

University of California Berkeley
Research Administration and Compliance

Sponsored Projects Office
Annual Report
Fiscal Year 2008



The University of California, Berkeley

Chancellor

Robert J. Birgeneau

Executive Vice Chancellor and Provost

George W. Breslauer

Vice Chancellor for Research

Beth Burnside

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Assistant Vice Chancellor - Research Administration and Compliance: Marcia Smith

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Annual Report, Fiscal Year 2008

Table of Contents

Research Administration and Compliance	
Overview	5
Research Proposals and Awards, Fiscal Year 2008	
Funding Overview	6
Funding by Campus Control Unit	7
Research Grants and Contracts, Fiscal Year 2008	
Overview - All Sponsors	8
Federal Agencies	10
Nonfederal Agencies	12
Funding by Sponsor - Five-Year Summary	13
Campus Control Units - Five-Year Funding Summary	14
Largest Awards, Fiscal Year 2008	16
Honors to Individual Faculty, Fiscal Year 2008	17



Wheeler Hall and the Campanile, viewed from Barrows Hall, University of California, Berkeley
Photograph by Steve McConnell / University of California, Berkeley

Research Administration and Compliance

Overview

The **University of California, Berkeley** is one of the world's leading universities in research, teaching, and public service, with an enrollment of 24,636 undergraduates and 10,317 graduate students in Fall 2007. The campus employed 2,135 faculty in 2008 in more than 130 academic departments and interdepartmental groups, and more than 65 interdisciplinary research units contribute to this dynamic and vital research and teaching environment.

The **Research Administration and Compliance Office (RAC)**, lead by Assistant Vice Chancellor Marcia Smith, is the administrative office at UC Berkeley responsible for facilitating and ensuring campus compliance with federal, state, and university regulations pertaining to research administration, including policies governing research animal care and use, human research subjects protection, financial conflict of interest in research, and grants and contracts administration. RAC is under the purview of the Office of the Vice Chancellor for Research.

The Sponsored Projects Office (SPO) at UC Berkeley is responsible for endorsing and authorizing proposals to and interpreting, negotiating, and accepting contracts and grants for projects funded by federal and state agencies, foundations, and other public and private sources. SPO prepares and negotiates all subawards for collaborative research. SPO also provides resources for finding funding opportunities, and coordinates application to programs with institutional limits on proposals.

Berkeley Coeus is the campus research contract and grant system of record and is managed by the RAC Information Systems team. Coeus was licensed from the Massachusetts Institute of Technology in 1997 and adapted for use at Berkeley in July of 1998. The Berkeley Coeus web site, <http://coeus.spo.berkeley.edu/>, provides UC Berkeley departments and organized research units with reports on contract and grant proposals and awards administered within the unit, based on current information in the Berkeley Coeus database system. The Berkeley Coeus web site also provides reports on funding by sponsor category and funding by department that can be accessed by the public.

The Animal Care and Use Committee (ACUC) at UC Berkeley is the institutional committee charged with reviewing and approving all proposed uses of live vertebrate animals in teaching and research. The ACUC's activities are mandated by the U.S. Animal Welfare Act and Public Health Service Policy. The RAC Office of the ACUC (OACUC) provides the administrative infrastructure required to support the Committee's work to review, approve, and administer those activities.

The Committee for Protection of Human Subjects (CPHS) serves as the institutional review board (IRB) at UC Berkeley. The IRB must review and approve the use of human subjects in research. The process is designed to ensure that the rights and welfare of human subjects are protected throughout their participation in research projects. UC Berkeley operates within the regulations and guidelines set forth by federal authorities, primarily the Office for Human Research Protections and the Food and Drug Administration, as well as other bodies. The Office for the Protection of Human Subjects (OPHS) provides operational and staffing support to the CPHS and administers all human subjects research performed on behalf of UC Berkeley.

The faculty Conflict of Interest Committee is responsible for the review and assessment of all financial disclosures related to research projects at UC Berkeley and for determining any actions required to ensure that real or perceived financial conflicts of interest are managed or eliminated. RAC staff provide the operational support required to implement and administer COI Committee decisions.

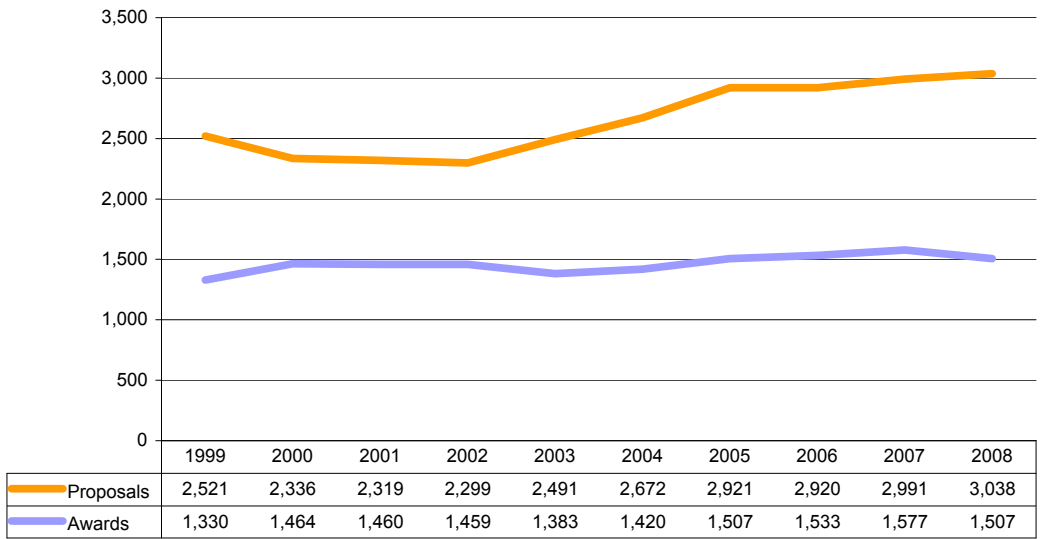
Research Proposals and Awards, Fiscal Year 2008

