

# **Harvard University**

**Report on Federal Awards in Accordance with  
OMB Circular A-133**

**June 30, 2014**

**EIN #042103580**

**Harvard University**  
**Report on Federal Awards in Accordance with OMB Circular A-133**  
**Index**  
**June 30, 2014**

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	<b>Page(s)</b>
<b>Part I - Financial Statements and Schedule of Expenditures of Federal Awards</b>	
Independent Auditor's Report .....	1-2
Financial Statements.....	3-6
Notes to the Financial Statements .....	7-32
Schedule of Expenditures of Federal Awards.....	33-77
Notes to the Schedule of Expenditures of Federal Awards .....	78-80
<b>Part II - Reports on Internal Control and Compliance</b>	
Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with <i>Government Auditing Standards</i> .....	81-82
Independent Auditor's Report on Compliance with Requirements That Could Have a Direct and Material Effect on Each Major Program and on Internal Control Over Compliance in Accordance with OMB Circular A-133.....	83-85
<b>Part III - Findings</b>	
Schedule of Findings and Questioned Costs.....	86-90
Summary of Status of Prior Audit Findings .....	91-93
Management's Views and Corrective Action Plan .....	94

**Part I**  
**Financial Statements and**  
**Schedule of Expenditures of Federal Awards**



## **Independent Auditor's Report**

To the Board of Overseers of Harvard College:

### **Report on the Consolidated Financial Statements**

We have audited the accompanying consolidated financial statements of Harvard University (the "University"), which comprise the consolidated balance sheet as of June 30, 2014, and the related consolidated statements of changes in net assets with general operating account detail, changes in net assets of the endowment and cash flows for the year then ended, and the related notes to the financial statements.

### ***Management's Responsibility for the Consolidated Financial Statements***

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

### ***Auditor's Responsibility***

Our responsibility is to express an opinion on the consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the University's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



***Opinion***

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the University at June 30, 2014, and the changes in its net assets and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

***Other Matters***

We have previously audited the University's 2013 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated November 8, 2013. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2013 is consistent, in all material respects, with the audited financial statements from which it has been derived.

***Other Information***

Our audit was conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The accompanying schedule of expenditures of federal awards for the year ended June 30, 2014 is presented for purposes of additional analysis as required by Office of Management and Budget Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations* and is not a required part of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated, in all material respects, in relation to the consolidated financial statements as a whole.

***Other Reporting Required by Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated November 7, 2014 on our consideration of the University's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the University's internal control over financial reporting and compliance.

A handwritten signature in cursive script that reads "PricewaterhouseCoopers LLP".

November 7, 2014

## BALANCE SHEETS

with summarized financial information as of June 30, 2013

In thousands of dollars	June 30	
	2014	2013
<b>ASSETS:</b>		
Cash	\$ 87,704	\$ 63,399
Receivables, net (Note 6)	246,482	226,150
Prepayments and deferred charges	151,533	158,655
Notes receivable, net (Note 7)	376,476	365,626
Pledges receivable, net (Note 8)	1,590,758	1,236,091
Fixed assets, net (Note 9)	5,986,605	5,793,371
Interests in trusts held by others (Note 4)	376,526	352,069
Investment portfolio, at fair value (Notes 3 and 4)	53,308,477	52,805,403
Securities pledged to counterparties, at fair value (Notes 3 and 4)	7,685,852	13,209,043
<b>TOTAL ASSETS</b>	<b>69,810,413</b>	<b>74,209,807</b>
<b>LIABILITIES:</b>		
Accounts payable	316,699	324,524
Deposits and other liabilities	743,120	705,187
Securities lending and other liabilities associated with the investment portfolio (Notes 3, 4 and 12)	17,608,530	26,895,350
Liabilities due under split interest agreements (Note 11)	758,991	717,325
Bonds and notes payable (Note 12)	5,619,190	5,688,007
Accrued retirement obligations (Note 13)	837,361	753,957
Government loan advances (Note 7)	68,863	68,249
<b>TOTAL LIABILITIES</b>	<b>25,952,754</b>	<b>35,152,599</b>
<b>NET ASSETS</b> , attributable to non-controlling interests in the pooled general investment account (Notes 3 and 4)	<b>646,429</b>	<b>453,940</b>
<b>NET ASSETS</b> , attributable to the University	<b>43,211,230</b>	<b>38,603,268</b>
<b>TOTAL LIABILITIES AND NET ASSETS</b>	<b>\$ 69,810,413</b>	<b>\$ 74,209,807</b>

	Unrestricted	Temporarily restricted	Permanently restricted	June 30	
				2014	2013
NET ASSETS, attributable to the University:					
General Operating Account (Note 10)	\$ 3,798,756	\$ 2,267,223	\$ 97,198	\$ 6,163,177	\$ 5,344,755
Endowment (Note 10)	6,144,514	23,628,147	6,656,595	36,429,256	32,689,489
Split interest agreements (Note 11)		85,768	533,029	618,797	569,024
<b>TOTAL NET ASSETS</b> , attributable to the University	<b>\$ 9,943,270</b>	<b>\$ 25,981,138</b>	<b>\$ 7,286,822</b>	<b>\$ 43,211,230</b>	<b>\$ 38,603,268</b>

The accompanying notes are an integral part of the financial statements.

## STATEMENTS OF CHANGES IN NET ASSETS WITH GENERAL OPERATING ACCOUNT DETAIL

with summarized financial information for the year ended June 30, 2013

In thousands of dollars	Unrestricted	Temporarily restricted	Permanently restricted	For the year ended June 30	
				2014	2013
<b>OPERATING REVENUE:</b>					
Student income:					
Undergraduate program	\$ 282,661			\$ 282,661	\$ 269,431
Graduate and professional degree programs	479,678			479,678	456,407
Board and lodging	166,638			166,638	160,649
Continuing education and executive programs	321,584			321,584	290,760
Scholarships applied to student income (Notes 2 and 14)	(372,917)			(372,917)	(359,456)
Total student income	877,644	0	0	877,644	817,791
Sponsored support (Notes 2 and 15):					
Federal government - direct costs	446,270			446,270	467,145
Federal government - indirect costs	164,310			164,310	173,846
Non-federal sponsors - direct costs	68,447	\$ 108,973		177,420	165,228
Non-federal sponsors - indirect costs	21,636	9,577		31,213	26,156
Total sponsored support	700,663	118,550	0	819,213	832,375
Gifts for current use (Note 16)	145,101	274,070		419,171	338,535
Investment income:					
Endowment returns made available for operations (Note 10)	279,450	1,260,012		1,539,462	1,499,412
GOA returns made available for operations	133,820			133,820	134,170
Other investment income	9,995	7,976		17,971	17,782
Total investment income	423,265	1,267,988	0	1,691,253	1,651,364
Other income (Note 17)	601,384			601,384	565,293
Net assets released from restrictions	1,650,254	(1,650,254)		0	0
<b>TOTAL OPERATING REVENUE</b>	<b>4,398,311</b>	<b>10,354</b>	<b>0</b>	<b>4,408,665</b>	<b>4,205,358</b>
<b>OPERATING EXPENSES:</b>					
Salaries and wages	1,640,390			1,640,390	1,553,096
Employee benefits (Note 13)	529,840			529,840	506,570
Services purchased	485,844			485,844	465,522
Space and occupancy	306,939			306,939	331,264
Depreciation (Note 9)	307,614			307,614	293,106
Interest (Note 12)	253,032			253,032	267,634
Supplies and equipment	248,151			248,151	234,301
Scholarships and other student awards (Notes 2 and 14)	129,974			129,974	127,054
Other expenses (Note 18)	504,213			504,213	460,518
<b>TOTAL OPERATING EXPENSES</b>	<b>4,405,997</b>	<b>0</b>	<b>0</b>	<b>4,405,997</b>	<b>4,239,065</b>
<b>NET OPERATING SURPLUS/(DEFICIT)</b>	<b>(7,686)</b>	<b>10,354</b>	<b>0</b>	<b>2,668</b>	<b>(33,707)</b>
<b>NON-OPERATING ACTIVITIES:</b>					
Income from GOA investments	26,555			26,555	11,762
Realized and unrealized appreciation net (Note 3)	471,332			471,332	372,591
GOA returns made available for operations	(133,820)			(133,820)	(134,170)
Change in pledge balances (Note 8)		164,218		164,218	281,400
Change in interests in trusts held by others		(2,956)		(2,956)	1,388
Capital gifts for facilities and loan funds (Note 16)		91,704	\$ 336	92,040	88,217
Change in retirement obligations (Note 13)	2,762			2,762	389,845
Gain from discontinued operations (Note 2)	10,500			10,500	24,891
Other changes	613			613	(88,616)
Transfers between GOA and endowment (Note 10)	89,537	84,525	(6,674)	167,388	123,921
Transfers between GOA and split interest agreements (Note 11)		17,096	26	17,122	18,720
Non-operating net assets released from restrictions	52,120	(58,660)	6,540	0	0
<b>TOTAL NON-OPERATING ACTIVITIES</b>	<b>519,599</b>	<b>295,927</b>	<b>228</b>	<b>815,754</b>	<b>1,089,949</b>
<b>GENERAL OPERATING ACCOUNT NET CHANGE DURING THE YEAR</b>	<b>511,913</b>	<b>306,281</b>	<b>228</b>	<b>818,422</b>	<b>1,056,242</b>
Endowment net change during the year	535,497	2,477,909	726,361	3,739,767	1,943,955
Split interest agreement net change during the year (Note 11)		8,350	41,423	49,773	18,776
<b>NET CHANGE DURING THE YEAR, attributable to the University</b>	<b>1,047,410</b>	<b>2,792,540</b>	<b>768,012</b>	<b>4,607,962</b>	<b>3,018,973</b>
<b>NET CHANGE IN NET ASSETS, attributable to non-controlling interests in the pooled general investment account</b>					
	192,489			192,489	(616,196)
<b>NET CHANGE DURING THE YEAR</b>	<b>1,239,899</b>	<b>2,792,540</b>	<b>768,012</b>	<b>4,800,451</b>	<b>2,402,777</b>
Net assets, beginning of year	9,349,800	23,188,598	6,518,810	39,057,208	36,654,431
<b>NET ASSETS, end of year</b>	<b>\$ 10,589,699</b>	<b>\$ 25,981,138</b>	<b>\$ 7,286,822</b>	<b>\$ 43,857,659</b>	<b>\$ 39,057,208</b>

The accompanying notes are an integral part of the financial statements.

## STATEMENTS OF CHANGES IN NET ASSETS OF THE ENDOWMENT

with summarized financial information for the year ended June 30, 2013

In thousands of dollars	Unrestricted	Temporarily restricted	Permanently restricted	For the year ended	
				June 30	
				2014	2013
Investment return (Note 3):					
Income from general investments	\$ 42,575	\$ 197,498		\$ 240,073	\$ 98,874
Realized and unrealized appreciation, net	830,892	3,617,985		4,448,877	3,168,414
Total investment return	873,467	3,815,483	0	4,688,950	3,267,288
Endowment returns made available for operations	(279,450)	(1,260,012)		(1,539,462)	(1,499,412)
Net investment return	594,017	2,555,471	0	3,149,488	1,767,876
Gifts for capital (Note 16)	2,037	68,314	\$ 442,502	512,853	222,686
Transfers between endowment and the COA (Note 10)	(89,537)	(84,525)	6,674	(167,388)	(123,921)
Capitalization of split interest agreements (Note 11)		5,905	26,879	32,784	44,794
Change in pledge balances (Note 8)		17,536	172,833	190,369	45,037
Change in interests in trusts held by others (Note 10)		(3,038)	30,451	27,413	6,883
Other changes	(1,444)	(56,914)	52,606	(5,752)	(19,400)
Net assets released from restrictions	30,424	(24,840)	(5,584)	0	0
<b>NET CHANGE DURING THE YEAR</b>	<b>535,497</b>	<b>2,477,909</b>	<b>726,361</b>	<b>3,739,767</b>	<b>1,943,955</b>
Net assets of the endowment, beginning of year	5,609,017	21,150,238	5,930,234	32,689,489	30,745,534
<b>NET ASSETS OF THE ENDOWMENT, end of year</b>	<b>\$ 6,144,514</b>	<b>\$ 23,628,147</b>	<b>\$ 6,656,595</b>	<b>\$ 36,429,256</b>	<b>\$ 32,689,489</b>

The accompanying notes are an integral part of the financial statements.



## STATEMENTS OF CASH FLOWS

<i>In thousands of dollars</i>	For the year ended	
	2014	2013
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Change in net assets	\$ 4,800,451	\$ 2,402,777
Adjustments to reconcile change in net assets to net cash used in operating activities:		
Change in non-controlling interests in the pooled general investment account	(192,489)	616,196
Depreciation	307,614	293,106
Realized and unrealized (gain) on investments, net	(5,063,953)	(3,628,851)
Change in fair value of interest rate exchange agreements	1,941	(30,574)
Payments to terminate swaps		(345,280)
Change in interests in trusts held by others	(24,457)	(8,271)
Change in liabilities due under split interest agreements	41,666	47,083
Gifts of donated securities	(94,671)	(108,058)
Proceeds from sale of unrestricted donated securities	19,527	10,379
Gifts of donated securities in other investments	(142,900)	
Gifts restricted for capital purposes	(398,444)	(262,814)
Loss on redemption of debt		75,088
Loss on disposal of assets	54,121	36,181
Write-off of assets and liabilities related to discontinued operations		(7,340)
Net gain on sale of property related to discontinued operations	(10,500)	(22,923)
Change in accrued retirement obligations	83,404	(302,058)
Changes in operating assets and liabilities:		
Receivables, net	(20,332)	1,251
Prepayments and deferred charges	7,122	12,371
Pledges receivable, net	(354,667)	(327,533)
Accounts payable	4,341	10,751
Deposits and other liabilities	37,933	56,291
<b>NET CASH USED IN OPERATING ACTIVITIES</b>	<b>(944,293)</b>	<b>(1,482,228)</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Loans made to students, faculty, and staff	(54,189)	(47,669)
Payments received on student, faculty, and staff loans	42,812	43,950
Change in other notes receivable	527	1,659
Proceeds from the sales and maturities of investments	78,870,001	81,084,646
Purchases of investments	(76,388,470)	(81,065,595)
Change in repurchase agreements	(50,902)	238,358
Additions to fixed assets	(557,878)	(463,715)
Proceeds from sale of property related to discontinued operations	10,500	167,732
<b>NET CASH PROVIDED BY/(USED IN) INVESTING ACTIVITIES</b>	<b>1,872,401</b>	<b>(40,634)</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>		
Change in overdrafts included in accounts payable	(9,257)	9,656
Proceeds from the issuance of debt	459	402,904
Debt repayments	(69,276)	(829,124)
Proceeds from sale of restricted donated securities	75,144	97,679
Gifts restricted for capital purposes	398,444	262,814
Non-controlling interests in the pooled general investment account contributions and distributions, net	81,482	45,888
Change in trade-related repurchase and reverse repurchase agreements	(1,381,413)	1,440,151
Change in government loan advances	614	1,205
<b>NET CASH (USED IN)/PROVIDED BY FINANCING ACTIVITIES</b>	<b>(903,803)</b>	<b>1,431,173</b>
<b>NET CHANGE IN CASH</b>	<b>24,305</b>	<b>(91,689)</b>
Cash, beginning of year	63,399	155,088
<b>CASH, end of year</b>	<b>\$ 87,704</b>	<b>\$ 63,399</b>
<b>Supplemental disclosure of cash flow information:</b>		
Accounts payable related to fixed asset additions	\$ 61,015	\$ 63,924
Cash paid for interest	\$ 256,613	\$ 280,134

The accompanying notes are an integral part of the financial statements.

