

## RHODE ISLAND

Rhode Island has an employment specialization in drugs and pharmaceuticals (location quotient of 1.61), a subsector in which employment also grew rapidly over the 2001–2006 period. Total academic bioscience research expenditures were \$107 million in 2006, led by biological sciences (\$38 million) and “other” life sciences (\$33 million). Total venture capital invested in the biosciences over the past 6 years was \$293 million, mainly in the biotechnology research, human biotechnology, and medical therapeutics sectors. Rhode Island’s 1,018 bioscience patents were concentrated in surgical and medical instruments and drugs and pharmaceuticals.

### Major Industry Developments and Recent Successes

- **Alexion Pharmaceuticals** bought from Dow Chemical and retrofitted a manufacturing plant in Smithfield, where it will produce its experimental drug Soliris,<sup>™</sup> targeted at a rare blood disorder.
- **Neurotech Pharmaceuticals**, a start-up that is developing drugs to treat chronic eye disease, recently expanded in-state, with a financing deal for a new manufacturing facility in Cumberland.
- A traditional textile firm reinvented itself into **Concordia Medical**, a manufacturer of permanent, resorbable, implantable biomedical fabrics for the medical-device industry.

### Recent State Initiatives

In early 2008, Rhode Island Economic Development Corporation announced a major **Attraction Campaign** focused on three sectors, including the health and life sciences, to be conducted in partnership with a group of top business and civic leaders.

Since the last BIO report, Rhode Island has enacted in statute the **Science and Technology Advisory Council (STAC)**, an academic-industrial board created by Governor Donald Carcieri’s executive order in 2005. Under STAC’s oversight, the State launched a **Commission for Research and Innovation** to strengthen the University of Rhode Island, initiated the first round of an **Innovation Tax Credit**, and continued stimulating research capacity through the Rhode Island Research Alliance’s **Collaborative Research Awards**.

To align with the State’s recruitment thrust in biomanufacturing, degree programs have been added at the Community College of Rhode Island and the University of Rhode Island.

### Pending Proposals

STAC recommendations released in 2008 call for expansion of the Research Alliance and of life-science business incubation capacity in Providence.

For additional information on Rhode Island’s bioscience policies and programs, please see <http://www.riedc.com> and <http://www.biogroupri.org>.

## Bioscience Industry Base, 2006

Industry Subsector	Rhode Island		United States	
	2006	2001-06 Change	2006	2001-06 Change
<b>Agricultural Feedstock &amp; Chemicals</b>				
Establishments	3	-24.1%	2,183	3.8%
Employment	40	49.7%	105,846	-6.1%
Location Quotient	0.10		n.a.	
Direct-Effect Employment Multiplier	3.72		11.22	
Total Employment Impact	149		1,214,709	
Average Annual Wage	\$64,115		\$67,870	
<b>Drugs &amp; Pharmaceuticals</b>				
Establishments	16	23.1%	2,654	1.9%
Employment	1,884	258.9%	317,149	4.0%
Location Quotient	1.61		n.a.	
Direct-Effect Employment Multiplier	5.84		9.92	
Total Employment Impact	11,001		2,880,242	
Average Annual Wage	\$80,725		\$86,892	
<b>Medical Devices &amp; Equipment</b>				
Establishments	74	-4.4%	15,215	0.3%
Employment	1,505	-6.4%	422,993	-0.9%
Location Quotient	0.97		n.a.	
Direct-Effect Employment Multiplier	2.47		4.85	
Total Employment Impact	3,719		1,980,128	
Average Annual Wage	\$46,037		\$59,441	
<b>Research, Testing, &amp; Medical Laboratories</b>				
Establishments	137	58.6%	22,857	32.7%
Employment	1,565	21.3%	449,991	17.8%
Location Quotient	0.94		n.a.	
Direct-Effect Employment Multiplier	1.98		3.25	
Total Employment Impact	3,093		1,440,500	
Average Annual Wage	\$68,266		\$71,284	
<b>Total Private Sector</b>				
Establishments	35,278	7.0%	8,575,730	10.2%
Employment	417,704	3.1%	113,463,842	3.1%
Average Annual Wage	\$38,732		\$42,272	