Funding Overview

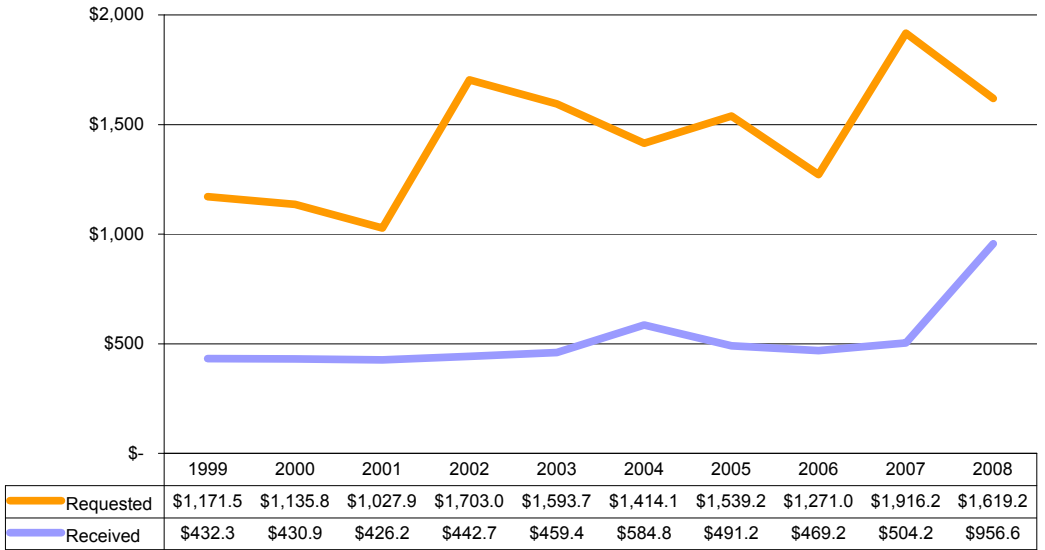
The Research Administration and Compliance Office is pleased to present this annual report on Berkeley’s sponsored research, teaching, and public service for fiscal year 2008, from July 1, 2007 through June 30, 2008. In fiscal year 2008, the Berkeley campus received more than \$956 million in contract and grant awards, an increase of almost ninety-two percent from the prior year funding of \$504 million. The major factor contributing to the increase was a 10-year, \$350 million award from BP to establish the Energy Biosciences Institute, a joint effort led by Vice Chancellor Burnside at UC Berkeley and Director Steven Chu at the Lawrence Berkeley National Laboratory. Excluding the \$350 million BP award, the campus received \$606.6 million in fiscal year 2008, an increase of 20 percent from the previous year.

The campus submitted 3,038 proposals requesting \$1.62 billion, with the number of submissions up three percent from the prior fiscal year.

Number of Proposals Submitted Compared with Awards Received, FY 1999 - 2008



Funding Dollars Requested Compared with Funding Received, FY 1999 - 2008 (dollars in millions)