## 1. UNIVERSITY ORGANIZATION

Harvard University (the “University”) is a private, not-for-profit institution of higher education with approximately 7,290 undergraduate and 13,980 graduate students. Established in 1636, the University includes the Faculty of Arts and Sciences, the School of Engineering and Applied Sciences, the Division of Continuing Education, ten graduate and professional Schools, the Radcliffe Institute for Advanced Study, a variety of research museums and institutes, and an extensive library system to support the teaching and research activities of the Harvard community. The President and Fellows of Harvard College (the “Corporation”), a governing

board of the University, has oversight responsibility for all of the University’s financial affairs. The Corporation delegates substantial authority to the Schools and departments for the management of their resources and operations.

The University includes Harvard Management Company (HMC), a wholly owned subsidiary founded in 1974 to manage the University’s investment assets. HMC is governed by a Board of Directors that is appointed by the Corporation.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

### Basis of presentation

The consolidated financial statements present the activities of Harvard University as a whole, including significant affiliated organizations controlled by the University.

Funds transferred to the University on behalf of specific beneficiaries (agency funds) are recorded as assets and liabilities in the *Balance Sheets* and are not included in the *Statement of Changes in Net Assets with General Operating Account Detail*.

The financial statements include certain prior year summarized comparative information in total, not by net asset classification. This information is not presented in sufficient detail to conform with generally accepted accounting principles (GAAP). Accordingly, such information should be read in conjunction with the University’s financial statements for the year ended June 30, 2013, from which the summarized information is derived.

Within the prior year *Statement of Changes in Net Assets with General Operating Account Detail*, “Federal government – direct costs” revenue has been reduced by \$12.3 million, “Scholarships and other student awards” has been reduced by \$9.3 million, and “Scholarships applied to student income” has been reduced by \$3.0 million in order to correctly exclude the effect of certain agency funds which were improperly included in the prior year. There is no impact to the prior year operating deficit as a result of these immaterial changes.

The prior year *Statement of Cash Flows* has been adjusted for immaterial items to present operating repurchase agreements within “Change in repurchase agreements” in “Investing activities.” As a result, there was a \$95.1 million reclassification from “Proceeds from the sales and maturities of investments” to “Change in repurchase agreements” within “Investing activities.” Additionally, there was a revision to correctly present \$143.2 million from “Change in trade-related repurchase and reverse repurchase agreements” within “Financing activities” to “Change in repurchase agreements” within “Investing activities.” This was immaterial to the prior year and current year consolidated financial statements.

### Discontinued operations

In fiscal years 2014 and 2013, the University sold properties from which proceeds were \$10.5 million and \$167.7 million for 2014 and 2013, respectively. These sales resulted in gains of \$10.5 million and \$24.9 million, respectively. These gains are classified as “Gain from discontinued operations” in the non-operating section of the accompanying *Statement of Changes in Net Assets with General Operating Account Detail*.

### Net asset classifications

For the purposes of financial reporting, the University classifies resources into three net asset categories pursuant to any donor-imposed restrictions and applicable law. Accordingly, the net assets of the University are classified in the accompanying financial statements in the categories that follow:

**UNRESTRICTED** net assets are not subject to donor-imposed restrictions. Funds invested in fixed assets and unrestricted endowment funds comprise 88% of the University’s unrestricted net assets as of June 30, 2014. In addition, this category includes unrestricted gifts and endowment income balances, University-designated loan funds, and other unrestricted current funds.

**TEMPORARILY RESTRICTED** net assets are subject to legal or donor-imposed stipulations that will be satisfied either by actions of the University, the passage of time, or both. These net assets include gifts donated for a particular purpose, amounts subject to time restrictions such as funds pledged for future payment, or amounts subject to legal restrictions such as portions of otherwise unrestricted capital appreciation and income, which must be reported as temporarily restricted net assets until appropriated for spending in accordance with Massachusetts law.

**PERMANENTLY RESTRICTED** net assets are subject to donor-imposed stipulations that they be invested to provide a perpetual source of income to the University. Generally, donors of these assets require the University to maintain and invest the original contribution in perpetuity, but permit the use of some or all investment returns for general or specific purposes.

Revenues from sources other than contributions are generally reported as increases in unrestricted net assets. Expenses are reported as decreases in unrestricted net assets. Gains and losses on investments are reported as increases or decreases in unrestricted net assets, unless their use is restricted by donor stipulations or by law. Investment returns earned by restricted donor funds are initially classified as temporarily restricted net assets and then reclassified to unrestricted net assets when expenses are incurred for their intended purpose. Expirations of temporary restrictions on net assets are reported as reclassifications from temporarily restricted to unrestricted net assets and appear as “Net assets released from restrictions” and “Non-operating net assets released from restrictions” in the *Statements of Changes in Net Assets*.

Unconditional pledges are reported as increases in the appropriate categories of net assets in accordance with donor restrictions.

### **Net operating surplus/(deficit)**

Revenues earned, expenses incurred, payments on current use pledges, and returns made available for operations for the purpose of teaching, conducting research, and the other programs and activities of the University are the components of “Net operating surplus/(deficit)” in the *Statements of Changes in Net Assets with General Operating Account Detail*.

### **Collections**

The University’s vast array of museums and libraries house priceless works of art, historical treasures, literary works, and artifacts. These collections are protected and preserved for public exhibition, education, research, and the furtherance of public service. They are neither disposed of for financial gain nor encumbered in any manner. Accordingly, such collections are not recorded for financial statement purposes.

### **Insurance programs**

The University, together with the Harvard-affiliated teaching hospitals, participates in a group captive insurance company, Controlled Risk Insurance Company (CRICO), to secure limited professional liability, general liability, and medical malpractice insurance for its member shareholders. The University self-insures a portion of its professional liability, including those related to Harvard Medical School activities occurring away from the affiliated teaching hospitals, and general liability programs for which it maintains a reserve for incurred claims. The CRICO provided malpractice coverage applies with no deductible for medical professionals practicing within Harvard’s University Health Services department, the School of Dental Medicine, and the School of Public Health. The University also maintains reserves for the self-insured portion of claims related to automobile liability, property damage, and workers’ compensation; these programs are supplemented with commercial excess insurance above the University’s self-insured retention. In addition, the University is self-insured for unemployment, the primary

retiree health plan, and all health and dental plans for active employees. The University’s claims liabilities are recognized as incurred, including estimated claims that have been incurred but not reported, and are included in operating expenses.

### **Tax-exempt status**

The University is a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code.

### **Use of estimates**

The preparation of financial statements in accordance with GAAP in the United States of America requires management to make estimates and assumptions that affect reported amounts and disclosures. Actual results could differ from those estimates.

### **New accounting pronouncements**

Effective July 1, 2013, the University adopted ASU 2012-05, *Not-for-Profit Entities: Classification of the Sale Proceeds of Donated Financial Assets in the Statement of Cash Flows*. ASU 2012-05 defines the appropriate financial reporting for the proceeds from donated securities in the *Statements of Cash Flows*. Proceeds from donated securities with no donor-imposed restrictions are included in the operating section of the statement, while proceeds from donated securities with donor-imposed long-term restrictions are included in the financing section. The effect of adopting ASU 2012-05 resulted in the movement of “Proceeds from the sales of gifts of securities” from “Investing Activities” to “Operating Activities” and “Financing Activities” based upon whether they were deemed to be proceeds from the sale of securities restricted for long-term purposes or not.

During 2013, the University adopted ASU No. 2013-01, *Balance Sheet (Topic 210): Clarifying the Scope of Disclosures About Offsetting Assets and Liabilities*. The new ASU explains that the 2011 standard, ASU 2011-11, *Balance Sheet (Topic 210): Disclosures About Offsetting Assets and Liabilities*, applies to the following when they are offset in accordance with FASB criteria or subject to a master netting arrangement or similar agreement: derivatives, repurchase and reverse repurchase agreements and securities borrowing and lending transactions. The new disclosures associated with this clarification are included in *Notes 3 and 5*.

Effective July 1, 2012, the University adopted ASU 2011-4, *Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRS*. ASU 2011-4 aids entities in measuring fair value, as well as provides guidelines for additional quantitative and qualitative disclosures for instruments categorized within Level 3 of the FASB’s fair value hierarchy. The effects of adopting this amendment are addressed in *Note 4*.

### 3. INVESTMENTS

Investments are presented at fair value in accordance with GAAP. The University's investment valuation policies and procedures are discussed in detail in *Note 4*.

Cash and short-term investments are recorded at cost, which approximates fair value, and include cash in bank accounts, institutional money market funds, and other temporary investments held for working capital purposes with maturities of three months or less. Cash and short-term investments do not include cash balances held as collateral by the University. Cash and short-term investment balances designated for investment purposes are included in the "Investment portfolio, at fair value" in the *Balance Sheets*.

Dividend income is recognized net of applicable withholding taxes on the ex-dividend date. Non-cash dividends are recorded at the fair value of the securities received. Interest income and expenses are recorded net of applicable withholding taxes on the accrual basis of accounting. The University amortizes bond premiums and accretes bond discounts using the effective yield method and when cash collection is expected.

The University utilizes a number of wholly owned subsidiary entities to support its investment activities. The consolidated financial statements include all assets, liabilities, income,

and expenses associated with these entities. All intercompany accounts and transactions have been eliminated during consolidation.

The University separately reports the fair value of assets for which counterparties have the right to pledge or exchange the collateral they have received; investment portfolio assets that are unencumbered are included in "Investment portfolio, at fair value" in the *Balance Sheets*.

The majority of the University's investments are managed by HMC in the GIA, a pooled fund that consists primarily of endowment assets. Certain other investments are managed separately from the GIA. These other investments consist primarily of cash, short-term investments, and fixed income securities (principally US government securities) held for the University's working capital and liquidity needs; publicly traded securities associated with split interest agreements; and public and private investments donated to the University.

The University's investment holdings as of June 30, 2014 and 2013 are summarized in the following table (in thousands of dollars):

	2014	2013
Investment portfolio, at fair value:		
Pooled general investment account assets <sup>1</sup>	\$ 57,854,135	\$ 63,746,348
Other investments <sup>2</sup>	3,140,194	2,268,098
Investment assets <sup>3</sup>	<b>60,994,329</b>	66,014,446
Pooled general investment account liabilities	<b>17,600,550</b>	26,889,311
Interest rate exchange agreements	7,980	6,039
Investment liabilities	<b>17,608,530</b>	26,895,350
<b>TOTAL INVESTMENTS</b>	<b>43,385,799</b>	<b>39,119,096</b>
Non-controlling interests attributable to the pooled general investment account	<b>646,429</b>	453,940
<b>TOTAL INVESTMENTS, NET</b>	<b>\$ 42,739,370</b>	<b>\$ 38,665,156</b>

<sup>1</sup> Includes securities pledged to counterparties of \$7,685,852 and \$13,209,043 at June 30, 2014 and 2013, respectively.

<sup>2</sup> Consists primarily of repurchase agreements and US government securities of \$1,953,994 and \$1,365,059 at June 30, 2014 and 2013, respectively.

<sup>3</sup> Investment holdings include cash and cash equivalents that consist principally of deposits that have maturities of 90 days or less. Cash and cash equivalents classified as investments were \$656,577 and \$598,083 at June 30, 2014 and 2013, respectively.

A summary of the University's total return on investments for fiscal 2014 and 2013 is presented below (in thousands of dollars):

	2014	2013
Return on pooled general investment account:		
Realized and change in unrealized appreciation, net	\$ 5,025,864	\$ 3,577,635
Net investment income	271,731	112,974
Total return on pooled general investment account <sup>1</sup>	<b>5,297,595</b>	3,690,609
Return on other investments:		
Realized and change in unrealized appreciation, net	38,089	51,216
Net investment income	28,540	30,131
Total return on other investments	<b>66,629</b>	81,347
Realized and change in unrealized appreciation/(depreciation) on interest rate exchange agreements, net	(5,798)	9,067
<b>TOTAL RETURN ON INVESTMENTS</b>	<b>\$ 5,358,426</b>	<b>\$ 3,781,023</b>

<sup>1</sup> Net of all internal and external management fees and expenses.

The University's investment strategy incorporates a diversified asset allocation approach and maintains, within defined limits, exposure to the movements of the global equity, fixed income, real estate, commodities, and private equity markets. The pooled GIA assets and liabilities below have been disaggregated based on the exposure of the investment to these markets. Exposure to each asset class is achieved

through investments in individual securities, direct investments in special purpose vehicles, and/or through vehicles advised by external managers.

The pooled GIA assets and liabilities as of June 30, 2014 and 2013 are summarized as follows (in thousands of dollars):

	2014	2013
<b>POOLED GENERAL INVESTMENT ACCOUNT ASSETS:</b>		
Investment assets:		
Domestic common and convertible equity	\$ 5,592,535	\$ 5,051,705
Foreign common and convertible equity	2,627,127	1,985,000
Domestic fixed income	6,509,373	5,694,840
Foreign fixed income	3,404,440	7,770,908
Emerging market equity and debt	3,337,388	2,658,377
High yield	785,001	1,477,559
Absolute return	5,632,820	5,114,051
Private equities	7,367,183	7,271,038
Natural resources	4,709,950	3,978,822
Real estate	7,099,602	5,948,080
Inflation-indexed bonds	719,239	749,993
Due from brokers <sup>1</sup>	667,983	649,557
Total investment assets	48,452,641	48,349,930
Repurchase agreements <sup>2</sup>	7,215,852	13,031,450
Cash and short-term investments	520,060	457,185
Other assets <sup>3</sup>	1,665,582	1,907,783
<b>POOLED GENERAL INVESTMENT ACCOUNT ASSETS</b>	<b>57,854,135</b>	<b>63,746,348</b>
<b>POOLED GENERAL INVESTMENT ACCOUNT LIABILITIES:</b>		
Investment liabilities:		
Equity and convertible securities sold, not yet purchased	294,049	260,056
Fixed income securities sold, not yet purchased	5,520,809	9,059,758
Due to brokers <sup>4</sup>	168,901	264,471
Total investment liabilities	5,983,759	9,584,285
Reverse repurchase agreements <sup>5</sup>	7,800,215	14,908,324
Other liabilities <sup>6</sup>	3,816,576	2,396,702
<b>POOLED GENERAL INVESTMENT ACCOUNT LIABILITIES</b>	<b>17,600,550</b>	<b>26,889,311</b>
Non-controlling interests attributable to the pooled general investment account	646,429	453,940
<b>POOLED GENERAL INVESTMENT ACCOUNT NET ASSETS<sup>7</sup></b>	<b>\$ 39,607,156</b>	<b>\$ 36,403,097</b>

<sup>1</sup> Includes collateral advanced under securities borrowing agreements of \$336,123 and \$334,053 as of June 30, 2014 and 2013, respectively.

