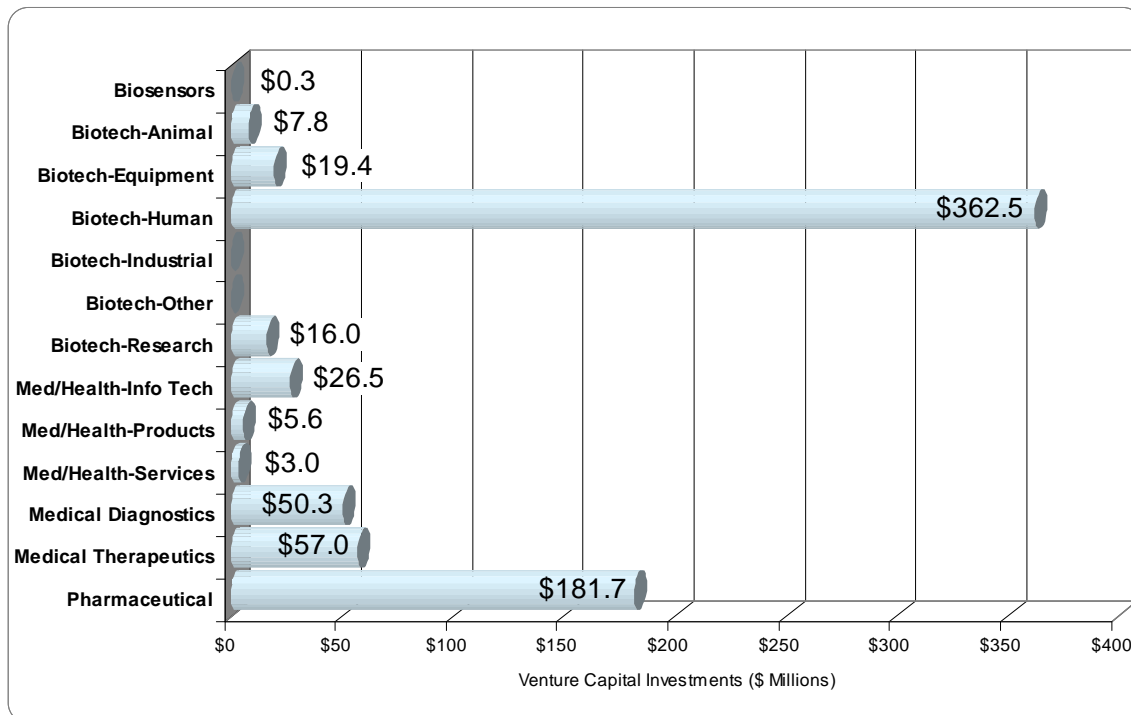


Bioscience Venture Capital

Bioscience-related Venture Capital Investments in Connecticut, 2002–2007

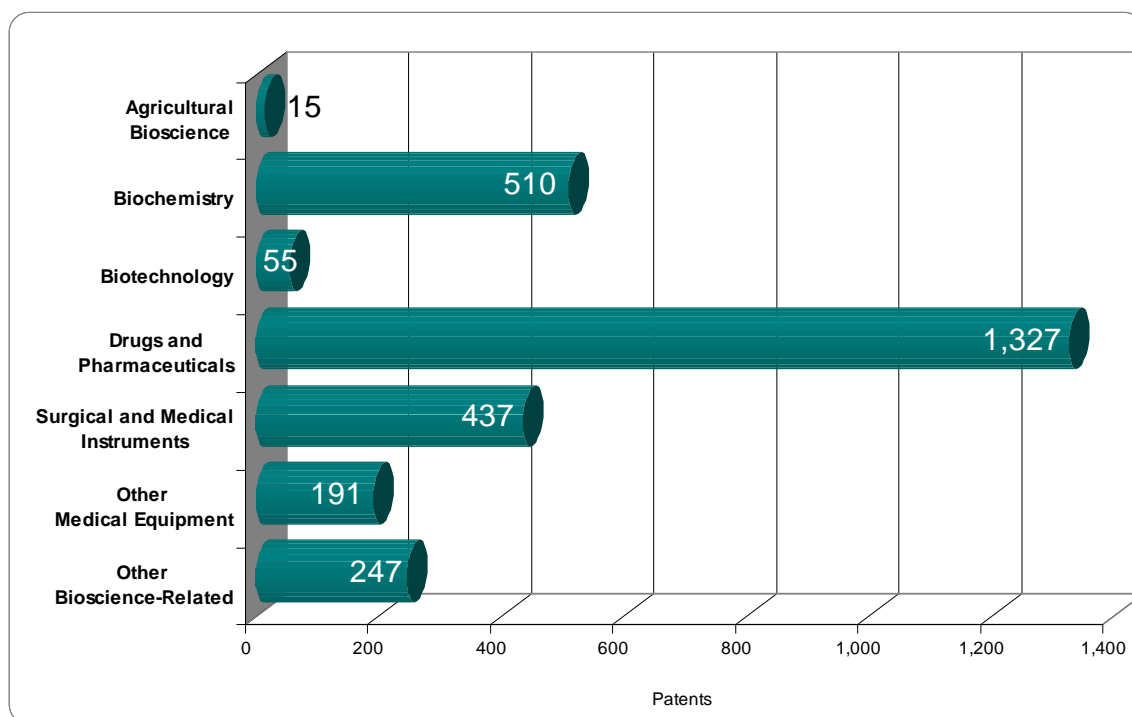


Bioscience-related Venture Capital Investments in Connecticut by Segment, 2002–2007



Bioscience Patents

Bioscience-related Patents by Classification Group in Connecticut, 2002–2007



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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 2006.

Employment Multipliers: U.S. Bureau of Economic Analysis RIMS II Employment Multipliers, 2005 (most currently available).

Academic R&D Expenditures: National Science Foundation (NSF) Survey of Research and Development Expenditures at Universities and Colleges, 2002 and 2006.

NIH Funding: National Institutes of Health – Office of Extramural Research, Award Trends – Dollars Awarded by State, 2002 and 2007.

Higher Education Degrees: National Center for Educational Statistics, Integrated Postsecondary Education Data System (IPEDS), 2006.

Occupational Employment: U.S. Bureau of Labor Statistics, Occupational Employment Statistics (OES) survey data, 2006.

Venture Capital: Thomson Reuters VentureXpert Database, 2002-2007, as of May 1, 2008.

Patents: U.S. Patent & Trademark Office data as available from the Thomson Reuters' Delphion Patent Analysis Database, 2002–2007, as of May 1, 2008.

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