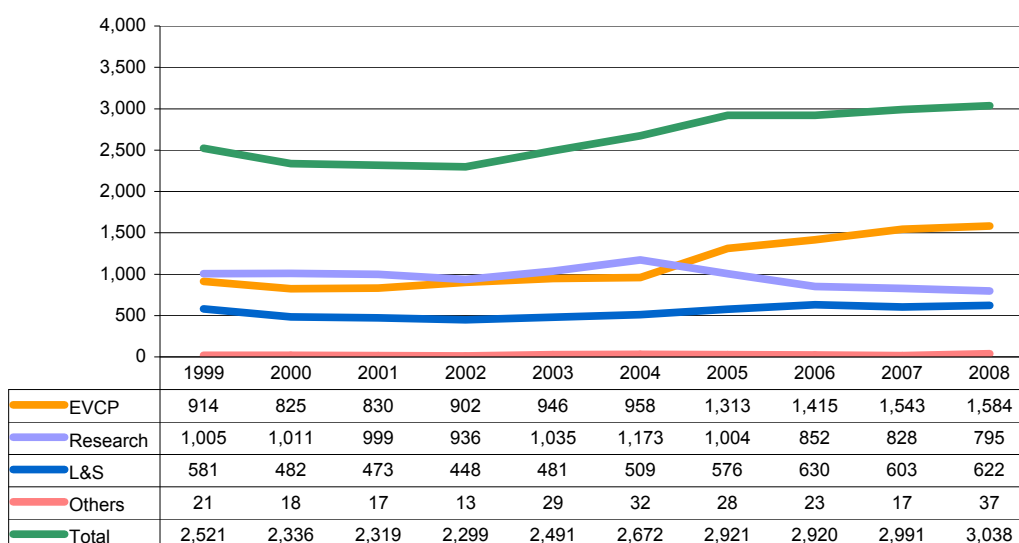


Research Proposals and Awards, Fiscal Year 2008

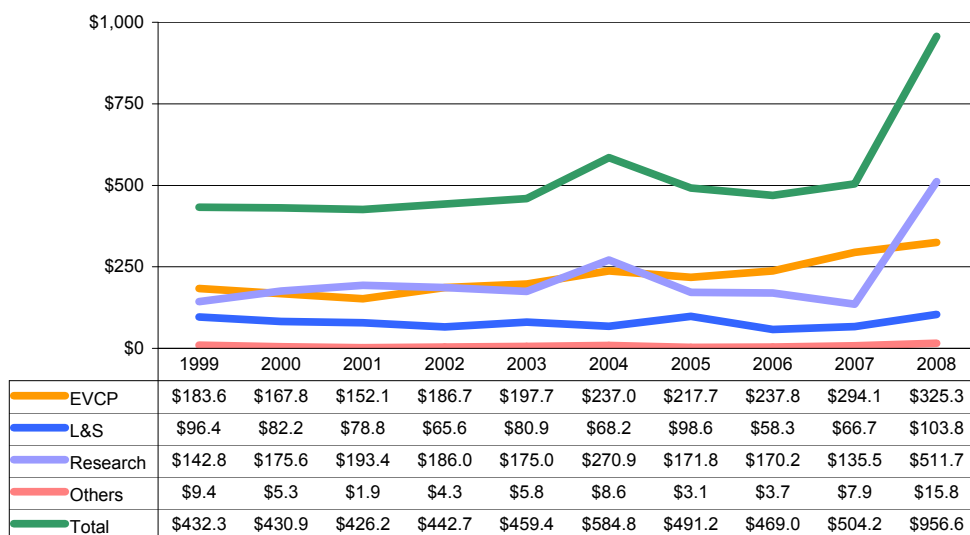
Campus Control Units

The following statistics reflect funding activity for campus control units in fiscal year 2008. Departments reporting to the Executive Vice Chancellor and Provost (EVCP) include the Colleges of Chemistry, Engineering, Natural Resources, and Environmental Design, as well as Optometry, Law, Journalism, Public Policy, Public Health, Education, Business, Social Welfare, and others. Organized Research Units (ORUs) report to the Vice Chancellor for Research and span many disciplines. These institutes, centers, and departments exist primarily to conduct research, and include the Space Sciences Laboratory, the Institute of Transportation Studies, the Berkeley Seismological Laboratory, and many others. The College of Letters and Science, or L&S, includes Biological, Physical, Social Science, and Arts and Humanities Divisions.

Number of Proposals Submitted by Control Unit, FY 1999 - 2008



Ten Year Funding Dollar Summary by Control Unit, FY 1999 - 2008 (dollars in millions)

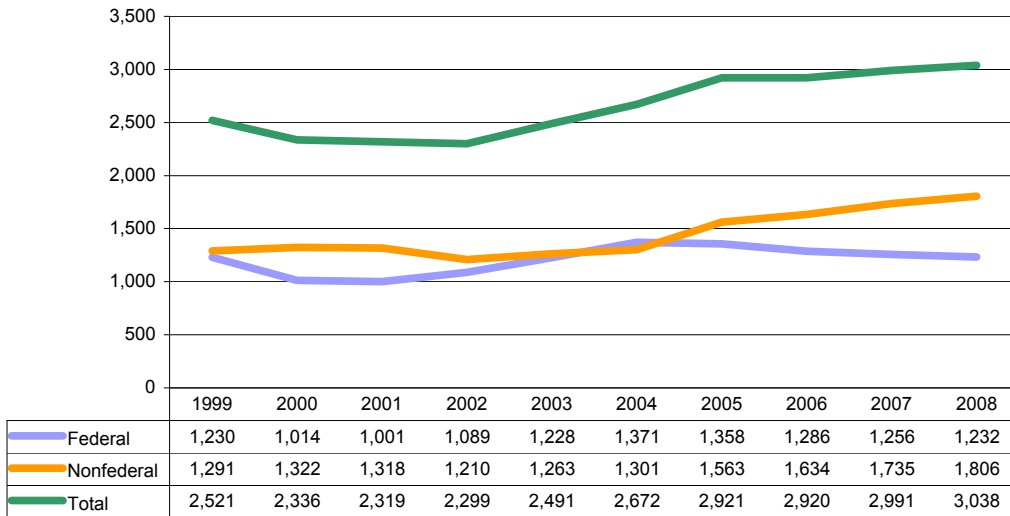


Research Contracts and Grants by Funding Source Overview - All Sponsors

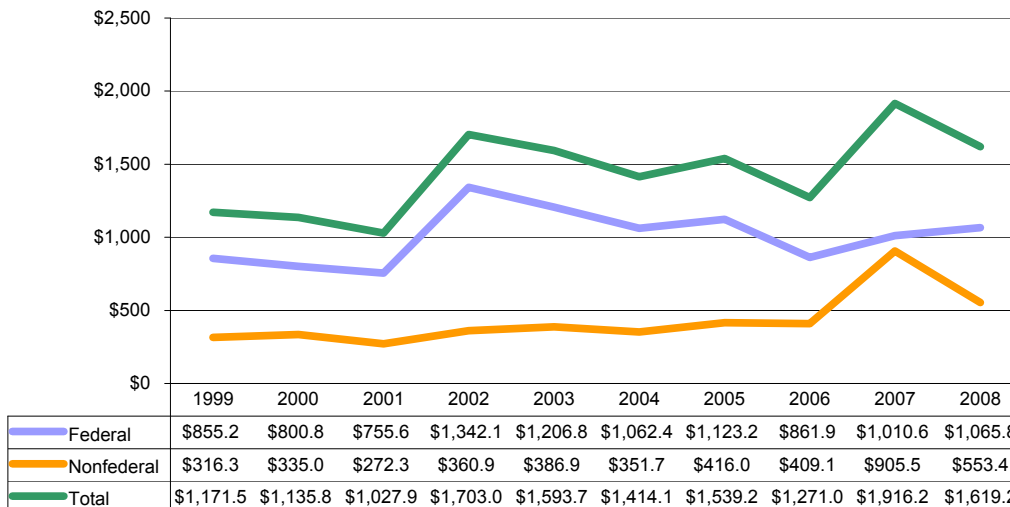
For the first time, federal funding was not the largest share of the campus' research portfolio. The Energy Biosciences Institute award from BP made industry the largest share (40 percent) of the total funding at \$384.5 million, followed by federal funding with \$322.6 million representing 34 percent of the \$956.6 million total.

Of the nonfederal funding, \$122 million came from non-profit sources. Of that, \$48.3 million was provided by other universities, a 57 percent increase from the prior year and an indication of an increase in multi-disciplinary collaborative research; \$78.5 million came from State of California sources; \$37.1 million came from the UC system (\$25.4 million from other UC campuses and \$11.7 million from system-wide funding programs); the remaining \$12.8 million was from foreign and other US governmental sources.