<sup>2</sup> Includes pending repurchase agreements that settled subsequent to the balance sheet date of \$383,955 and \$3,067,037 as of June 30, 2014 and 2013, respectively.

<sup>3</sup> As of June 30, 2014, other assets consisted primarily of receivables for transactions that settled subsequent to the balance sheet date of \$864,049, and assets consolidated under ASC 810 of \$533,707. As of June 30, 2013, other assets consisted primarily of receivables for transactions that settled subsequent to the balance sheet date of \$1,305,981, and assets consolidated under ASC 810 of \$493,293.

<sup>4</sup> Includes collateral held under securities lending agreements of \$126,757 and \$129,355 as of June 30, 2014 and 2013, respectively.

<sup>5</sup> Includes pending reverse repurchase agreements that settled subsequent to the balance sheet date of \$223,434 and \$5,123,004 as of June 30, 2014 and 2013, respectively.

<sup>6</sup> As of June 30, 2014, other liabilities consisted primarily of payables for the purchase of securities of \$859,957, and liabilities consolidated under ASC 810 of \$2,464,559. As of June 30, 2013, other liabilities consisted primarily of payables for the purchase of securities of \$142,037, and liabilities consolidated under ASC 810 of \$1,752,956.

<sup>7</sup> The cost of the total pooled GIA net assets, net of proceeds received from short positions, was \$35,240,844 and \$33,979,408 as of June 30, 2014 and 2013, respectively.

As of June 30, 2014 and 2013, the GIA was composed of the following components (in thousands of dollars):

	2014	2013
<b>POOLED GENERAL INVESTMENT ACCOUNT</b>		
Endowment <sup>1</sup>	\$ 35,039,522	\$ 31,778,186
General Operating Account	3,255,419	3,445,655
Split interest agreements	812,736	769,566
Other internally designated funds	499,479	409,690
<b>TOTAL POOLED GENERAL INVESTMENT ACCOUNT NET ASSETS</b>	<b>\$ 39,607,156</b>	<b>\$ 36,403,097</b>

<sup>1</sup> Includes only the portion of the endowment invested in the GIA and excludes pledges, interests in trusts held by others, other non-GIA investments, and GIA income.

The asset allocation of the University's investment portfolio involves exposure to a diverse set of markets. The investments within these markets involve various risks such as price, interest rate, market, sovereign, currency, liquidity, and credit risks. Additionally, the GIA's investments in natural resources and direct real estate expose the University to a unique set of risks such as operational, environmental, and political risks. Furthermore, a component of the investment portfolio's asset allocation includes five diversified funds managed by external advisors, which represent 19% of the GIA net asset value ("NAV"), in the aggregate. The University anticipates that the value and composition of its investments may, from time to time, fluctuate substantially in response to any or all of the risks described herein.

The University has various sources of liquidity at its disposal within its investment pools, including approximately \$3.5 billion in cash and cash equivalents (including repurchase agreements of \$2.8 billion) at June 30, 2014 in the GIA and the GOA. In addition, the University estimates that as of June 30, 2014, it could liquidate additional unencumbered US government securities of \$2.5 billion within one business

day (typical settlement terms) to meet any immediate short-term needs of the University.

The University *Balance Sheets* display both the assets and corresponding liabilities generated by repurchase, reverse repurchase, securities borrowing, and securities lending transactions. The University enters these transactions under agreements containing master netting arrangements. The University requires the fair value of the collateral exchanged under these agreements to be equal to or in excess of the total amount of the agreement, including interest where applicable. Collateral is exchanged as required by fluctuations in the fair value of these instruments. In the event of a counterparty default, the University generally has the right to close out all transactions traded under such agreements and to net amounts owed or due across all transactions and offset such net payable or receivable with collateral posted by one party or the other.

The following table presents information about the offsetting of these instruments and related collateral amounts as of June 30, 2014 and 2013 (in thousands of dollars):

	As of June 30, 2014			As of June 30, 2013		
	Gross asset amounts <sup>1</sup>	Collateral <sup>2</sup>	Net exposure <sup>4</sup>	Gross asset amounts <sup>1</sup>	Collateral <sup>2</sup>	Net exposure <sup>4</sup>
Repurchase agreements	\$ 8,410,543	\$ 8,410,543	\$ 0	\$ 14,086,336	\$ 14,086,336	\$ 0
Securities borrowing agreements	336,123	336,123	0	334,053	334,053	0
<b>TOTAL REPURCHASE AND SECURITIES BORROWING AGREEMENTS</b>	<b>\$ 8,746,666</b>	<b>\$ 8,746,666</b>	<b>\$ 0</b>	<b>\$ 14,420,389</b>	<b>\$ 14,420,389</b>	<b>\$ 0</b>
	Gross liability amounts <sup>1</sup>	Collateral <sup>3</sup>	Net exposure <sup>4</sup>	Gross liability amounts <sup>1</sup>	Collateral <sup>3</sup>	Net exposure <sup>4</sup>
Reverse repurchase agreements	\$ 7,800,215	\$ 7,800,215	\$ 0	\$ 14,908,324	\$ 14,908,324	\$ 0
Securities lending agreements	126,757	126,757	0	129,355	129,355	0
<b>TOTAL REVERSE REPURCHASE AND SECURITIES LENDING AGREEMENTS</b>	<b>\$ 7,926,972</b>	<b>\$ 7,926,972</b>	<b>\$ 0</b>	<b>\$ 15,037,679</b>	<b>\$ 15,037,679</b>	<b>\$ 0</b>

<sup>1</sup> The University does not offset repurchase and securities borrowing agreements and reverse repurchase and securities lending agreements that are subject to master netting arrangements or similar arrangements on the University's Balance Sheets. Refer to Note 5 for information related to offsetting of derivatives.

<sup>2</sup> Includes securities in transit of \$358,166 and \$3,061,072 as of June 30, 2014 and 2013, respectively, that settled within one to two business days subsequent to the transaction date.

<sup>3</sup> Includes securities in transit of \$197,924 and \$5,114,605 as of June 30, 2014 and 2013, respectively, that settled within one to two business days subsequent to the transaction date.

<sup>4</sup> Net exposure excludes any over-collateralized amounts.

The University has consolidated, under ASC 810, certain non-controlling interests relating to its investments in natural resources and real estate assets. These non-controlling interests represent the minority interest portion of these assets controlled by the University that are required to be presented on the University's balance sheet under GAAP. The net increase in non-controlling interests year over year of \$192.5 million is due to \$111.0 million in appreciation on existing non-controlling interests and \$109.0 million of contributions made by minority partners offset by \$27.5 million in distributions to the minority partners.

*Other liabilities* on page 23 include debt outstanding on consolidated portfolio investments of \$2,018.8 million and \$1,404.0 million as of June 30, 2014 and 2013, respectively. This debt is categorized as Level 3 in the ASC 820 fair value hierarchy as defined in Note 4. Based on the structure, duration, and nature of the debt being consolidated, the amounts approximate the fair value of the debt as of each reporting period. This debt is utilized for purposes specific to natural resources and real estate assets held by the investment portfolio, and is non-recourse to any other assets held by the University.

## 4. FAIR VALUE OF INVESTMENT ASSETS AND LIABILITIES

The University endeavors to utilize all relevant and available information in measuring fair value. Investments are valued in accordance with ASC 820, and under the guidelines prescribed by the HMC investment valuation policy, which is reviewed and approved by the HMC Board of Directors on an annual basis.

Instruments listed or traded on a securities exchange are valued at the last quoted price on the primary exchange where the security is traded. Where there is no readily available closing price on the valuation date, long positions are valued at the bid price and short positions are valued at the ask price. Restrictions that are attached to a security are factored into the valuation of that security, reflective of the estimated impact of those restrictions. Investments in non-exchange traded debt and equity instruments are primarily valued using inputs provided by independent pricing services or by broker/dealers who actively make markets in these securities.

Over the counter (“OTC”) derivative products classified as due to/from brokers include option, swap, credit default, interest rate, and forward contracts. These types of instruments are primarily valued using industry standard models with independent market inputs, or by broker quotes. Inputs such as prices, spreads, curves, and/or broker quotes are evaluated for source reliability and consistency with industry standards. Counterparty marks obtained and utilized to determine daily collateral requirements are also used to corroborate input reasonability. The University considers current market conditions including interest rate and credit risks in its evaluation of inputs, pricing methodologies, and models utilized to determine fair values.

Investments managed by external advisors include investments in private equity, real estate, natural resources, absolute return, and other externally managed funds. The majority of these investments are not readily marketable and are reported at fair value utilizing the most current information provided by the external advisor, subject to assessments that the information is representative of fair value and in consideration of any additional factors deemed pertinent to the fair value measurement. The University evaluates its external advisors through a manager due-diligence program executed by HMC, which includes an analysis of an advisor’s use of and adherence to fair value principles. In situations where the information provided by the external advisor is deemed to not be representative of fair value as of the measurement date, the University will evaluate specific features of the investment and utilize supplemental information provided by the external advisor along with any relevant market data to measure the investment’s fair value as of that date.

Direct investments in natural resources, specifically timberland and agriculture, as well as real estate are primarily valued using a combination of independent appraisals and/or one or more industry standard valuation techniques (e.g., income approach, market approach, or cost approach). The income approach is primarily based on the investment’s anticipated future income using one of two principal methods: the discounted cash flow method or the capitalization method. Inputs and estimates developed and utilized in the income approach may be subjective and require judgment regarding significant matters such as estimating the amount and timing of future cash flows and the selection of discount and capitalization rates that appropriately reflect market and credit risks. The market approach derives investment value through comparison to recent and relevant market transactions with similar investment characteristics. The cost approach is utilized when the cost of the investment is determined to be the best representation of fair value. This method is typically used for newly purchased or undeveloped assets. The valuation process encompasses a wide range of procedures that in the aggregate allow the University to assert as to the adequacy of the fair values reported as of the measurement date. The HMC Board of Directors discusses the valuation process and results with HMC management, and makes determinations on issues regarding valuation matters that may arise from time to time.

The University’s investments have been categorized based upon the fair value hierarchy in accordance with ASC 820, which prioritizes the inputs to valuation techniques used to measure fair value of investment assets and liabilities into three levels:

**LEVEL 1** Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;

**LEVEL 2** Quoted prices in markets that are not considered to be active or financial instruments for which all significant inputs are observable, either directly or indirectly;

**LEVEL 3** Prices or valuations that require inputs that are significant to the fair value measurement, unobservable and/or require the University to develop its own assumptions.

The level of an asset or liability within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Transfers between levels are recognized at the beginning of the year.

The following is a summary of the levels within the fair value hierarchy for those investment assets and liabilities subject to fair value measurement as of June 30, 2014 and 2013 (in thousands of dollars):

	2014				2013			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
<b>INVESTMENT ASSETS:</b>								
Cash and short-term investments	\$ 656,577			\$ 656,577	\$ 598,083			\$ 598,083
Domestic common and convertible equity	597,498	\$ 2,612,814	\$ 2,631,847	5,842,159	630,759	\$ 2,339,215	\$ 2,303,357	5,273,331
Foreign common and convertible equity	619,803	1,534,989	580,131	2,734,923	114,636	1,052,088	912,456	2,079,180
Domestic fixed income	6,950,344	415,069	3,932	7,369,345	6,085,594	10,256		6,095,850
Foreign fixed income	1,575,942	1,865,063		3,441,005	7,129,303	670,004		7,799,307
Emerging market equity and debt	2,650,177	650,962	36,249	3,337,388	2,240,427	354,475	63,474	2,658,376
High yield	68,504	513,856	215,635	797,995	68,670	1,189,459	235,262	1,493,391
Absolute return		3,336,141	2,296,679	5,632,820		2,546,039	2,568,013	5,114,052
Private equities			7,562,727	7,562,727			7,387,994	7,387,994
Natural resources	9,592		4,703,208	4,712,800	9,824		3,972,573	3,982,397
Real estate			7,108,269	7,108,269	54,052		5,903,979	5,958,031
Inflation-indexed bonds	731,925			731,925	764,575			764,575
Due from brokers	17,656	334,114	7,984	359,754	67,387	228,802	19,315	315,504
Other investments	17,508	1,986	20,511	40,005	21,489	1,712	21,338	44,539
<b>TOTAL INVESTMENT PORTFOLIO ASSETS<sup>1</sup></b>	<b>13,895,526</b>	<b>11,264,994</b>	<b>25,167,172</b>	<b>50,327,692</b>	<b>17,784,799</b>	<b>8,392,050</b>	<b>23,387,761</b>	<b>49,564,610</b>
Repurchase agreements		8,410,543		8,410,543		14,086,336		14,086,336
Interests in trusts held by others			376,526	376,526			352,069	352,069
<b>TOTAL INVESTMENT ASSETS<sup>3</sup></b>	<b>\$ 13,895,526</b>	<b>\$ 19,675,537</b>	<b>\$ 25,543,698</b>	<b>\$ 59,114,761</b>	<b>\$ 17,784,799</b>	<b>\$ 22,478,386</b>	<b>\$ 23,739,830</b>	<b>\$ 64,003,015</b>
<b>INVESTMENT LIABILITIES:</b>								
Equity and convertible securities sold, not yet purchased	\$ 294,049			\$ 294,049	\$ 260,056			\$ 260,056
Fixed income securities sold, not yet purchased	3,888,005	\$ 1,632,803		5,520,808	8,568,564	\$ 491,194		9,059,758
Due to brokers	15,369	45,454	\$ 17,196	78,019	52,358	88,137	\$ 660	141,155
<b>TOTAL INVESTMENT LIABILITIES<sup>2</sup></b>	<b>4,197,423</b>	<b>1,678,257</b>	<b>17,196</b>	<b>5,892,876</b>	<b>8,880,978</b>	<b>579,331</b>	<b>660</b>	<b>9,460,969</b>
Reverse repurchase agreements		7,800,215		7,800,215		14,908,324		14,908,324
Liabilities due under split interest agreements		758,991		758,991		717,325		717,325
<b>TOTAL LIABILITIES<sup>3</sup></b>	<b>\$ 4,197,423</b>	<b>\$ 10,237,463</b>	<b>\$ 17,196</b>	<b>\$ 14,452,082</b>	<b>\$ 8,880,978</b>	<b>\$ 16,204,980</b>	<b>\$ 660</b>	<b>\$ 25,086,618</b>

<sup>1</sup> Excludes securities borrowing agreements of \$336,123 and \$334,053 as of June 30, 2014 and 2013, respectively. Also excludes other assets of \$1,947,865 and \$2,029,447 as of June 30, 2014 and 2013, respectively, which are not subject to fair value.

<sup>2</sup> Includes fair value of interest rate exchange agreements on the University's debt portfolio of \$7,980 and \$6,039 as of June 30, 2014 and 2013, respectively.

<sup>3</sup> Excludes securities lending agreements of \$126,757 and \$129,355 as of June 30, 2014 and 2013, respectively. Also excludes other liabilities of \$3,816,576 and \$2,396,702 as of June 30, 2014 and 2013, respectively, which are not subject to fair value.