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

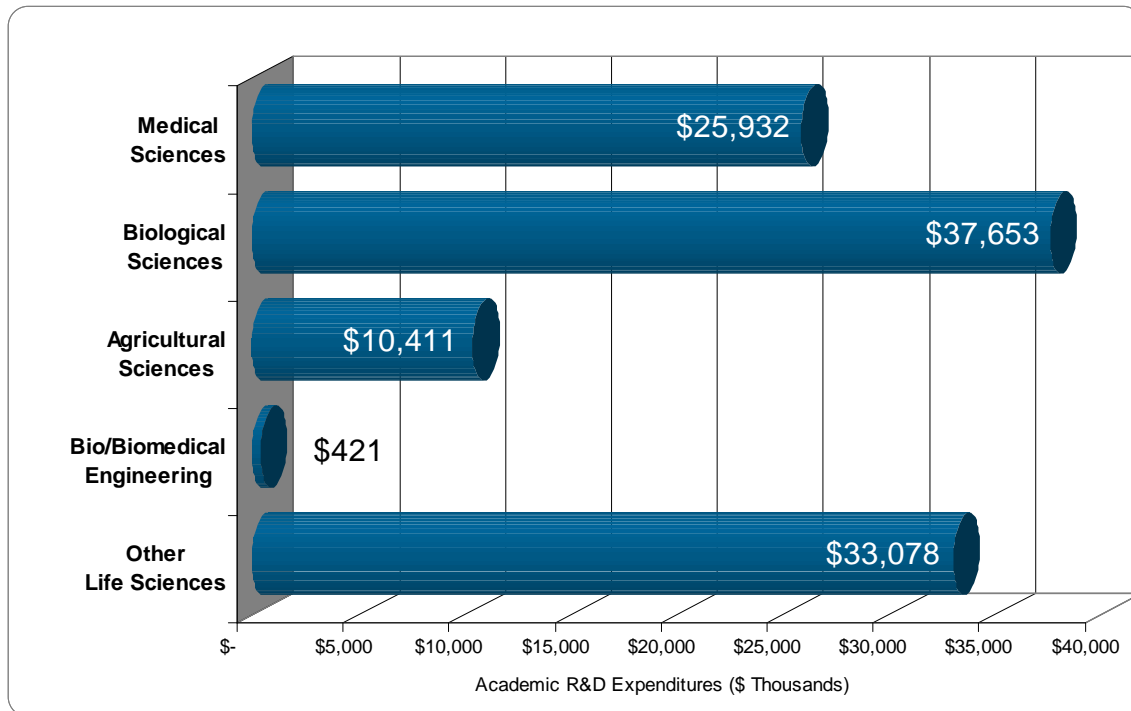
## Additional Bioscience Performance Metrics

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

	Rhode Island	United States	Rank
Academic R&D Expenditures, FY 2006			
Total (\$ thousands)	\$230,104	\$47,760,402	40
Bioscience R&D (\$ thousands)	\$107,495	\$29,307,628	40
Bioscience Share of Total R&D	46.7%	61.4%	
Bioscience R&D Per Capita	\$101.25	\$98.10	
Change in Bioscience R&D FY 2002–2006	55.9%	36.9%	
NIH Funding, FY 2007			
Total (\$ thousands)	\$143,435	\$21,066,389	28
Per Capita Funding	\$135.59	\$69.84	
Change in Funding, FY 2002–2007	24.6%	11.2%	
Higher Education Degrees in Bioscience Fields, AY 2006	688	143,433	41
Employment in Bioscience-related Occupations, 2006	1,640	588,520	47
Bioscience Venture Capital Investments, 2002-2007 (\$ millions)	\$292.8	\$51,260.9	18
Bioscience and Related Patents, 2002-2007	1,018	121,817	30