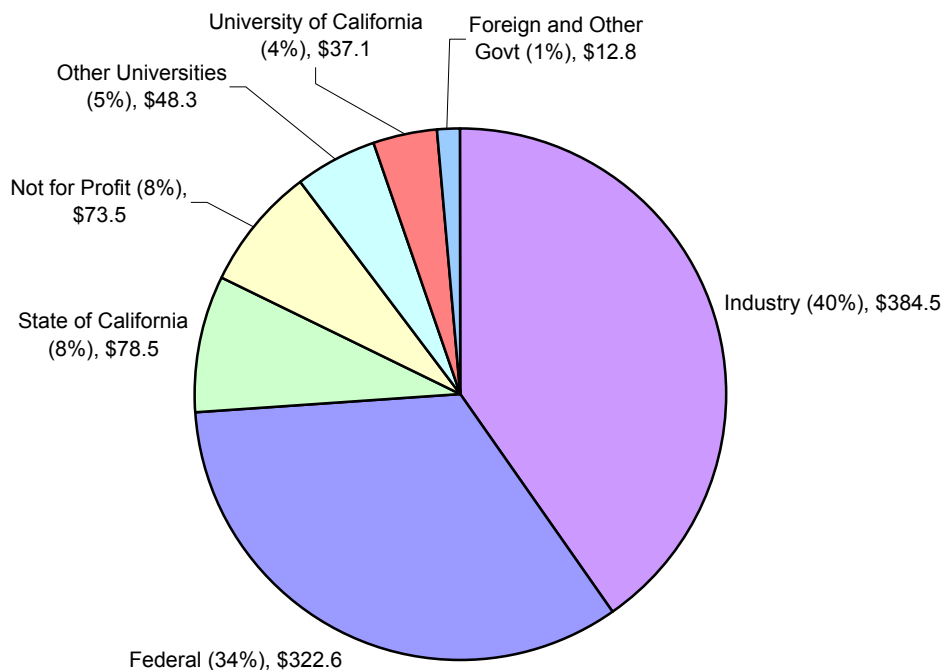
Number of Proposals Submitted by Sponsor Category, FY 1999 - 2008



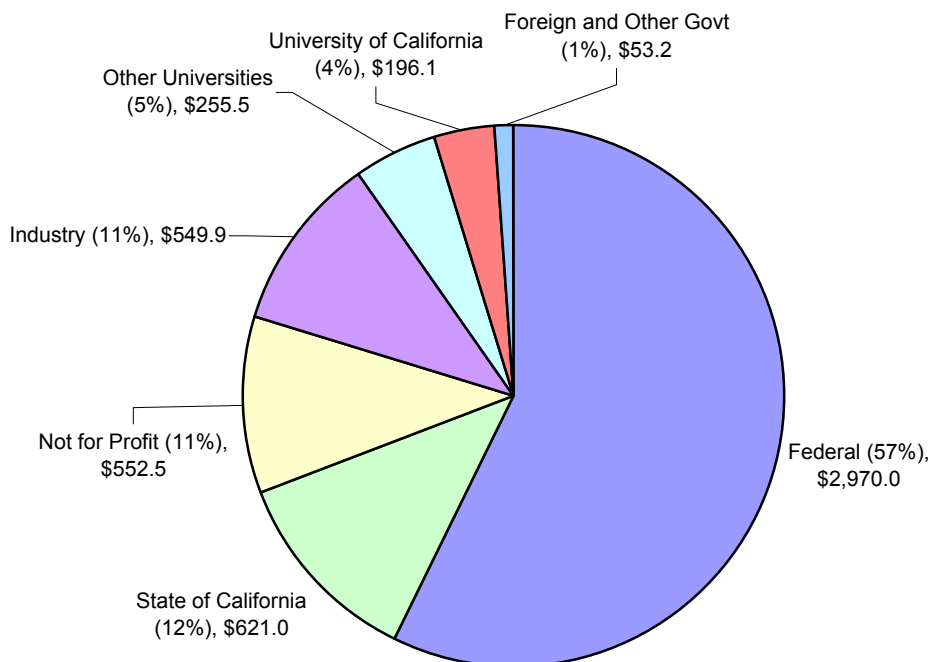
Funding Dollars Requested by Sponsor Category, FY 1999 - 2008 (dollars in millions)



**Fiscal Year 2008 Funding Dollars by Sponsor Category (\$956.6 million total)
(dollars in millions)**



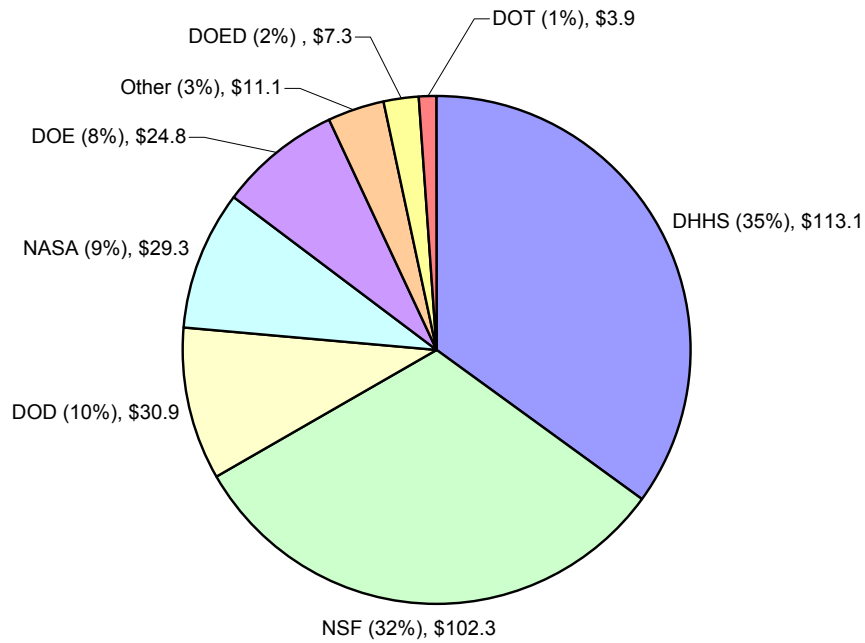
**Ten Year Funding Dollar Summary by Sponsor Category, FY 1999 - 2008
(dollars in millions)**