<sup>3</sup> For purposes of reporting by level under the fair value hierarchy, some assets and liabilities are shown gross that are otherwise reported net in the table on page 23.

The following is a rollforward of Level 3 investments for the year ended June 30, 2014 (in thousands of dollars):

	Beginning balance as of July 1, 2013	Net realized gains/(losses)	Net change in unrealized gains/(losses) <sup>1</sup>	Purchases/contributions	Sales/distributions	Transfers out of Level 3 <sup>2</sup>	Ending balance as of June 30, 2014
<b>INVESTMENT ASSETS:</b>							
Domestic common and convertible equity	\$ 2,303,357	\$ 311,560	\$ 797,872	\$ 197,467	\$ (703,440)	\$ (274,969)	\$ 2,631,847
Foreign common and convertible equity	912,456	327,862	33,923	492,471	(703,683)	(482,898)	580,131
Domestic fixed income		(709)	352	4,289			3,932
Emerging market equity and debt	63,474	(14,522)	53,818	125,000	(82,695)	(108,826)	36,249
High yield	235,262	21,919	44,740	52	(81,100)	(5,238)	215,635
Absolute return	2,568,013	387,544	173,041	871,305	(913,122)	(790,102)	2,296,679
Private equities	7,387,994	922,956	400,079	724,428	(1,872,730)		7,562,727
Natural resources	3,972,573	(54)	530,807	256,432	(56,550)		4,703,208
Real estate	5,903,979	254,917	911,226	1,226,795	(1,188,648)		7,108,269
Due from brokers	19,315	290	(1,961)	340	(10,000)		7,984
Other investments	21,338	188	(1,015)				20,511
<b>TOTAL INVESTMENT PORTFOLIO ASSETS</b>	<b>23,387,761</b>	<b>2,211,951</b>	<b>2,942,882</b>	<b>3,898,579</b>	<b>(5,611,968)</b>	<b>(1,662,033)</b>	<b>25,167,172</b>
Interests in trusts held by others	352,069		24,457				376,526
<b>TOTAL INVESTMENT ASSETS</b>	<b>\$ 23,739,830</b>	<b>\$ 2,211,951</b>	<b>\$ 2,967,339</b>	<b>\$ 3,898,579</b>	<b>\$ (5,611,968)</b>	<b>\$ (1,662,033)</b>	<b>\$ 25,543,698</b>
<b>INVESTMENT LIABILITIES:</b>							
Due to brokers	\$ 660	\$ (476)	\$ 111	\$ (1,134)	\$ 18,035		\$ 17,196
<b>TOTAL INVESTMENT LIABILITIES</b>	<b>\$ 660</b>	<b>\$ (476)</b>	<b>\$ 111</b>	<b>\$ (1,134)</b>	<b>\$ 18,035</b>	<b>\$ 0</b>	<b>\$ 17,196</b>

<sup>1</sup> Total change in unrealized gains/(losses) relating to Level 3 investment assets and investment liabilities still held by the University at June 30, 2014 is \$2,043,609 and is reflected in "Realized and unrealized appreciation/(depreciation), net" in the Statements of Changes in Net Assets.

<sup>2</sup> Certain investments in public markets and absolute return fund vehicles with liquidity provisions available within one year of the measurement date have been reclassified out of Level 3 into Level 2. There were no other transfers between levels for the year.



The following is a rollforward of Level 3 investments for the year ended June 30, 2013 (in thousands of dollars):

	Beginning balance as of July 1, 2012	Net realized gains/(losses)	Net change in unrealized gains/(losses) <sup>1</sup>	Purchases/contributions	Sales/distributions	Transfers into Level 3 <sup>2</sup>	Transfers out of Level 3 <sup>2</sup>	Ending balance as of June 30, 2013
<b>INVESTMENT ASSETS:</b>								
Domestic common and convertible equity	\$ 1,807,661	\$ 245,989	\$ 896,942	\$ 276,213	\$ (579,599)	\$ 306,724	\$ (650,573)	\$ 2,303,357
Foreign common and convertible equity	713,439	(1,761)	99,739	1,260,207	(1,149,738)	147	(9,577)	912,456
Domestic fixed income	319						(319)	0
Emerging market equity and debt	204,712	(13,792)	(10,855)	202,352	(261,429)		(57,514)	63,474
High yield	595,763	12,784	64,578	32,882	(305,634)	211,292	(376,403)	235,262
Absolute return	2,017,046	167,631	453,344	1,063,131	(1,609,635)	783,220	(306,724)	2,568,013
Private equities	7,193,196	627,978	83,993	843,826	(1,392,339)	32,073	(733)	7,387,994
Natural resources	5,278,303	390,492	(967,722)	604,150	(1,163,304)	71,316	(240,662)	3,972,573
Real estate	4,758,542	164,280	835,263	1,123,947	(978,053)			5,903,979
Due from brokers	26,302	25,296	(25,333)	20,499	(25,296)		(2,153)	19,315
Other investments	7,862	197	13,279					21,338
<b>TOTAL INVESTMENT PORTFOLIO ASSETS</b>	<b>22,603,145</b>	<b>1,619,094</b>	<b>1,443,228</b>	<b>5,427,207</b>	<b>(7,465,027)</b>	<b>1,404,772</b>	<b>(1,644,658)</b>	<b>23,387,761</b>
Interests in trusts held by others	343,798		8,271					352,069
<b>TOTAL INVESTMENT ASSETS</b>	<b>\$ 22,946,943</b>	<b>\$ 1,619,094</b>	<b>\$ 1,451,499</b>	<b>\$ 5,427,207</b>	<b>\$ (7,465,027)</b>	<b>\$ 1,404,772</b>	<b>\$ (1,644,658)</b>	<b>\$ 23,739,830</b>
<b>INVESTMENT LIABILITIES:</b>								
Due to brokers	\$ 1,270	\$ 294	\$ 675	\$ (3,146)	\$ 1,912		\$ (345)	\$ 660
<b>TOTAL INVESTMENT LIABILITIES</b>	<b>\$ 1,270</b>	<b>\$ 294</b>	<b>\$ 675</b>	<b>\$ (3,146)</b>	<b>\$ 1,912</b>	<b>\$ 0</b>	<b>\$ (345)</b>	<b>\$ 660</b>

<sup>1</sup> Total change in unrealized gains/(losses) relating to Level 3 investment assets and investment liabilities still held by the University at June 30, 2013 is \$2,228,549 and is reflected in "Realized and unrealized appreciation/(depreciation), net" in the Statements of Changes in Net Assets.

<sup>2</sup> During the fiscal year, the University changed the asset class designation for certain Level 3 investments to better align with the investment exposure; these reclassifications are included in Transfers into Level 3 and Transfers out of Level 3. Additionally, certain investments in public markets and absolute return fund vehicles with liquidity provisions available within one year of the measurement date have been reclassified out of Level 3 into Level 2. There were no other transfers between levels for the year.

Investments that trade in inactive markets, but are valued based on quoted market prices, broker/dealer quotations, or independent pricing services supported by observable inputs are primarily classified within Level 2. These may include non-exchange traded equity and fixed income securities, securities subject to restriction, and certain OTC derivatives. Other investments, including OTC derivatives valued using broker quotes or other industry standard models, where unobservable inputs may have been

obtained from third parties, have been classified as Level 3 in accordance with the fair value hierarchy under ASC 820.

The University is a limited partner in private equity and real estate partnerships, and other external investment managers, which include commitments to make periodic contributions in future periods. The amounts of these expected disbursements as of June 30, 2014 and 2013 are disclosed below (in thousands of dollars):

	As of June 30, 2014			As of June 30, 2013		
	Fair value <sup>1</sup>	Remaining unfunded commitments	Estimated remaining life <sup>2</sup>	Fair value <sup>1</sup>	Remaining unfunded commitments	Estimated remaining life <sup>2</sup>
Private equities	\$ 6,159,103	\$ 2,564,806	4 – 10	\$ 5,839,037	\$ 2,293,811	4 – 10
Real estate	2,437,070	1,508,439	4 – 10	2,694,348	1,376,584	4 – 10
Other externally managed funds <sup>3</sup>	1,156,671	1,128,653	2 – 8	819,202	567,246	2 – 8
<b>TOTAL</b>	<b>\$ 9,752,844</b>	<b>\$ 5,201,898</b>		<b>\$ 9,352,587</b>	<b>\$ 4,237,641</b>	

<sup>1</sup> Represents the fair value of the funded portion of investments with remaining unfunded commitments.

<sup>2</sup> The estimated remaining lives of these funds, expressed in years, are forward-looking projections based on the University's estimates and could vary significantly depending on the investment decisions of external managers, changes in the University's investment portfolio, and other circumstances.

<sup>3</sup> Investments in other externally managed funds primarily include exposures to absolute return, natural resources, domestic, foreign, and emerging equities, and high yield asset classes.

The nature of these partnership interests is that distributions are received through the liquidation of the underlying assets of the partnership over its remaining life. The fair value of the investments in these asset classes has generally been estimated using the University's capital account balance with each partnership, unless the University has deemed the NAV to be an inappropriate representation of fair value. In evaluating the level at which the University's externally managed investments have been classified within this hierarchy, the University has assessed factors including, but not limited to, the external advisor's adherence to fair value principles in calculating the capital account balance, the University's ability to redeem these investments at NAV at the measurement date, and the existence or absence of certain restrictions at the measurement date. Investments in externally managed funds generally have limited redemption options for investors and, subsequent to final closing, may or may not permit subscriptions by new or existing investors. These entities may also have the ability to impose gates, lockups, and other restrictions on an investor's ability to readily redeem out of their investment interest in the fund. While the University generally classifies its interest in these types of entities as Level 3, certain interests in public markets and absolute return fund vehicles with liquidity provisions available within one year of the measurement date have been classified as Level 2 within the aforementioned fair value hierarchy.

The valuation procedures performed on direct investments are based on industry standard processes for each respective asset class. The inputs utilized in any valuation model may be significant and unobservable, and require a certain degree of judgment. The University examines market data and collaborates closely with industry experts to attempt to arrive at the best estimation of fair value for each respective asset. While the inputs described below represent the range of inputs utilized as of the measurement date, these inputs may change over time, which may have a material effect on the valuation of these types of investments in the future. Additionally, there may be interrelationships between the unobservable inputs utilized in any valuation model, and significant changes in any of those inputs, in isolation or in the aggregate, may trigger changes in other inputs or in the estimated fair value for each respective investment asset. The University has not assessed the sensitivity to unforeseeable changes in significant unobservable inputs; rather the range of inputs described below illustrate those inputs utilized by management in arriving at fair value for these direct investments as of the measurement date.

	As of June 30, 2014	As of June 30, 2013
Significant unobservable input by asset class <sup>1</sup>	Range of inputs utilized in valuation model <sup>2</sup>	Range of inputs utilized in valuation model <sup>2</sup>
Natural resources:		
Income approach discount rate	4.0% – 20.0%	4.0% – 13.0%
Price per planted hectare	\$3,347 – \$141,445	\$1,625 – \$88,451
Real estate:		
Income approach discount rate	7.0% – 20.0%	7.0% – 20.0%
Capitalization rate	4.0% – 9.0%	5.0% – 9.5%
Net operating income growth rate	2.0% – 7.0%	2.0% – 5.0%

<sup>1</sup> The fair value of investments may be determined using multiple valuation techniques.

<sup>2</sup> The range of inputs encompasses a variety of investment types within each asset class.

## 5. DERIVATIVES

The University uses a variety of financial instruments with off-balance sheet risk involving contractual or optional commitments for future settlement, which are exchange traded or executed OTC. Certain instruments are cleared and settled through central clearing counterparties, while others are bilateral contracts between two counterparties. These instruments are used to increase or decrease exposure to a given asset class, with the goal of enhancing the returns of these asset classes. The market risk of a strategy is influenced

by the relationship between the financial instruments with off-balance sheet risk and the offsetting positions recorded in the *Balance Sheets*. The University manages exposure to market risk through the use of industry standard analytical tools that measure the market exposure of each position within a strategy. The strategies are monitored daily, and positions are frequently adjusted in response to changes in the financial markets.

In connection with its derivative activities, the University generally maintains master netting agreements and collateral agreements with its counterparties. These agreements provide the University the right, in the event of default by the counterparty (such as bankruptcy or a failure to pay or perform), to net a counterparty's

rights and obligations under the agreement and to liquidate and set off collateral against any net amount owed by the counterparty. The following table presents information about the University's derivatives by primary risk exposure for the years ended June 30, 2014 and 2013 (in thousands of dollars):

	As of June 30, 2014		For the year ended June 30, 2014	As of June 30, 2013		For the year ended June 30, 2013
	Gross derivative assets	Gross derivative liabilities	Net profit/ (loss) <sup>4</sup>	Gross derivative assets	Gross derivative liabilities	Net profit/ (loss) <sup>4</sup>
Primary risk exposure						
Equity instruments:						
Equity futures	\$ 2,605	\$ 5,986	\$ (90,410)	\$ 8,429	\$ 430	\$ 27,216
Equity options	6,636	3,667	(16,556)	54,700	38,917	(28,859)
Equity exchange agreements	73,552	51,256	540,750	50,132	145,663	347,357
<b>TOTAL EQUITY INSTRUMENTS</b>	<b>82,793</b>	<b>60,909</b>	<b>433,784</b>	<b>113,261</b>	<b>185,010</b>	<b>345,714</b>
Fixed income instruments:						
Fixed income futures	36,866	32,484	26,469	16,950	16,746	9,222
Fixed income options	2,791	2,049	2,531	4,156	4,105	29
Interest rate exchange agreements <sup>1</sup>	1,613,371	1,394,561	(76,119)	1,101,492	934,331	86,911
Interest rate caps and floors	234,986	182,071	35,130	262,803	229,478	35,059
<b>TOTAL FIXED INCOME INSTRUMENTS</b>	<b>1,888,014</b>	<b>1,611,165</b>	<b>(11,989)</b>	<b>1,385,401</b>	<b>1,184,660</b>	<b>131,221</b>
Commodity instruments:						
Commodity futures	12,031	10,023	(7,560)	6,434	19,117	14,731
Commodity options	9,776	215	(2,272)	4,998	1	(2,845)
Commodity exchange agreements	17,509	15,501	57,111	14,286	12,501	4,169
<b>TOTAL COMMODITY INSTRUMENTS</b>	<b>39,316</b>	<b>25,739</b>	<b>47,279</b>	<b>25,718</b>	<b>31,619</b>	<b>16,055</b>
Currency instruments:						
Currency forwards	2,665,133	2,677,329	(36,123)	2,004,240	1,994,898	37,563
Currency options	50,759	44,644	(1,555)	71,386	53,268	(14,843)
Currency exchange agreements	23,984	12,162	(8,253)	11,819	9,713	(6,814)
<b>TOTAL CURRENCY INSTRUMENTS</b>	<b>2,739,876</b>	<b>2,734,135</b>	<b>(45,931)</b>	<b>2,087,445</b>	<b>2,057,879</b>	<b>15,906</b>
<b>CREDIT INSTRUMENTS</b>	<b>72,469</b>	<b>108,784</b>	<b>(17,180)</b>	<b>44,992</b>	<b>23,300</b>	<b>(20,428)</b>
<b>SUBTOTAL</b>	<b>4,822,468</b>	<b>4,540,732</b>	<b>\$ 405,963</b>	<b>3,656,817</b>	<b>3,482,468</b>	<b>\$ 488,468</b>
Counterparty netting <sup>2</sup>						
Exchange traded	(49,713)	(49,713)		(48,736)	(48,736)	
Centrally cleared	(117,102)	(117,102)				
Bilateral OTC	(4,331,773)	(4,331,773)		(3,292,577)	(3,292,577)	
<b>TOTAL COUNTERPARTY NETTING</b>	<b>(4,498,588)</b>	<b>(4,498,588)</b>		<b>(3,341,313)</b>	<b>(3,341,313)</b>	
<b>NET AMOUNTS INCLUDED IN THE BALANCE SHEETS<sup>3</sup></b>	<b>323,880</b>	<b>42,144</b>		<b>315,504</b>	<b>141,155</b>	
Collateral						
Cash collateral received/posted	3,010				4,481	
Securities collateral received/posted <sup>5,6</sup>	325,890	196,892		235,453	117,854	
<b>TOTAL COLLATERAL</b>	<b>328,900</b>	<b>196,892</b>		<b>235,453</b>	<b>122,335</b>	
<b>NET AMOUNT</b>	<b>(5,020)</b>	<b>(154,748)</b>		<b>80,051</b>	<b>18,820</b>	
<b>NET AMOUNT IN ACCORDANCE WITH ASC 210<sup>7</sup></b>	<b>\$ 0</b>	<b>\$ 0</b>		<b>\$ 80,051</b>	<b>\$ 18,820</b>	

<sup>1</sup> For the year ended June 30, 2014, includes gross derivative liability of \$7,980 and a net loss of \$5,798 related to an interest rate exchange agreement on the University's debt portfolio. For the year ended June 30, 2013, includes gross derivative liabilities of \$6,039 and a net profit of \$9,067 related to interest rate exchange agreements on the University's debt portfolio. These positions are further discussed in Note 12.