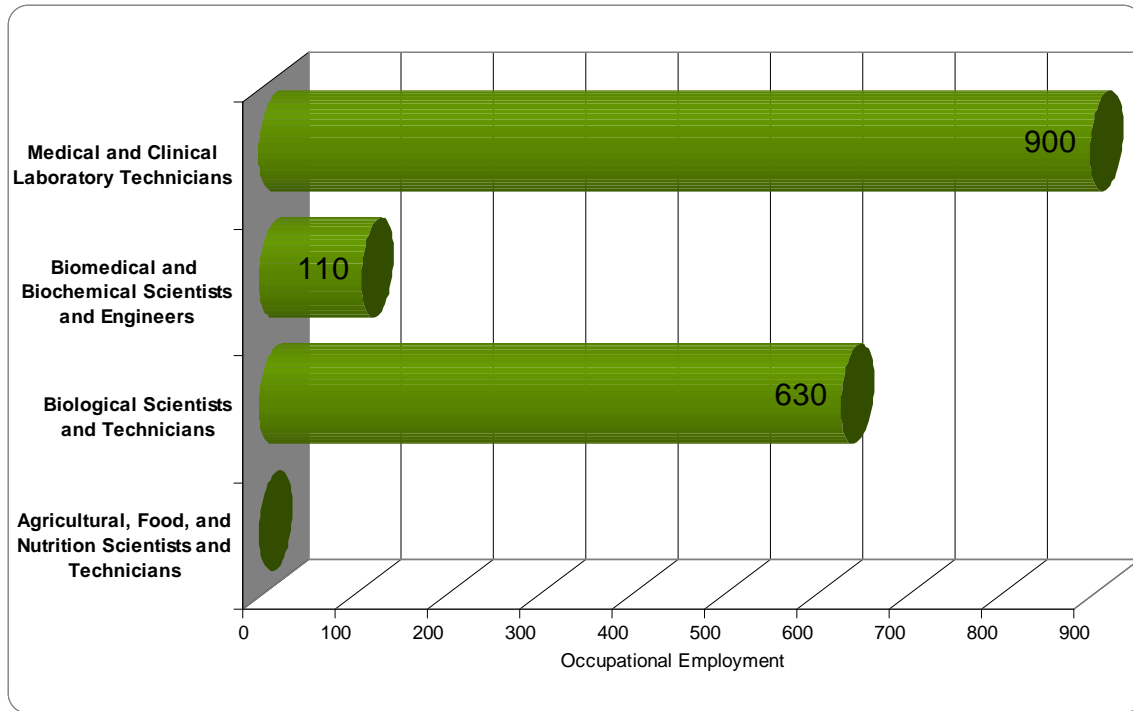
## Bioscience R&D Base

### Bioscience Academic R&D Expenditures in Rhode Island, FY 2006

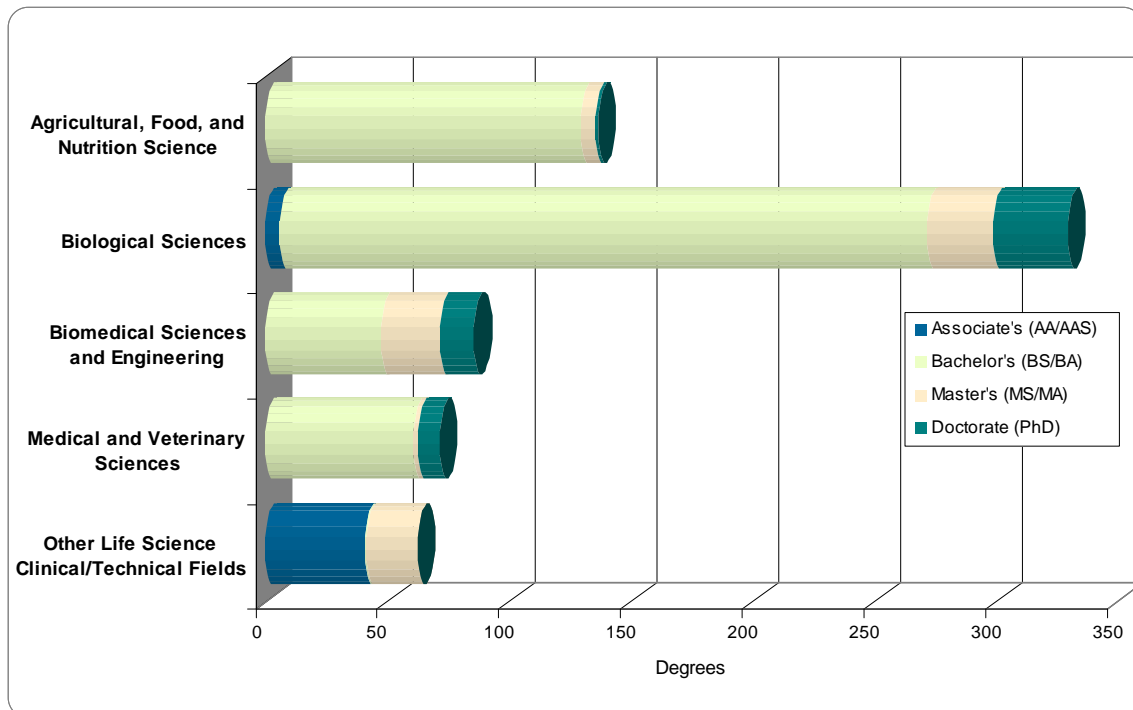


## Bioscience Talent Base

### Bioscience-related Occupational Employment in Rhode Island, 2006

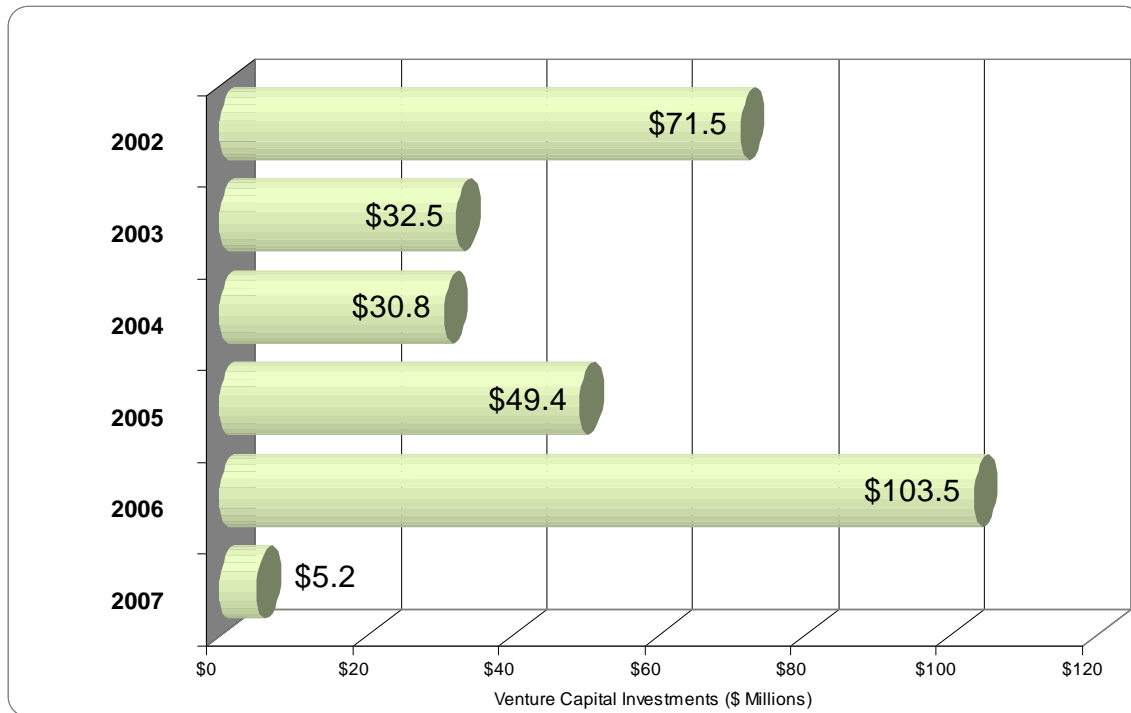


### Bioscience-related Degrees in Rhode Island, AY 2006

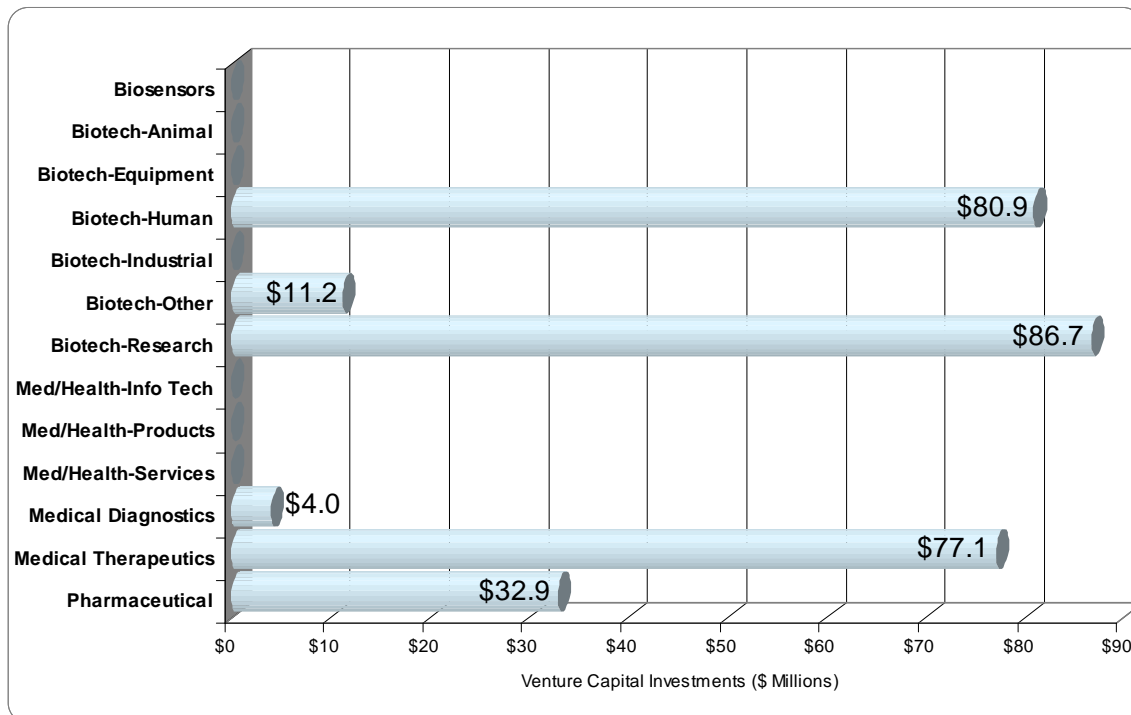