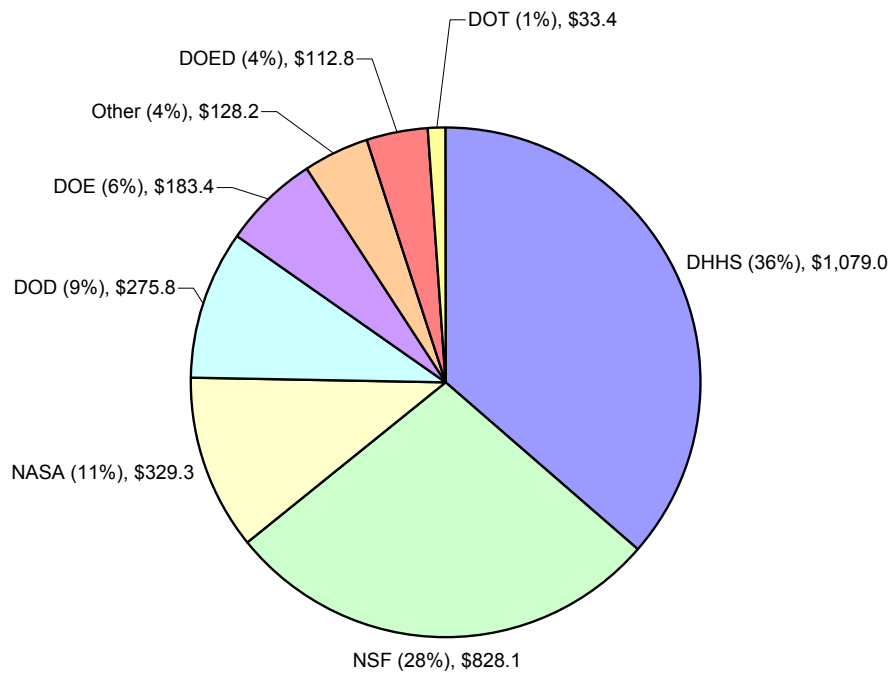
Research Contracts and Grants by Funding Source Federal Agencies

Funding from federal sources totaled \$322.6 million in FY 2008, a 15 percent increase from last year's \$282.3 million. DHHS provided 35 percent of that, with \$113.1 million in funding. NSF followed with \$102.3 million.

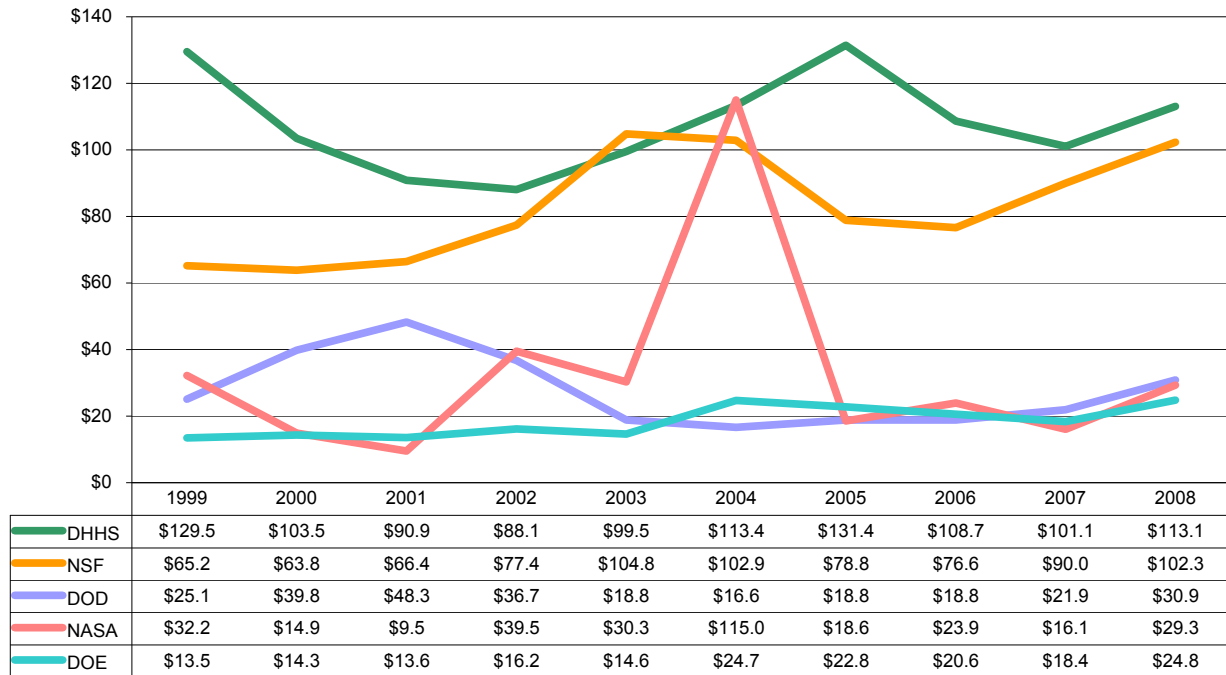
**Fiscal Year 2008 Funding Dollar Summary by Federal Sponsor
(dollars in millions)**



**Ten Year Funding Dollar Summary by Federal Sponsor, FY 1999 - 2008
(dollars in millions)**



Ten-Year Funding Dollar Summary for Top 5 Federal Sponsors, FY 1999 - 2008
(dollars in millions)