<sup>2</sup> GAAP permits the netting of derivative assets and liabilities and the related cash collateral received and paid when a legally enforceable master netting agreement exists between the University and a derivative counterparty. Refer to Note 3 for information related to offsetting of certain other collateralized transactions.

<sup>3</sup> Included within the "Investment portfolio, at fair value" and "Securities lending and other liabilities associated with the investment portfolio" line items of the Balance Sheets.

<sup>4</sup> Included within "Realized and unrealized appreciation/(depreciation), net" within the Statements of Changes in Net Assets.

<sup>5</sup> Includes securities posted to meet initial margin requirements on exchange traded futures and centrally cleared derivatives.

<sup>6</sup> Includes collateral in transit of \$26,780 and \$59,064 that settled within one to two business days subsequent to the transaction date.

<sup>7</sup> Excludes any over-collateralized amounts in accordance with ASC 210.

The following section details the accounting for each type of derivative contract, as well as the University's intended purpose for entering into each type of derivative instrument.

### Options

The University purchases and sells put and call options to take advantage of expected volatility in the price of underlying instruments. When purchasing an option, the University pays a premium, which is recorded as an asset and subsequently marked-to-market to reflect the current value of the option. When the University sells (writes) an option, the premium received is recorded as a liability and subsequently marked-to-market to reflect the current fair value of the option written. Premiums paid or received from options that expire unexercised are treated as realized losses and gains, respectively. When an option is closed before expiration or exercise, the University records a realized gain or loss equal to the difference between the proceeds paid/received upon closing and the original premium paid/received.

During fiscal years 2014 and 2013, the University transacted approximately 400 equity and fixed income option trades each year with an average transaction size of approximately 9,900 and 8,500 contracts, respectively. During the same period the University transacted approximately 200 and 500 currency option contracts with average USD equivalent notional amounts of approximately \$19.6 million and \$18.0 million per contract, respectively. Additionally, the University transacted approximately 700 and 500 commodity option trades with an average transaction size of approximately 300 and 225 contracts, respectively.

### Swap contracts

The University enters into swap contracts, which are contracts between two parties to exchange future cash flows at periodic intervals based on a notional principal amount, to increase or decrease its exposure to changes in the level of interest rates, underlying asset values and/or credit risk. Payments are exchanged at specified intervals, accrued daily commencing with the effective date of the contract and recorded as realized gains or losses. Gains or losses are realized in the event of an early termination of a swap contract. Risks of loss may include unfavorable changes in the returns of the underlying instruments or indexes, adverse fluctuations of interest rates, failure of the counterparty to perform under the terms of the agreement, and lack of liquidity in the market.

Collateral in the form of securities or cash may be posted to or received from the swap counterparty in accordance with the terms of the swap contract. Realized gains or losses are

recorded relating to periodic payments received or made on swap contracts and with respect to swaps that are closed prior to termination date. When the University enters into a swap transaction, it may make or receive a payment equal to the value of the swap on the entry date and amortizes such payments to realized gain or loss over the outstanding term of the swap. The terms of the swap contracts can vary, and they are reported at fair value based on a valuation model or a counterparty provided price.

In the normal course of its trading activities, the University enters into credit default, interest rate, and total return swap contracts.

### Credit default contracts

The University enters into credit derivatives to simulate long and short bond exposure that is either unavailable or considered to be less attractively priced in the bond market, or to hedge exposure obtained in the bond market. The University also uses these derivatives to reduce risk where it has exposure to the issuer, or to take an active long or short position with respect to the likelihood of an event of default. The underlying debt security on which the derivative is structured can be based on a single issuer, a "basket" of issuers, or an index. During fiscal years 2014 and 2013, the University transacted approximately 800 and 600 credit default contracts, respectively. These contracts had average notional amounts of approximately \$13.0 million and \$8.0 million in fiscal years 2014 and 2013, respectively.

In instances where the University has purchased credit protection on an underlying debt security, the University is obligated to pay the seller of the credit protection a periodic stream of payments over the term of the contract in return for a contingent payment upon the occurrence of a credit event with respect to the issuer of the debt security. The contingent payment may be a cash settlement or a physical delivery of the debt security in return for payment of the face amount of the obligation. The amount paid for purchased protection is typically a nominal percentage of the notional amount. In instances where the University has sold credit protection on an underlying debt security, the University receives a fixed rate of income throughout the term of the contract, which typically is between one month and five years, and in some instances up to ten years. In the case where the University sold credit protection, if a credit event occurs, the University may cash settle the contract or pay the purchaser of credit protection the full notional value of the contract in exchange for the debt security.

As of June 30, 2014, the University's purchased and written credit derivatives had gross notional amounts of \$3,072.3 million and \$1,628.9 million, respectively, for total net purchased protection of \$1,443.4 million in notional value.

As of June 30, 2013, the University's purchased and written credit derivatives had gross notional amounts of \$1,400.9 million and \$444.0 million, respectively, for total net purchased protection of \$956.9 million in notional value.

The table below summarizes certain information regarding credit protection purchased and written as of June 30, 2014 and 2013 (in thousands of dollars):

As of June 30, 2014								
Purchased protection			Written protection					
Credit rating on underlying	Purchased notional <sup>1</sup>	Purchased fair value	Years to maturity		Total written notional	Offsetting purchased notional <sup>2</sup>	Net written notional	Net written fair value
			< 5 years	5-10 years				
A- to AAA	\$ 1,028,748	\$ (11,143)	\$ 545,250	\$ 30,000	\$ 575,250	\$ 530,000	\$ 45,250	\$ 722
BBB- to BBB+	818,442	(10,818)	571,392		571,392	324,250	247,142	2,507
Non-investment grade	230,082	1,622	385,400	96,876	482,276	140,800	341,476	(23,073)
<b>TOTAL</b>	<b>\$ 2,077,272</b>	<b>\$ (20,339)</b>	<b>\$ 1,502,042</b>	<b>\$ 126,876</b>	<b>\$ 1,628,918</b>	<b>\$ 995,050</b>	<b>\$ 633,868</b>	<b>\$ (19,844)</b>

As of June 30, 2013								
Purchased protection			Written protection					
Credit rating on underlying	Purchased notional <sup>1</sup>	Purchased fair value	Years to maturity		Total written notional	Offsetting purchased notional <sup>2</sup>	Net written notional	Net written fair value
			< 5 years	5-10 years				
A- to AAA	\$ 698,486	\$ 967		\$ 65,000	\$ 65,000	\$ 17,000	\$ 48,000	\$ (2,008)
BBB- to BBB+	402,249	(92)	\$ 64,249		64,249	15,250	48,999	(206)
Non-investment grade	225,686	22,146	313,039	1,724	314,763	42,250	272,513	888
<b>TOTAL</b>	<b>\$ 1,326,421</b>	<b>\$ 23,021</b>	<b>\$ 377,288</b>	<b>\$ 66,724</b>	<b>\$ 444,012</b>	<b>\$ 74,500</b>	<b>\$ 369,512</b>	<b>\$ (1,326)</b>

<sup>1</sup> Amounts shown are net of purchased credit protection that directly offsets written credit protection, as discussed in the note (2) below.

<sup>2</sup> Offsetting purchased credit derivatives represent the notional amount of purchased credit derivatives to the extent they hedge written credit derivatives with identical underlying debt securities.

Credit ratings on the underlying debt security, together with the period of expiration, are indicators of payment/performance risk. For example, the seller of credit protection is least likely to pay or otherwise be required to perform where the credit ratings are AAA and the period of expiration is "< 5 years". The likelihood of payment or performance is generally greater as the credit ratings fall and period of expiration increases.

### Interest rate contracts

The University enters into interest rate swaps to hedge certain investment positions against interest rate fluctuations; to benefit from interest rate fluctuations; to obtain better interest rate terms than it would have been able to get without the swap; or to manage the interest, cost, and risk associated with its outstanding and/or future debt. Interest rate swaps involve the exchange by the University with another party of its respective commitments to pay or receive interest at specified intervals based on a notional amount of principal.

During fiscal years 2014 and 2013, the University transacted approximately 3,500 and 3,400 interest rate swap and cap/floor contracts with average notional amounts of approximately \$206.0 million and \$225.0 million, respectively.

### Total return swaps

The University enters into total return swaps to manage its exposure to market fluctuations in various asset classes. Total return swaps involve commitments to pay interest in exchange for a market linked return, both based on notional amounts. To the extent the total return of the security or index underlying the transaction exceeds or falls short of the offsetting interest rate obligation, the University will receive a payment from or make a payment to the counterparty, respectively. During fiscal years 2014 and 2013, the University transacted approximately 700 and 500 commodity swap contracts with average notional amounts of approximately \$1.2 million and \$6.0 million;

2,600 and 1,400 equity swap contracts with average notional amounts of approximately \$0.4 million and \$1.5 million; and 100 and 200 currency swap contracts with average notional amounts of approximately \$32.0 million and \$25.0 million, respectively.

### Forward currency contracts

The University enters into forward currency contracts in connection with settling planned purchases or sales of securities, or to hedge the currency exposure associated with some or all of the University's portfolio securities. A forward currency contract is an agreement between two parties to buy and sell a currency at a set price on a future date. The value of a forward currency contract fluctuates with changes in forward currency exchange rates. Forward currency contracts are marked-to-market daily and the change in fair value is recorded by the University as an unrealized gain or loss. During fiscal years 2014 and 2013, the University transacted approximately 9,800 and 7,000 forward currency contracts with average USD equivalent notional amounts of approximately \$3.4 million and \$3.0 million, respectively.

### Futures contracts

The University uses futures contracts to manage its exposure to financial markets, including hedging such exposures. Buying futures tends to increase the University's exposure to the underlying instrument, while selling futures tends to decrease exposure to the underlying instrument. Upon entering into a futures contract, the University is required to deposit with its prime broker an amount of cash or securities in accordance with the initial margin requirements of the broker or exchange. Futures contracts are marked-to-market daily based on settlement prices established by the board of trade or exchange on which they are traded, and an appropriate payable or receivable for the change in fair value is recorded by the University. Gains and losses are realized

when the contracts expire or are closed. During fiscal years 2014 and 2013, the University transacted approximately 32,600 and 31,800 futures trades with an average transaction size of approximately 60 and 50 contracts, respectively.

### Counterparty credit exposure

Financial instruments with off-balance sheet risk involve counterparty credit exposure. The policy of the University is to require collateral to the maximum extent possible under normal trading practices. Collateral, generally in the form of debt obligations issued by the US Treasury, is exchanged on a daily basis as required by fluctuations in the market. In the event of counterparty default, the University has the right to use the collateral held to offset any losses ensuing from the default event. Specific credit limits are established for counterparties based on their individual credit ratings. Credit limits are monitored daily by the University and are adjusted according to policy, as necessary. Some of the financial instruments entered into by the University contain credit-risk-related contingency features that allow the parties to the agreement to demand immediate payment for outstanding contracts and/or collateral. If material credit-risk-related contingency features were triggered on June 30, 2014 no additional collateral would have been due to counterparties whereas at June 30, 2013, additional collateral of \$10.4 million would have been due to counterparties for derivative contracts.

## 6. RECEIVABLES

The major components of receivables, net of reserves for doubtful accounts of \$15.6 million and \$13.2 million as of June 30, 2014 and 2013, respectively, were as follows (in thousands of dollars):

	2014	2013
Federal sponsored support	\$ 85,075	\$ 72,095
Publications and royalties	50,172	39,758
Executive education	20,406	24,351
Tuition and fees	15,780	12,738
Non-federal sponsored support	15,397	16,822
Gift receipts	10,825	14,529
Other	48,827	45,857
<b>TOTAL RECEIVABLES, NET</b>	<b>\$ 246,482</b>	<b>\$ 226,150</b>

## 7. NOTES RECEIVABLE

Notes receivable are recorded initially at face value plus accrued interest, which approximates fair value. Notes receivable, and

related allowance for doubtful accounts, were as follows (in thousands of dollars):

	2014			2013		
	Receivable	Allowance	Net	Receivable	Allowance	Net
Student loans:						
Government revolving	\$ 77,645	\$ 2,493	\$ 75,152	\$ 78,666	\$ 2,685	\$ 75,981
Institutional	89,335	2,812	86,523	86,490	2,970	83,520
Federally insured	592		592	722		722
Total student loans	167,572	5,305	162,267	165,878	5,655	160,223
Faculty and staff loans	199,291	422	198,869	189,958	422	189,536
Other loans	20,043	4,703	15,340	20,358	4,491	15,867
<b>TOTAL</b>	<b>\$ 386,906</b>	<b>\$ 10,430</b>	<b>\$ 376,476</b>	<b>\$ 376,194</b>	<b>\$ 10,568</b>	<b>\$ 365,626</b>

Government revolving loans are funded principally with federal advances to the University under the Perkins Loan Program and certain other programs. These advances totaled \$68.9 million and \$68.2 million as of June 30, 2014 and 2013, respectively, and are classified as liabilities in the *Balance Sheets*. Interest earned on the revolving and institutional loan programs is reinvested to support additional loans. The repayment and interest rate terms of the institutional loans vary considerably.