## Bioscience Venture Capital

### Bioscience-related Venture Capital Investments in Rhode Island, 2002–2007

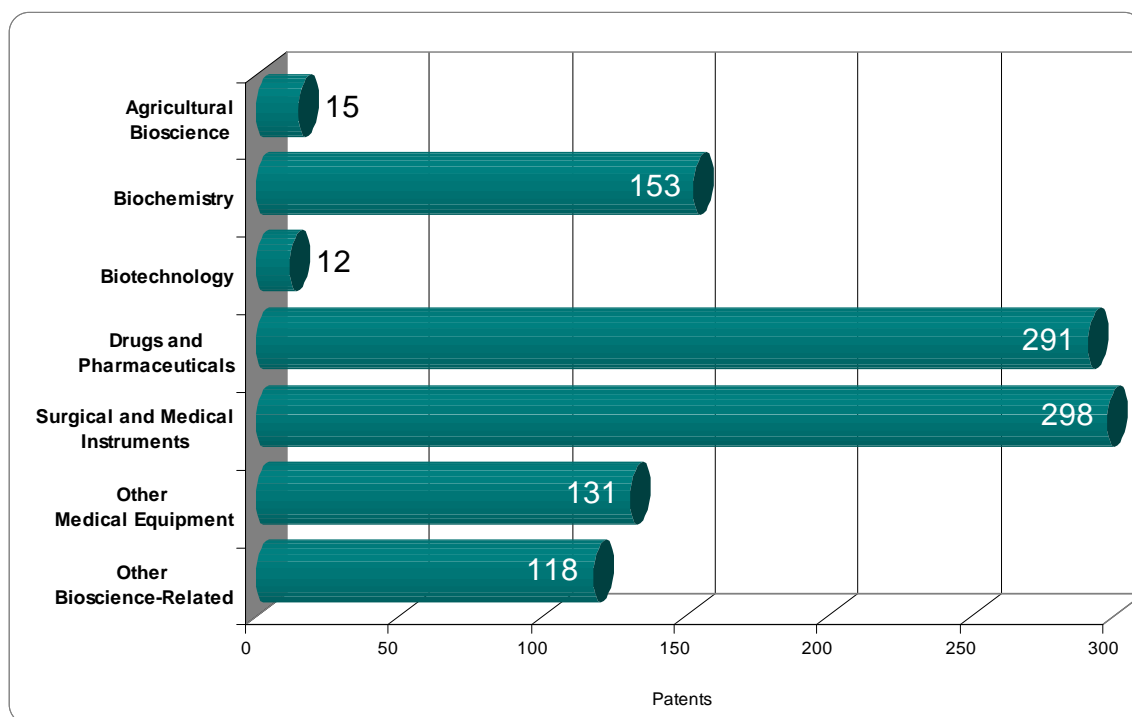


### Bioscience-related Venture Capital Investments in Rhode Island by Segment, 2002–2007



## Bioscience Patents

### Bioscience-related Patents by Classification Group in Rhode Island, 2002–2007



## State Bioscience Contacts

### State Agency Contact:

Dianne Ritter, Ph.D.  
Business Development Manager,  
Life Sciences/Health Care  
Rhode Island Economic Development Corporation  
315 Iron Horse Way, Suite 101  
Providence, RI 02908  
(401) 278-9100, Ext. 112  
[dritter@riedc.com](mailto:dritter@riedc.com)

### State Bio Association Contact:

Kathie Shields  
Executive Director  
BioGroup—Tech Collective  
3 Davol Square, Suite 330  
Providence, RI 02903  
(401) 521-7805, Ext. 105  
[kshields@tech-collective.org](mailto:kshields@tech-collective.org)

### 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.