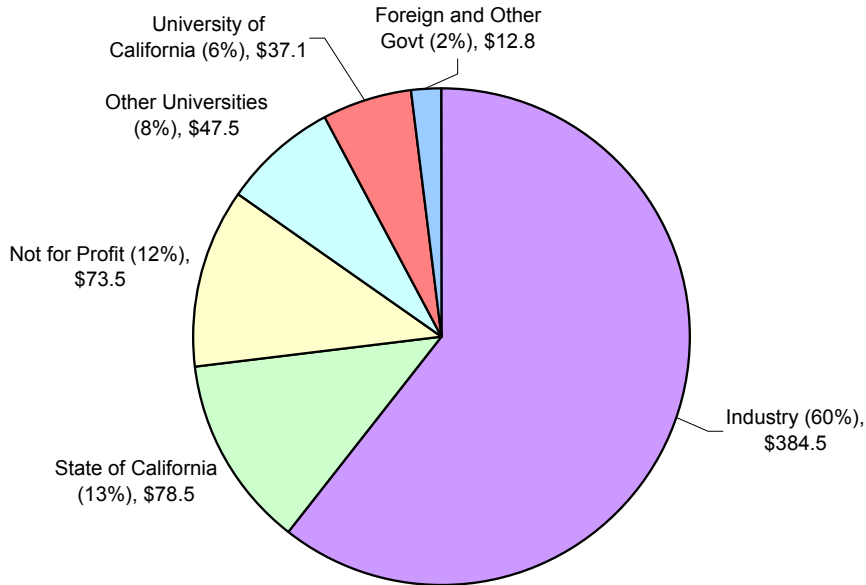


Research Contracts and Grants by Funding Source

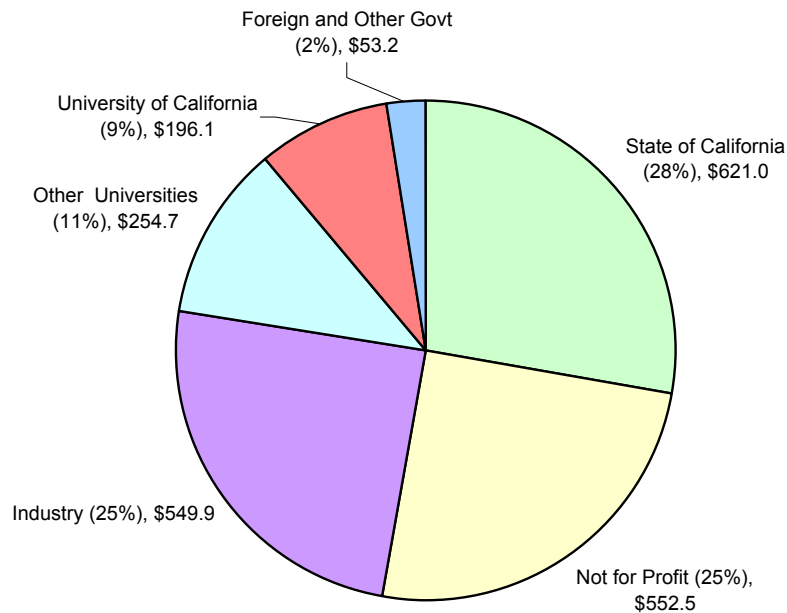
Nonfederal Agencies

Funding from nonfederal sources totaled \$634.4 million in FY 2008, up 286 percent from the \$221.7 million in received in FY 2007.

**Fiscal Year 2008 Funding Dollar Summary by Nonfederal Sponsor
(dollars in millions)**



**Ten Year Funding Dollar Summary by Nonfederal Sponsor, FY 1999 - 2008
(dollars in millions)**



Funding by Sponsor - Five-Year Funding Summary

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Federal					
Agriculture	\$6,399,110	\$3,899,912	\$7,884,103	\$3,754,302	\$3,781,047
Commerce	937,578	220,944	1,152,614	80,981	809,992
Defense	16,603,095	18,775,598	18,777,144	21,913,073	30,922,189
Education	22,434,196	3,794,473	14,105,286	22,902,566	7,312,265
Energy	7,221,650	13,035,140	9,111,091	9,065,929	4,197,711
Environmental Protection Agency	1,224,969	4,500,774	1,376,444	76,998	1,003,414
Health and Human Services	113,379,976	131,436,000	108,658,599	101,050,776	113,056,292
Interior	4,054,251	1,802,107	1,497,644	1,345,170	1,627,843
National Aeronautics and Space Administration	114,956,548	18,611,412	23,919,907	16,076,459	29,278,087
National Endowments for the Arts and Humanities, Institute of Museum and Library Services	1,434,833	1,288,782	744,744	2,114,073	1,547,996
National Science Foundation	102,872,226	78,839,417	76,605,884	89,959,672	102,286,247
Other	19,255,960	12,985,685	13,277,127	10,640,470	22,864,898
Transportation	4,026,273	2,706,030	2,839,219	3,329,328	3,865,672
Subtotal	414,800,665	291,896,274	279,949,806	282,309,797	322,553,653
Industry					
Foreign Industry	2,431,459	11,274,965	4,797,960	10,331,009	352,975,698
U.S. Industry	8,028,867	16,033,954	10,992,097	21,677,263	31,554,819
Subtotal	10,460,326	27,308,919	15,790,057	32,008,272	384,530,517
Nonfederal Governmental					
Foreign Government Agencies	1,137,508	2,330,092	2,052,874	3,816,745	3,006,848
Local Agencies and Schools	1,535,640	1,327,636	962,771	2,710,522	9,545,104
Other U.S. Government Agencies	356,536	(240,020)	509,138	229,108	240,969
State Agencies	52,198,384	65,230,539	85,838,545	64,394,770	78,505,619
Subtotal	55,228,068	68,648,247	89,363,328	71,151,145	91,298,540
Not for Profit					
Foreign Organizations	1,145,848	2,735,939	2,831,678	2,935,529	16,858,767
Other U.S. Organizations	32,605,246	20,206,528	6,822,290	22,025,646	15,855,643
U.S. Foundations and Charities	27,722,345	42,008,382	30,476,500	44,261,339	55,906,970
U.S. Institutes of Higher Education	26,939,762	20,119,711	22,220,748	26,368,727	32,405,088
Subtotal	88,413,201	85,070,560	62,351,216	95,591,241	121,026,468
University of California					
Subtotal	15,868,661	18,238,381	21,718,490	23,204,061	37,143,980
Total	\$584,770,921	\$491,162,381	\$469,172,897	\$504,264,516	\$956,553,158