Faculty and staff notes receivable primarily consists of mortgage and educational loans. Mortgages include shared appreciation loans and loans that bear interest at the applicable federal rate. In addition, certain mortgages bear interest at the current market rate, which may be subsidized for an initial period. The educational loans are primarily zero-interest loans.

The University assesses the adequacy of the allowance for doubtful accounts by evaluating the loan portfolio, including such factors as the differing economic risks associated with each loan category, the financial condition of specific borrowers, the economic environment in which the borrowers operate, the level of delinquent loans, the value of any collateral, and, where applicable, the existence of any guarantees or indemnifications. In addition to these factors, the University reviews the aging of the loans receivable and the default rate in comparison to prior years. The allowance is adjusted based on these reviews. The University considers the allowance at June 30, 2014 and 2013 to be reasonable and adequate to absorb potential credit losses inherent in the loan portfolio.

## 8. PLEDGES RECEIVABLE

Unconditional promises to donate to the University in the future are initially recorded at fair value (pledge net of discount) and subsequently amortized over the expected payment period, net of an allowance for uncollectible pledges. The University's indicative 1- to 5-year taxable unsecured borrowing rate is used to discount pledges receivable upon receipt. Discounts of \$68.9 million and \$43.8 million for the years ended June 30, 2014 and 2013, respectively, were calculated using rates ranging from 1.1% to 1.94%.

Pledges receivable included in the financial statements as of June 30, 2014 and 2013 are expected to be realized as follows (in thousands of dollars):

	2014	2013
Within one year	\$ 257,380	\$ 214,608
Between one and five years	1,029,519	858,429
More than five years	439,344	300,568
Less: discount and allowance for uncollectible pledges	(135,485)	(137,514)
<b>TOTAL PLEDGES RECEIVABLE, NET</b>	<b>\$1,590,758</b>	<b>\$1,236,091</b>

Pledges receivable as of June 30, 2014 and 2013 have been designated for the following purposes (in thousands of dollars):

	2014	2013
General Operating Account balances:		
Gifts for current use	\$ 701,775	\$ 615,878
Non-federal sponsored grants	87,150	102,318
Facilities and loan funds	256,268	162,699
Total General Operating Account balances	1,045,193	880,895
Endowment	545,565	355,196
<b>TOTAL PLEDGES RECEIVABLE, NET</b>	<b>\$ 1,590,758</b>	<b>\$ 1,236,091</b>

Because of uncertainties with regard to realizability and valuation, bequest intentions and other conditional promises are only recognized as assets if and when the specified conditions are met. Non-bequest conditional pledges totaled \$71.1 million and \$95.3 million as of June 30, 2014 and 2013, respectively.

## 9. FIXED ASSETS

Fixed assets are reported at cost or, if a gift, at fair value as of the date of the gift, net of accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets.

The major categories of fixed assets as of June 30, 2014 and 2013 are summarized as follows (in thousands of dollars):

	2014	2013	Estimated useful life (in years)
Research facilities	\$ 2,171,893	\$ 2,139,280	*
Classroom and office facilities	1,689,795	1,667,974	35
Housing facilities	1,312,956	1,200,518	35
Other facilities	383,751	357,273	35
Service facilities	611,533	597,034	35
Libraries	461,284	440,394	35
Museums and assembly facilities	646,575	323,131	35
Athletic facilities	174,776	172,089	35
Land	672,787	672,222	N/A
Construction in progress	665,750	849,654	N/A
Equipment	1,108,206	1,043,040	**
<b>SUBTOTAL AT COST</b>	<b>9,899,306</b>	<b>9,462,609</b>	
Less: accumulated depreciation	(3,912,701)	(3,669,238)	
<b>FIXED ASSETS, NET</b>	<b>\$ 5,986,605</b>	<b>\$ 5,793,371</b>	

\* Estimated useful lives of components range from 10 to 45 years.

\*\* Estimated useful lives of equipment range from 3 to 8 years.

Certain University facilities are subject to restrictions as to use, structural modifications, and ownership transfer. Included in the fixed asset balances are restricted facilities with a net book value of \$214.9 million and \$223.6 million as of June 30, 2014 and 2013, respectively.

The costs of research facilities are separated into the shell, roof, finishes, fixed equipment, and services. These components are separately depreciated.

Equipment includes general and scientific equipment, computers, software, furniture, and vehicles.

The University has asset retirement obligations of \$74.5 million and \$77.0 million, which are included in the "Deposits and other liabilities" in the *Balance Sheets* as of June 30, 2014 and 2013, respectively.



## 10. ENDOWMENT AND GENERAL OPERATING ACCOUNT NET ASSETS

The University's endowment consists of approximately 12,700 separate funds established over many years for a wide variety of purposes. Endowment fund balances, including funds functioning as endowment, are classified and reported as unrestricted, temporarily restricted, or permanently restricted net assets in accordance with donor specifications and state law. Net unrealized losses on permanently restricted endowment funds are classified as a reduction to unrestricted net assets until such time as the fair value equals or exceeds historic dollar value. Unrestricted net assets were reduced by \$6.0 million and \$20.2 million for such losses in fiscal 2014 and 2013, respectively. Although funds functioning as endowment are not subject to donor restrictions, decisions to spend their principal require the approval of the Corporation. All but a small fraction of the endowment is invested in the GIA (Note 3).

The University is also the beneficiary of certain irrevocable trusts held and administered by others. The estimated fair values of trust assets, which include the present values of expected future cash flows from outside trusts and the fair value of the underlying assets of perpetual trusts, are recognized as assets and increases in net assets when the required trust documentation is provided to the University. The fair values of these trusts are provided by the external trustees and are adjusted annually by the University. These are included as Level 3 investments in the fair value hierarchy table in Note 4.

The endowment consisted of the following as of June 30, 2014 and 2013 (in thousands of dollars):

	2014			Total	2013 Total
	Unrestricted	Temporarily restricted	Permanently restricted		
Endowment funds	\$ (5,980)	\$ 20,613,532	\$ 5,836,742	<b>\$ 26,444,294</b>	\$ 23,732,695
Funds functioning as endowment	6,150,494	2,961,930		<b>9,112,424</b>	8,302,038
Pledge balances		42,347	503,218	<b>545,565</b>	355,196
Interests in trusts held by others		10,338	316,635	<b>326,973</b>	299,560
<b>TOTAL ENDOWMENT</b>	<b>\$ 6,144,514</b>	<b>\$ 23,628,147</b>	<b>\$ 6,656,595</b>	<b>\$ 36,429,256</b>	<b>\$ 32,689,489</b>

The University's endowment distribution policies are designed to preserve the value of the endowment in real terms (after inflation) and generate a predictable stream of available income. Each fall, the Corporation approves the endowment distribution for the following fiscal year. The endowment distribution is based on presumptive guidance from a formula that is intended to provide budgetary stability by smoothing the impact of annual investment gains and losses. The formula's inputs reflect expectations about long-term returns and inflation rates. For fiscal 2014, the endowment distribution approved by the Corporation (prior to decapitalizations) was equal to 4.9% of the fair value of the endowment invested in the GIA as of the beginning of the fiscal year. The total endowment distribution made available for operations was \$1.5 billion in fiscal 2014 and 2013.

Each year the Corporation also approves certain decapitalizations from the endowment to support strategic, mission-critical activities or objectives that are typically one-time or time-limited. These decapitalizations totaled \$241.3 and \$157.4 million in

fiscal 2014 and 2013, respectively. These additional decapitalizations, in combination with the endowment distribution, resulted in an aggregate payout rate of 5.6% and 5.5% in fiscal 2014 and 2013, respectively.

### General Operating Account

The GOA consists of the general or current funds of the University as well as the assets and liabilities related to student and faculty loans and facilities. The GOA accepts, manages, and pays interest on deposits made by University departments; invests surplus working capital; makes loans; and arranges external financing for major capital projects. It is used to manage, control, and execute all University financial transactions, except for those related to investment activities conducted by HMC.

The GOA consisted of the following as of June 30, 2014 and 2013 (in thousands of dollars):

	2014			Total	2013 Total
	Unrestricted	Temporarily Restricted	Permanently Restricted		
General Operating Account	\$ 3,798,756	\$ 2,267,223	\$ 97,198	<b>\$ 6,163,177</b>	<b>\$ 5,344,755</b>

The temporarily restricted net assets consist primarily of unexpended income, gifts, and pledges. The permanently restricted net assets are loan funds.

## 11. SPLIT INTEREST AGREEMENTS

Under split interest agreements, donors enter into planned giving arrangements with the University in which the University receives benefits that are shared with other beneficiaries and institutions. Split interest agreement (SIA) investment assets are invested primarily in the GIA and publicly traded securities, a small segment is managed by an external advisor, and all are recorded at fair value as discussed in *Notes 3 and 4*. The publicly traded securities are included as Level 1 and externally managed investments are included as Level 3 investments in the fair value hierarchy table in *Note 4*. Associated liabilities are recorded at the present

value of estimated future payments due to beneficiaries and other institutions. These liabilities were calculated using each gifts' IRS discount rate as specified in IRC 7520(a), ranging from 2.0% to 11.6% for gifts received prior to the adoption of ASC 820, and using the University's current taxable unsecured borrowing rate of 1.47% and 1.42% as of June 30, 2014 and 2013, respectively, for gifts received beginning in fiscal 2009.

The changes in split interest agreement net assets for fiscal 2014 and 2013 were as follows (in thousands of dollars):

	2014		Total	2013
	Temporarily restricted	Permanently restricted		Total
Investment return:				
Investment income	\$ 3,892	\$ 11,760	\$ 15,652	\$ 14,668
Realized and unrealized appreciation, net	34,089	102,999	137,088	96,353
<b>Total investment return</b>	<b>37,981</b>	<b>114,759</b>	<b>152,740</b>	<b>111,021</b>
Gifts for capital ( <i>Note 16</i> ) <sup>1</sup>	10,039	4,439	14,478	31,817
Payments to annuitants	(15,230)	(46,019)	(61,249)	(58,424)
Transfers to endowment	(5,905)	(26,879)	(32,784)	(44,794)
Transfers between SIA and the GOA	(17,096)	(26)	(17,122)	(18,720)
Change in liabilities and other adjustments	(1,439)	(4,851)	(6,290)	(2,124)
<b>NET CHANGE DURING THE YEAR</b>	<b>8,350</b>	<b>41,423</b>	<b>49,773</b>	<b>18,776</b>
Total split interest agreement net assets, beginning of year	77,418	491,606	569,024	550,248
<b>TOTAL SPLIT INTEREST AGREEMENT NET ASSETS, end of year</b>	<b>\$ 85,768</b>	<b>\$ 533,029</b>	<b>\$ 618,797</b>	<b>\$ 569,024</b>

<sup>1</sup> Shown net of discount. The undiscounted value of these gifts was \$33,817 and \$60,481 for the years ended June 30, 2014 and 2013, respectively.

Split interest agreement net assets as of June 30, 2014 and 2013 consisted of the following (in thousands of dollars):

	2014	2013
Split interest agreement investments ( <i>Note 3</i> ):		
Charitable remainder trusts	\$ 903,725	\$ 834,042
Charitable lead trusts	126,116	133,551
Charitable gift annuities	227,425	207,215
Pooled income funds	120,522	111,541
<b>Total split interest agreement investments</b>	<b>1,377,788</b>	<b>1,286,349</b>
Liabilities due under split interest agreements:		
Amounts due to beneficiaries	(628,483)	(599,093)
Amounts due to other institutions	(130,508)	(118,232)
<b>Total liabilities due under split interest agreements</b>	<b>(758,991)</b>	<b>(717,325)</b>
<b>TOTAL SPLIT INTEREST AGREEMENT NET ASSETS, end of year</b>	<b>\$ 618,797</b>	<b>\$ 569,024</b>

## 12. BONDS AND NOTES PAYABLE

Bonds and notes payable as of June 30, 2014 and 2013 were as follows (in thousands of dollars):

	Fiscal year of issue	Years to final maturity <sup>1</sup>	One-year yield <sup>2</sup>	Outstanding principal	
				2014 <sup>3</sup>	2013 <sup>4</sup>
<b>Tax-exempt bonds and notes payable:</b>					
Variable-rate bonds and notes payable:					
Series R - daily	2000-2006	18	0.1%	\$ 131,200	\$ 131,200
Series Y - weekly	2000	21	0.1	117,905	117,905
Commercial paper	2014	<1	0.2	289,350	289,299
<b>Total variable-rate bonds and notes payable</b>			0.1	<b>538,455</b>	<b>538,404</b>
Fixed-rate bonds:					
Series N	1992	6	6.3	79,412	79,311
Series 2005A	2005	22	4.8	92,723	92,886
Series 2005B	2006	18	4.8	103,947	104,135
Series 2005C	2006	21	4.9	129,161	129,315
Series 2008B	2008	24	4.8	215,301	215,565
Series 2009A	2009	22	5.5	982,403	983,304
Series 2010A	2010	20	4.5	506,847	520,172
Series 2010B	2011	26	4.7	650,409	654,163
<b>Total fixed-rate bonds</b>			5.0	<b>2,760,203</b>	<b>2,778,851</b>
<b>Total tax-exempt bonds and notes payable</b>			<b>4.2</b>	<b>3,298,658</b>	<b>3,317,255</b>
<b>Taxable bonds and notes payable:</b>					
Series 2008A	2008	24	5.6	242,850	242,844
Series 2008C	2008	4	5.3	125,205	125,205
Series 2008D	2009	25	6.3	997,418	997,119
Series 2010C	2011	26	4.9	298,239	298,172
Series 2013A	2013	23	3.4	402,000	402,000
Commercial paper	2012	<1	0.2	158,655	158,347
<b>Total taxable bonds and notes payable</b>			<b>5.0</b>	<b>2,224,367</b>	<b>2,223,687</b>
Other notes payable	Various	Various	Various	96,165	147,065
<b>TOTAL BONDS AND NOTES PAYABLE</b>			<b>4.6%</b>	<b>\$ 5,619,190</b>	<b>\$ 5,688,007</b>

<sup>1</sup> The weighted average maturity of the portfolio on June 30, 2014 was 16.4 years.

<sup>2</sup> Exclusive of interest rate exchange agreement. Inclusive of this agreement, the overall portfolio rate was 0.06% higher (4.63% vs. 4.57%).

<sup>3</sup> Series N, 2008A, 2008D, 2009A and 2010C principal amounts are net of \$0.6 million, \$0.1 million, \$2.6 million, \$17.6 million and \$1.8 million of discounts, respectively. Series 2005A, 2005B, 2005C, 2008B, 2010A and 2010B principal amounts include premiums of \$3.6 million, \$3.4 million, \$3.2 million, \$6.4 million, \$36.9 million and \$49.4 million, respectively.

<sup>4</sup> Series N, 2008A, 2008D, 2009A and 2010C principal amounts are net of \$0.7 million, \$0.2 million, \$2.9 million, \$16.7 million and \$1.8 million of discounts, respectively. Series 2005A, 2005B, 2005C, 2008B, 2010A and 2010B principal amounts include premiums of \$3.8 million, \$3.6 million, \$3.4 million, \$6.7 million, \$40.2 million and \$53.1 million, respectively.

Interest expense related to bonds and notes payable was \$250.1 million and \$265.1 million for fiscal 2014 and 2013, respectively. The interest expense in the *Statement of Changes in Net Assets with General Operating Account Detail* includes additional components related to capital leases. Excluding maturity of commercial paper and unamortized discounts and premiums, scheduled principal payments are (in thousands of dollars):

Fiscal year	Principal payments
2015	\$ 38,603
2016	38,601
2017	34,724
2018	34,716
2019	654,856
Thereafter	4,289,440
<b>TOTAL PRINCIPAL PAYMENTS</b>	<b>\$ 5,090,940</b>

In fiscal 2014, the University entered into a \$1.0 billion unsecured, revolving credit facility with a syndicate of banks, which expires in January 2015. An additional \$1.0 billion unsecured, revolving credit facility with the same syndicate of banks (originally entered into in fiscal 2012) remains in place and expires in January 2017. There was no outstanding balance on either of these credit facilities at June 30, 2014 or June 30, 2013.

The University is rated Aaa by Moody's Investors Service and AAA by Standard & Poor's Ratings Services. The Standard & Poor's rating was re-affirmed in fiscal 2014.

As of June 30, 2014, the University had \$249.1 million of variable-rate demand bonds outstanding (excluding commercial paper) with either a daily or weekly interest rate reset, as noted in the bonds and notes payable table on page 37. In the event that the University receives notice of any optional tender on its variable-rate demand bonds, or if the bonds become subject to mandatory tender, the purchase price of the bonds will be paid from the remarketing of such bonds. However, if the remarketing proceeds are insufficient, the University will have a general obligation to purchase the bonds tendered with cash on hand.

In fiscal 2013, the University defeased the Series 2006A bonds of \$402 million by exercising the bonds' call option. The redemption cost of these bonds was funded primarily with proceeds from the sale of the Series 2013A bonds, also completed during fiscal 2013. A \$69.8 million loss representing the defeasance cost of the Series 2006A bonds is reflected in the "Other changes" line of the *Statements of Changes in Net Assets with General Operating Account Detail* and in "Loss on redemption of debt" on the *Statements of Cash Flows*.

In fiscal 2013, the University redeemed the full outstanding amount of \$161.5 million of the Series FF bonds using cash on hand, while \$25.0 million of the bonds matured as scheduled. As a result, none of the Series FF bonds were outstanding at June 30, 2013.

The estimated fair value of the University's outstanding bonds and notes payable, including accrued interest, was \$6,404.7 million and \$6,404.5 million as of June 30, 2014 and 2013, respectively.

The University determines the fair value of its existing fixed rate debt obligations based on trade data, broker/dealer quotes, and other observable market data. The carrying amounts of its variable rate debt obligations approximate fair value because the obligations are currently callable at a price equal to the carrying amounts. The University considers this to be a Level 2 fair value measurement.

### Interest rate exchange agreements

In fiscal 2014, the University had in place one interest rate exchange agreement, used to manage the interest cost and risk associated with a portion of its outstanding debt. The outstanding agreement is collateralized, as described in *Note 5*, and thereby carries liquidity risk to the extent the relevant agreement has a negative fair value (pursuant to methodologies described below).

The fair value of the interest rate exchange agreement is the estimated amount that the University would have received (or paid), including accrued interest, to terminate the agreement on the dates of the *Balance Sheets*. The notional amount and fair value of the interest rate exchange agreements were \$117.0 million and \$(8.0) million, respectively, as of June 30, 2014 and \$125.4 million and \$(6.0) million, respectively, as of June 30, 2013. On July 1, 2013, an interest rate swap with a notional amount of \$8.4 million and fair value of \$0 matured. The fair value of the University's remaining debt-related interest rate swap agreement is included in the "Securities lending and other liabilities associated with the investment portfolio" line in the *Balance Sheets*.

The expense realized related to the interest rate exchange agreements was \$3.7 million and \$14.6 million for fiscal 2014 and 2013, respectively. All unrealized and realized gains and losses from the interest rate exchange agreement are included in the "Realized and unrealized appreciation/(depreciation), net" line in the *Statements of Changes in Net Assets with General Operating Account Detail*.

In fiscal 2013, the University terminated interest rate exchange agreements with a notional amount of \$942.0 million, for which it realized a loss of \$345.3 million.

### 13. EMPLOYEE BENEFITS

The University offers current employees a choice of health plans, a dental plan, short-term and long-term disability plans, life insurance, tuition assistance, and a variety of other benefits such as subsidized passes for public transportation and for Harvard athletic facilities. In addition, the University has retirement plans covering substantially all employees.

The University uses a measurement date of June 30 for its pension and postretirement health plans.

#### Pension benefits

All eligible faculty members and staff are covered by retirement programs that include a defined benefit component, a defined contribution component, or a combination of the two.

In accordance with the Employee Retirement Income Security Act (ERISA) requirements, the University has established a trust to hold plan assets for its defined benefit pension plans. The fair value of the trust's assets was \$837.8 million and \$758.9 million as of June 30, 2014 and 2013, respectively. During fiscal year 2014, the University made a \$6.0 million cash contribution to the defined benefit pension plan.

The University recorded expenses for its defined contribution plans of \$120.2 million and \$116.4 million for fiscal 2014 and 2013, respectively. Gross benefits paid for pensions were \$46.6 million and \$42.2 million as of June 30, 2014 and 2013, respectively.

#### Postretirement health benefits

The University provides postretirement health coverage and life insurance to substantially all of its employees. As of June 30, 2014, the University had internally designated and invested \$492.0 million to fund the postretirement health benefit accrued liability of \$732.0 million. As of June 30, 2013, the University had internally designated and invested \$403.1 million to fund the postretirement health benefit accrued liability of \$674.0 million.

The following table sets forth the pension and postretirement plans' funded status that is reported in the *Balance Sheets* as of June 30, 2014 and 2013 (in thousands of dollars):

	Pension benefits		Postretirement health benefits	
	2014	2013	2014	2013
<b>Change in benefit obligation:</b>				
Benefit obligation, beginning of year	\$ 838,893	\$ 909,909	\$ 673,966	\$ 901,470
Service cost	8,623	15,336	33,711	43,646
Interest cost	43,567	39,906	35,930	42,521
Plan participants' contributions			3,475	3,425
Plan change <sup>1</sup>		2,900	(15,537)	
Gross benefits paid	(46,595)	(42,230)	(21,063)	(18,050)
Actuarial loss/(gain)	52,816	(86,928)	21,475	(299,046)
Other adjustments <sup>2</sup>	45,872			
<b>BENEFIT OBLIGATION, end of year</b>	<b>943,176</b>	<b>838,893</b>	<b>731,957</b>	<b>673,966</b>
<b>Change in plan assets:</b>				
Fair value of plan assets, beginning of year	758,902	755,364		
Actual return on plan assets	119,465	45,700		
Employer contributions	6,000	68		
Gross benefits paid	(46,595)	(42,230)		
<b>FAIR VALUE OF PLAN ASSETS, end of year</b>	<b>837,772</b>	<b>758,902</b>	<b>0</b>	<b>0</b>
<b>UNFUNDED STATUS</b>	<b>\$(105,404)</b>	<b>\$ (79,991)</b>	<b>\$ (731,957)</b>	<b>\$ (673,966)</b>

<sup>1</sup> The postretirement plan change of \$(15.5) million reflects plan changes, effective January 1, 2014, that increased cost-sharing and the length of service needed for the maximum subsidy. The 2013 pension plan change of \$2.9 million relates to a change in the calculation for certain participants hired before 1973, which was immediately recognized.

<sup>2</sup> To properly present the pension benefit obligation, an immaterial correction of \$45.9 million, related to prior periods, was recorded in 2014.

The accumulated benefit obligation associated with pension benefits was \$774.2 million and \$733.9 million at June 30, 2014 and 2013, respectively. The funded status disclosed above has been prepared in accordance with pension accounting rules. When measured on an IRS funding basis, which informs the University's required cash contribution amount, the plan was overfunded at January 1, 2014.

## Net periodic benefit cost/(income)

Components of net periodic benefit cost/(income) recognized in operating activity and other amounts recognized in non-operating activity in unrestricted net assets in the

Statements of Changes in Net Assets with General Operating Account Detail are summarized as follows for the years ended June 30 (in thousands of dollars):

	Pension benefits		Postretirement health benefits	
	2014	2013	2014	2013
Components of net periodic benefit cost/(income):				
Service cost	\$ 8,623	\$ 15,336	\$ 33,711	\$ 43,646
Interest cost	43,567	39,906	35,930	42,521
Expected return on plan assets	(47,046)	(47,484)		
Amortization of:				
Actuarial loss/(gain)	1,643	11,867	(9,822)	
Prior service (credit)/cost	455	(132)	(3,179)	(3,179)
Other adjustments	45,872			
Total net periodic benefit cost recognized in operating activity	53,114	19,493	56,640	82,988
Other amounts recognized in non-operating activity in unrestricted net assets:				
Current year actuarial (gain)/loss	(19,603)	(85,143)	21,475	(299,046)
Current year net prior service credit			(15,537)	
Amortization of:				
Current year prior service cost		2,900		
Prior service credit/(cost)	(455)	132	3,179	3,179
Actuarial gain/(loss)	(1,643)	(11,867)	9,822	
Total other amounts recognized in non-operating activity <sup>1</sup>	(21,701)	(93,978)	18,939	(295,867)
<b>Total recognized in Statements of Changes in Net Assets with General Operating Account Detail</b>	<b>\$ 31,413</b>	<b>\$ (74,485)</b>	<b>\$ 75,579</b>	<b>\$ (212,879)</b>

Cumulative amounts recognized as non-operating changes in unrestricted net assets are summarized as follows for the years ended June 30 (in thousands of dollars):

	2014	2013	2014	2013
Net actuarial loss/(gain)	\$ 22,904	\$ 44,150	\$ (178,186)	\$ (209,483)
Prior service cost/(credit)	2,695	3,150	(44,708)	(32,350)
<b>Cumulative amounts recognized in unrestricted net assets</b>	<b>\$ 25,599</b>	<b>\$ 47,300</b>	<b>\$ (222,894)</b>	<b>\$ (241,833)</b>

<sup>1</sup> These amounts totaling \$(2.8) million in fiscal 2014 and \$(389.8) million in fiscal 2013 include gains and losses and other changes in the actuarially determined benefit obligations arising in the current period but that have not yet been reflected within net periodic benefit cost/(income) and are included in the "Change in Retirement Obligations" line in the Statements of Changes in Net Assets with General Operating Account Detail.

The estimated net actuarial loss and prior service cost for the defined benefit plan that will be amortized from unrestricted net assets into net periodic benefit (income)/cost in fiscal 2015 are \$3.0 million and \$0.4 million, respectively. The estimated net actuarial gain and estimated prior service

credit for the postretirement health benefit that will be amortized from unrestricted net assets into net periodic benefit (income)/cost in fiscal 2015 are (\$7.4) million and (\$4.5) million, respectively.

Assumptions and health care cost trend rates used in determining the year end obligation as well as the net periodic

benefit cost/(income) of the pension and postretirement health plans are summarized as follows for fiscal 2014 and 2013:

	Pension benefits		Postretirement health benefits	
	2014	2013	2014	2013
Weighted-average assumptions used to determine benefit obligation as of June 30:				
Discount rate	4.50%	4.95%	4.60%	5.15%
Compensation increase trend:				
– Initial rate	3.00%	3.00%	3.00%	3.00%
– Ultimate rate	4.00%	4.00%	4.00%	4.00%
– Years to ultimate rate	2	3	2	3
Health care cost trend rate:				
– Initial rate	N/A	N/A	7.00%	7.00%
– Ultimate rate	N/A	N/A	4.75%	4.75%
– Years to ultimate rate	N/A	N/A	9	10
Weighted-average assumptions used to determine net periodic benefit (income)/cost:				
Discount rate	4.95%	4.45%	5.15%	4.55%
Expected long-term rate of return on plan assets	7.00%	7.25%	N/A	N/A
Compensation increase trend:				
– Initial rate	3.00%	4.00%	3.00%	4.00%
– Ultimate rate	4.00%	4.00%	4.00%	4.00%
– Years to ultimate rate	3	0	3	0
Health care cost trend rate:				
– Initial rate	N/A	N/A	7.00%	7.00%
– Ultimate rate	N/A	N/A	4.75%	5.00%
– Years to ultimate rate	N/A	N/A	10	6

As an indicator of sensitivity, a one percentage point change in assumed health care cost trend rate would affect 2014 as shown in the following table (in thousands of dollars):

	1% point increase	1% point decrease
Effect on 2014 postretirement health benefits service and interest cost	\$ 16,712	\$ (12,625)
Effect on postretirement health benefits obligation as of June 30, 2014	142,874	(111,439)

The expected return on pension plan assets is determined by utilizing HMC's capital markets model, which takes into account the expected real return, before inflation, for each of the pension portfolio's asset classes, as well as the correlation of any one asset class to every other asset class. This model calculates the real returns and correlations and derives an expected real return for the entire portfolio, given

the percentage weighting allocated to each asset class. After calculating the expected real return, an assessment is made to accommodate the expected inflation rate for the forthcoming period. The final expected return on assets is the aggregate of the expected real return plus the expected inflation rate.

## Plan assets

The actual asset allocations of the investment portfolio for the pension plan at June 30, 2014 and 2013, along with target allocations for June 30, 2015, are as follows:

	2015 target	June 30, 2014	June 30, 2013
Asset allocation by category for pension plan:			
Equity securities	30 – 50%	33.7%	37.5%
Fixed income securities	30 – 50	45.2	31.8
Real estate	0 – 10	3.5	4.4
Absolute return	10 – 30	16.1	17.2
Cash	0 – 10	1.5	9.1
<b>TOTAL OF ASSET ALLOCATION CATEGORIES</b>		<b>100.0%</b>	<b>100.0%</b>

The University's investment strategy for the pension portfolio is to manage the assets across a broad and diversified range of investment categories, both domestic and international. The objective is to achieve a risk-adjusted return that is in line with the long-term obligations that the University has to the pension plan beneficiaries. During fiscal year 2014, the University has continued to increase its allocation to fixed income securities to better manage the interest rate volatility associated with

its pension obligations. The investment program is also managed to comply with all ERISA regulations.

The following is a summary of the levels within the fair value hierarchy for the pension plan assets subject to fair value measurement as of June 30, 2014 and 2013 (in thousands of dollars):

	2014				2013			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
<b>INVESTMENT ASSETS:</b>								
Absolute return		\$ 124,852	\$ 5,348	\$ 130,200		\$ 123,501	\$ 5,340	\$ 128,841
Cash and short-term investments	\$ 21,650			21,650	\$ 64,396			64,396
Domestic common and convertible equity	4,957	103,622		108,579	8,517	107,820		116,337
Domestic fixed income	51,787	234,500		286,287	54,543	140,577		195,120
Foreign fixed income		23,074		23,074				0
Due from/(to) broker	2	(3,069)		(3,067)	(240)	(1,393)		(1,633)
Emerging market equity and debt	53,155	7,502		60,657	51,209			51,209
Foreign common and convertible equity	99,537			99,537	50,849			50,849
High yield			1	1		4,881	1	4,882
Private equities			64,955	64,955			63,145	63,145
Real estate			28,142	28,142			33,014	33,014
<b>TOTAL INVESTMENT ASSETS<sup>1</sup></b>	<b>\$ 231,088</b>	<b>\$ 490,481</b>	<b>\$ 98,446</b>	<b>\$ 820,015</b>	<b>\$ 229,274</b>	<b>\$ 375,386</b>	<b>\$ 101,500</b>	<b>\$ 706,160</b>

<sup>1</sup> Excludes net investment assets not subject to fair value of \$17,757 and \$52,742 as of June 30, 2014 and 2013, respectively.