Campus Control Units - Five-Year Funding Summary

Control Unit	Division	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Executive Vice Chancellor and Provost (EVCP)						
	BAM/PFA	\$2,826,036	\$897,906	\$867,613	\$619,337	\$797,501
	Cal Performances/SMA	1,128,250	1,686,460	714,057	288,500	1,324,500
	College of Natural Resources	36,949,533	35,992,371	27,080,059	30,820,872	31,063,361
	College of Chemistry	29,420,456	39,526,574	23,357,555	28,834,580	26,611,323
	College of Engineering	101,141,439	67,866,304	66,665,660	78,580,684	121,220,404
	College of Environmental Design	30,000	1,274,965	4,207,500	4,800,551	139,511
	Division of Undergraduate Education	1,769,060	367,028	2,264,364	1,794,528	2,617,393
	Executive Vice Chancellor and Provost	592,500	852,858	125,000	514,000	
	Goldman School of Public Policy	1,029,483	816,896	4,224,201	447,471	1,367,291
	Graduate Division	17,098,675	10,691,459	16,903,670	16,329,324	17,136,203
	Graduate School of Education	20,523,475	7,585,403	14,942,791	6,302,592	7,019,514
	Haas School of Business	120,000	470,937	74,700		24,000
	International and Area Studies	13,361,952	6,252,487	1,846,387	18,221,153	3,929,824
	School of Information	2,271,346	685,640	425,000	40,000	11,700
	School of Journalism	920,595	475,624	5,213,994	568,602	3,503,364
	School of Law	56,000	672,000	802,500	1,855,000	3,912,692
	School of Optometry	6,005,245	5,749,646	8,586,191	5,608,357	10,090,828
	School of Public Health	37,397,804	44,049,157	43,317,791	56,210,830	40,064,685
	School of Social Welfare	22,313,690	25,922,971	34,996,787	34,948,119	36,978,642
	The Library	2,090,882	2,181,004	1,952,362	2,088,861	1,871,780
	Vice Provost Academic Affairs and Faculty Welfare	6,541,589	6,060,300	5,655,544	12,475,917	15,448,639
	Vice Provost Academic Planning and Facilities	100,000	342,542	1,650,000	1,112,827	35,440
Subtotal		303,688,010	260,420,532	265,873,726	302,462,105	325,168,595
College of Letters and Science (L&S)						
	College of Letters and Science		1,668,000		1,000,000	
	Division of Arts and Humanities	875,323	923,743	883,044	3,134,281	983,113
	Division of Physical Sciences	14,437,482	18,026,352	20,275,756	20,948,673	50,929,750
	Division of Social Sciences	4,978,559	7,124,915	1,844,296	3,048,022	3,241,700
	Biological Sciences	47,857,384	70,771,144	34,068,825	39,606,540	42,033,924
	Undergraduate Division	72,538	54,112	178,079		2,051,347
Subtotal		68,221,286	98,568,266	57,250,000	67,737,516	99,239,834

Control Unit	Division	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Vice Chancellor - Administration						
	Associate VC - Business and Administrative Services	10,000	113,000	47,750		
	Associate VC - Health and Human Services	42,700	159,875	278,651	287,043	
	Intercollegiate Athletics Division	37,500	595,000			
	Public Safety					99,487
Subtotal		90,200	867,875	326,401	287,043	99,487
Vice Chancellor - Research						
	VC Administrative Units					2,084,720
	Other Research Units	20,433,546	31,927,812	35,998,482	38,086,036	59,370,220
	VC Research			2,447,970		5,512,500
	Museums and Field Stations	6,006,232	6,131,580	5,459,995	4,407,351	1,595,179
	Vice Chancellor for Research ORUs	172,996,471	85,726,188	93,009,356	80,415,176	447,825,735
Subtotal		199,436,249	123,785,580	136,915,803	122,908,563	516,388,354
Vice Chancellor - Student Affairs						
	Admissions and Enrollment	1,530,726	1,225,338	694,166	1,977,415	3,080,573
	Residential and Student Services Programs				30,000	
	Vice Chancellor - Student Affairs Division	11,040,252	5,995,735	8,112,801	8,861,874	11,068,323
Subtotal		12,570,978	7,221,073	8,806,967	10,869,289	14,148,896
Vice Chancellor for Equity and Inclusion						
	Office of Equity and Inclusion					800,000
Subtotal						800,000
Other						
	Capital Projects		287,055			
	Information Services & Technology	764,198	12,000			707,992
		764,198	299,055			707,992
Total		\$584,770,921	\$491,162,381	\$469,172,897	\$504,264,516	\$956,553,158

Largest Awards, Fiscal Year 2008

Mary Beth Burnside, Vice Chancellor for Research, "Energy Biosciences Institute," BP, \$350,000,000

Lorraine T. Midanik, School of Social Welfare, "Title IV-E Social Work Training Program," California Department of Social Services, \$27,611,522

Robert Tjian, Stem Cell Center, "UC Berkeley CIRM Center of Excellence," California Institute for Regenerative Medicine, \$20,183,500

Kevin Lesko, Physics, "Deep Underground Science and Engineering Laboratory (DUSEL) Site Selection and Technical Design Development," National Science Foundation, \$15,000,000

Kathleen Collins, Molecular and Cell Biology, "The Molecular Basis of Cell Function," National Institute of General Medical Sciences, \$8,814,601

Paulo J. Monteiro, College of Engineering, "Green Concrete and Sustainable Construction: A Multi-Scale Approach," King Abdullah University of Science and Technology, \$8,086,504

Mark D'Esposito, Helen Wills Neuroscience Institute, "Frontal Cortex and Executive Function," National Institute of Neurological Disorders and Stroke, \$6,656,180

Adrian Lee, Physics, "POLARBEAR: Ultra-High Energy Physics with Measurements of Cosmic Microwave Background Polarization," National Science Foundation, \$6,232,850

David A. Patterson, College of Engineering, "Parallel Laboratory," Microsoft Corporation, \$6,000,000

James Midgley, School of Social Welfare, "Mental Health Educational Stipend Program - Los Angeles County," Los Angeles County, \$5,818,340

Neil Davies, Vice Chancellor for Research, "Moorea Biocode Project," Gordon and Betty Moore Foundation, \$5,211,000

Stephen Morris Rappaport, School of Public Health, "Biological Response Indicators of Environmental Stress Centers," National Institute of Environmental Health Sciences, \$4,795,761

Kameshwar Poolla, College of Engineering, "IMPACT: Integrated Modeling, Process, and Computation for Technology," UC Discovery Grant, \$4,771,928

Randy W. Schekman, Molecular and Cell Biology, "Cellular and Whole Animal Imaging in Support of the Health Sciences Initiative," Gordon and Betty Moore Foundation, \$4,561,000

Leo Blitz, Radio Astronomy Laboratory, "Allen Telescope Array," The Paul G. Allen Family Foundation, \$4,000,000

Lisa F. Barcellos, School of Public Health, "The Identification of Risk Factors for the Complex MS Phenotype," National Institute of Allergy and Infectious Diseases, \$3,708,301

Arthur L. Reingold, School of Public Health, "UCB/UCSF AIDS International Training and Research Program (AITRP)," Fogarty International Center, \$3,696,632

John R. Balmes, School of Public Health, "Occupational Safety and Health Education and Research Centers," Centers for Disease Control and Prevention, \$3,450,200

Albert P. Pisano, College of Engineering, "King Abdullah University of Science and Technology Academic Excellence Alliance," King Abdullah University of Science and Technology, \$3,368,000

Tai Phan, Space Sciences Laboratory, "Coupled Observational-Theoretical Investigations of Magnetic Reconnection in Support of the MMS Mission Design, Operation, and Data Analysis," National Aeronautics and Space Administration, \$3,325,000

Kam-Biu Luk, Physics, "Purchase of Photomultiplier Tubes and a High Voltage Power Supply System for the Daya Bay Project," Lawrence Berkeley National Laboratory, \$3,285,074

Chenming Hu, College of Engineering, "Scalable Steep-Subthreshold-Slope Transistor Technology," Space and Naval Warfare Systems Command, \$3,275,000

Honors to Individual Faculty, Fiscal Year 2008

Mellon Foundation Distinguished Achievement Award

Thomas Laqueur, History

Shaw Prize in Astronomy

Reinhard Genzel, Physics

Gruber Cosmology Prize

Saul Perlmutter, Physics (shared with Brian Schmidt, Australian National University)

Kyoto Prize

Richard Karp, Electrical Engineering and Computer Sciences

Wolf Prize in Chemistry

Gabor Somorjai, Chemistry

National Institutes of Health New Innovator Award

Michael Rape, Molecular and Cell Biology

National Book Award (in Poetry)

Robert Hass, English

Pulitzer Prize (for Poetry)

Robert Hass, English

National Academy of Sciences

Michael Botchan, Molecular and Cell Biology

Jasper Rine, Molecular and Cell Biology

George Smoot, Physics

National Academy of Engineering

Enrique Iglesia, Chemical Engineering

Robert Sawyer, Mechanical Engineering

James Sethian, Mathematics

American Academy of Arts and Sciences

Ruzena Bajcsy, Electrical Engineering and Computer Sciences

John Kuriyan, Molecular and Cell Biology and Chemistry

James Powell, Economics

Jasper Rine, Molecular and Cell Biology

Yuri Slezkine, History

American Philosophical Society

Francesca Rochberg, Near Eastern Studies

Randy Schekman, Molecular and Cell Biology

The John D. and Catherine T. MacArthur Foundation MacArthur Fellow

Claire Kremen, Environmental Science, Policy, and Management

David and Lucile Packard Foundation Fellowship in Science and Engineering

Arash Komeili, Plant and Microbial Biology

Alfred P. Sloan Foundation Research Fellows

Maneesh Agrawala, Electrical Engineering and Computer Sciences
Diana Bautista, Molecular and Cell Biology
Raj Chetty, Economics
Stefano DellaVigna, Economics
Noureddine El Karoui, Statistics
Sanjit Seshia, Electrical Engineering and Computer Sciences
Yun Song, Electrical Engineering and Computer Sciences
Feng Wang, Physics

John Simon Guggenheim Memorial Foundation Fellows

Margaret Lavinia Anderson, History
Stanley Brandes, Anthropology
Giovanni Ferrari, Classics
Paolo Mancosu, Philosophy
Arthur Shimamura, Psychology
Kaja Silverman, Rhetoric and Film

American Association for the Advancement of Science

Robert Fischer, Plant and Microbial Biology
Stephen Hinshaw, Psychology
Nicholas Jewell, Biostatistics and Statistics
Judith Klinman, Chemistry
Mimi Koehl, Integrative Biology
Richard Norgaard, Energy and Resources Group and Agriculture and Resource Economics
Kevin Padian, Integrative Biology
David Patterson, Electrical Engineering and Computer Sciences
Thomas Powell, Integrative Biology
Randy Schekman, Molecular and Cell Biology

Howard Huges Medical Institute Investigators

Christopher Chang, Chemistry
Yang Dan, Molecular and Cell Biology
Abby Dernburg, Molecular and Cell Biology
Michael Eisen, Molecular and Cell Biology