The following is a rollforward of Level 3 investments for the year ended June 30, 2014 (in thousands of dollars):

	Beginning balance as of July 1, 2013	Net realized gains/(losses)	Net change in unrealized gains/(losses)	Purchases/contributions	Sales/distributions	Transfers into Level 3	Ending balance as of June 30, 2014
<b>INVESTMENT ASSETS:</b>							
Absolute return	\$ 5,340	\$ 54	\$ 95	\$ 4	\$ (870)	\$ 725	\$ 5,348
High yield	1						1
Private equities	63,145	5,993	7,838	833	(12,854)		64,955
Real estate	33,014	1,164	3,320		(9,356)		28,142
<b>TOTAL INVESTMENT ASSETS</b>	<b>\$ 101,500</b>	<b>\$ 7,211</b>	<b>\$ 11,253</b>	<b>\$ 837</b>	<b>\$ (23,080)</b>	<b>\$ 725</b>	<b>\$ 98,446</b>

The following is a rollforward of Level 3 investments for the year ended June 30, 2013 (in thousands of dollars):

	Beginning balance as of July 1, 2012	Net realized gains/(losses)	Net change in unrealized gains/(losses)	Purchases/contributions	Sales/distributions	Transfers into Level 3	Transfers out of Level 3	Ending balance as of June 30, 2013
<b>INVESTMENT ASSETS:</b>								
Absolute return	\$ 24,681	\$ 1,062	\$ (369)	\$ 19	\$ (10,550)	\$ 10,571	\$ (20,074)	\$ 5,340
High yield	4	(128)	129		(4)			1
Private equities	68,261	9,501	(705)	1,761	(15,673)			63,145
Real estate	42,918	1,188	(908)	345	(10,529)			33,014
<b>TOTAL INVESTMENT ASSETS</b>	<b>\$ 135,864</b>	<b>\$ 11,623</b>	<b>\$ (1,853)</b>	<b>\$ 2,125</b>	<b>\$ (36,756)</b>	<b>\$ 10,571</b>	<b>\$ (20,074)</b>	<b>\$ 101,500</b>



## Expected future benefit payments

Employer contributions of \$6 million are expected for fiscal 2015 to fund pension or postretirement health benefit plans.

The following table summarizes expected benefit payments and subsidies for pension and other postretirement benefits for the University (in thousands of dollars):

Fiscal year	Expected benefit payments	
	Pension	Postretirement health
2015	\$ 48,398	\$ 20,370
2016	47,714	22,102
2017	50,413	23,652
2018	53,075	25,296
2019	55,424	27,016
Thereafter	306,369	168,883

## 14. STUDENT FINANCIAL AID

Financial aid granted to students in fiscal 2014 and 2013 is summarized as follows (in thousands of dollars):

	2014	2013
Scholarships and other student awards:		
Scholarships applied to student income	\$ 372,917	\$ 359,456
Scholarships and other student awards paid directly to students	129,974	127,054
Total scholarships and other student awards	502,891	486,510
Student employment	68,342	65,964
Student loans	24,530	23,200
Agency financial aid <sup>1</sup>	20,295	20,569
<b>TOTAL STUDENT FINANCIAL AID</b>	<b>\$ 616,058</b>	<b>\$ 596,243</b>

<sup>1</sup> Represents aid from sponsors for which the University acts as an agent for the recipient.

## 15. SPONSORED SUPPORT

Total expenditures funded by US government sponsors or by institutions that subcontract federally sponsored projects to the University were \$610.6 million and \$641.0 million in fiscal 2014 and 2013, respectively. The University's principal source of federal sponsored funds is the Department of Health and Human Services. The University also has many non-federal sources of sponsored awards and grants, including corporations, foundations, state and local governments, foreign governments, and research institutes.

Sponsored grants and contracts normally provide for the recovery of direct and indirect costs. The University recognizes revenue associated with direct costs as the related costs are incurred. Recovery of related indirect costs is generally recorded at fixed or predetermined rates negotiated with the federal government and other sponsors. Predetermined federal indirect cost rates have been established for the University Area and the Medical School (including the School of Dental Medicine) through fiscal year 2015. The School of Public Health has had provisional indirect cost rates since the beginning of fiscal year 2014. Funds received for federally sponsored activity are subject to audit.

## 16. GIFTS

Gifts that are available for current purposes are classified as either “Gifts for current use” or “Non-federal sponsored grants,” as appropriate. Gifts that have been restricted by the donor or designated by the Corporation for facilities, loan funds, endowment, or similar purposes are classified as “Gifts for capital.” Gifts for current use, non-federal sponsored grants, and gifts for capital are classified as unrestricted, temporarily restricted, or permanently restricted net assets in accordance with donor specifications.

Gifts received for the years ended June 30, 2014 and 2013 are summarized as follows (in thousands of dollars):

	2014	2013
Gifts for current use	\$ 419,171	\$ 338,535
Non-federal sponsored grants	117,140	111,068
Gifts for capital:		
Endowment funds	512,853	222,686
Split interest agreements <sup>1</sup>	14,478	31,817
Facilities and loan funds	92,040	88,217
Total gifts for capital	619,371	342,720
<b>TOTAL GIFTS</b>	<b>\$ 1,155,682</b>	<b>\$ 792,323</b>

<sup>1</sup> Shown net of discount. The undiscounted value of these gifts was \$33,817 and \$60,481 for the years ended June 30, 2014 and 2013, respectively

## 17. OTHER INCOME

The major components of other income for the years ended June 30, 2014 and 2013 were as follows (in thousands of dollars):

	2014	2013
Rental and parking <sup>1</sup>	\$ 137,520	\$ 130,605
Royalties from patents, copyrights, and trademarks	134,408	123,086
Publications	89,517	79,879
Services income	80,552	72,793
Health and clinic fees	57,746	55,968
Sales income	44,390	45,961
Interest income	9,516	9,527
Other student income	5,669	5,995
Other	42,066	41,479
<b>TOTAL OTHER INCOME</b>	<b>\$ 601,384</b>	<b>\$ 565,293</b>

<sup>1</sup> The University is the lessor of space and facilities under operating leases, the income from which is included in rental and parking.

## 18. OTHER EXPENSES

The major components of other expenses for the years ended June 30, 2014 and 2013 were as follows (in thousands of dollars):

	2014	2013
Subcontract expenses under sponsored projects	\$ 152,062	\$ 160,048
Travel	88,055	83,616
Publishing	48,053	48,409
Taxes and fees	30,478	26,371
Advertising	24,922	21,474
Postage	20,904	22,648
Insurance	14,037	16,047
Telephone	13,138	13,300
Other	112,564	68,605
<b>TOTAL OTHER EXPENSES</b>	<b>\$ 504,213</b>	<b>\$ 460,518</b>

## 19. FUNCTIONAL CLASSIFICATION OF OPERATING EXPENSES

Operating expenses are allocated functionally on a direct basis. Interest, depreciation, and operations and maintenance expenses are allocated based on square footage.

Operating expenses by functional classification for the years ended June 30, 2014 and 2013 were as follows (in thousands of dollars):

	2014	2013
Instruction	\$ 1,163,900	\$ 1,105,090
Research	806,081	796,606
Institutional support	721,242	734,290
Academic support	620,552	579,739
Auxiliary services	535,172	486,292
Libraries	238,280	229,748
Student services	190,796	180,246
Scholarships and other student awards	129,974	127,054
<b>TOTAL EXPENSES</b>	<b>\$ 4,405,997</b>	<b>\$ 4,239,065</b>

## 20. COMMITMENTS AND CONTINGENCIES

### Lease commitments

The University is the lessee of equipment and space under operating (rental) and capital leases. Rent expense related to leases was \$60.0 million and \$52.8 million in fiscal 2014 and 2013, respectively.

Future minimum payments under these operating and capital leases are as follows (in thousands of dollars):

	Operating	Capital
2015	\$ 55,189	\$ 7,059
2016	50,259	7,362
2017	44,127	7,550
2018	33,698	7,556
2019	27,346	11,621
Thereafter	118,317	162,917
<b>TOTAL FUTURE MINIMUM PAYMENTS</b>	<b>\$ 328,936</b>	<b>\$ 204,065</b>

### Fixed asset-related commitments

The University has various commitments for capital projects involving construction and renovation of certain facilities, real estate acquisitions, and equipment purchases, for which the outstanding commitments as of June 30, 2014 totaled approximately \$228.5 million.

### Environmental remediation

The University is subject to laws and regulations concerning environmental remediation and has established reserves for potential obligations that management considers to be probable and for which reasonable estimates can be made. These estimates may change substantially depending on new information regarding the nature and extent of contamination, appropriate remediation technologies, and regulatory approvals. Costs of future environmental remediation have been discounted to their net present value. Management is not aware of any existing conditions that it believes are likely to have a material adverse effect on the University's financial position, changes in net assets, or cash flows.

### Electricity purchase commitments

The University has entered into Power Purchase Agreements (PPAs) with a series of utilities providers to purchase natural gas and electricity for various quantities and time periods. As of June 30, 2014, future obligations under the PPAs are as follows (in thousands of dollars):

2015	\$ 20,994
2016	12,750
2017	7,370
2018	6,464
2019	4,485
Thereafter	20,439
<b>TOTAL UTILITY FUTURE PURCHASE OBLIGATIONS</b>	<b>\$ 72,502</b>

### General

The University is a defendant in various legal actions arising from the normal course of its operations. While it is not possible to predict accurately or determine the eventual outcome of such actions, management believes that the outcome of these proceedings will not have a material adverse effect on the University's financial position, changes in net assets, or cash flows.

The University has evaluated subsequent events through November 7, 2014, the date the financial statements were issued.

## **Schedule of Expenditures of Federal Awards**

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
<b>Research and Development Cluster</b>					
<b>Direct Awards</b>					
<b>Agency for International Development</b>					
Entrepreneurial Finance Lab Research Initiative	98.001	AID-OAA-G-12-00005		No	199,335
Reducing Imbalanced Fertilizer Use in Bangladesh	98.001	AID-OAA-F-13-00016		No	51,317
<b>Subtotal of 98.001</b>	<b>98.001</b>				<b>250,652</b>
Models of Mutual Aid for Internet Robustness	98.Unknown	AID-OAA-A-11-00032		No	484,972
Rapid diagnosis of frail and sick newborns with a handheld vital sign monitor	98.Unknown	AID-OAA-F-14-00005		No	12,182
The Higher Education Network Ring Initiative (HENRI)	98.Unknown	AID-497-A-11-00002		No	169,568
<b>Subtotal of 98.Unknown</b>	<b>98.Unknown</b>				<b>666,722</b>
<b>Total Agency for International Development Direct Award</b>					<b>917,374</b>
<b>Department of Agriculture</b>					
Methods for Research Synthesis: A Cross-Disciplinary Approach	10.253	58-5000-3-0035		No	5,000
<b>Subtotal of 10.253</b>	<b>10.253</b>				<b>5,000</b>
A Novel Intervention Nanotechnology For Fresh Produce Surface Disinfection Using Engineered Water Nanostructures	10.310	2013-67021-21075		No	132,076
The effects of a changing environment on populations of the native pollinator, <i>Augochlorella aurata</i>	10.310	2012-67012-19721		No	57,148
<b>Subtotal of 10.310</b>	<b>10.310</b>				<b>189,224</b>
<b>Total Department of Agriculture Direct Award</b>					<b>194,224</b>
<b>Department of Commerce</b>					
Mapping Regional Innovation Clusters	11.303	99-07-13869-03		No	1,174,040
<b>Subtotal of 11.303</b>	<b>11.303</b>				<b>1,174,040</b>
Collaborative Research: Variability, stochastic dynamics, and compensating model errors of the Atlantic Meridional Ocean Circulation in coupled IPCC models	11.431	NA13OAR4310130		No	22,756
Emission Rates for CH4 and N2O in California by Location and Sector Inferred using airborne measurements during the NOAA CalNex Study	11.431	NA11OAR4310158		No	327,684
Improving Process-Level Understanding of the Factors Underlying Long-Term Trends and Year-to-Year Variability in Carbon Sequestration of Northeastern Forests	11.431	NA11OAR4310054		No	123,238
<b>Subtotal of 11.431</b>	<b>11.431</b>				<b>473,678</b>
Instrumentation to Improve the Precision of Astronomical Photometry: Building the Tools for Addressing the Dark Energy Crisis	11.609	60NANB12D139		No	(8,674)
<b>Subtotal of 11.609</b>	<b>11.609</b>				<b>(8,674)</b>
<b>Total Department of Commerce Direct Award</b>					<b>1,639,044</b>
<b>Department of Defense</b>					
Bi-Layer Thermal Barrier Coatings Based on the Yttrium-Tantalate Zirconia System	12.300	N00014-12-1-0993		No	118,965
Discovery of Microbes for the Extraction of Rare Earth Metals	12.300	N00014-11-1-0894		No	135,757
Efficient reasoning from background knowledge and incomplete and inconsistent data	12.300	N00014-12-1-0358		No	209,668
Foundation of Developmental Molecular Self-Assembly	12.300	N00014-10-1-0827		No	(11,117)
Human genetic polymorphisms regulating cell and molecular pathways in NIHL	12.300	N000141210170		No	650,823
Identifying and countering early risk factors for violent extremism among Somali refugee communities resettled in North America	12.300	N00014-13-1-0243		No	323,733
Integrated NIR test platform for NIHL studies	12.300	N00014-13-1-0794		No	663,056
Kinetic self assembly of DNA tiles and bricks	12.300	N00014-13-1-0593		No	283,092
Lithium Quantum Gas Microscope	12.300	N00014-12-1-0927		No	102,683
Measuring and understanding information and behavioral patterns for planning and executing non-kinetic course of actions	12.300	N00014-14-1-0485		No	1,550
Molecular Spintronics: Nanomagnetic Control of Electronic Spins	12.300	N000140910868-DOD35CAP		No	(152)
Noise Induced Hearing Loss Gene Chip	12.300	N00014-11-1-0523		No	266,186
One-Dimensional Nanostructures as Building Blocks for Functional Electronic and Bioelectronic Materials	12.300	N00244-09-1-0078-DOD35CAP		No	1,045,867
PECASE: Soaring mechanisms for flapping-wing micro air vehicles	12.300	N00014-10-1-0684		No	339,946
Protein Sensors for Voltage and magnetism	12.300	N00014-11-1-0549-DOD35CAP		No	219,873
Scalable Bayesian Computation: Using Derandomization to Efficiently Characterize Uncertainty in Probabilistic Models	12.300	FA8750-14-2-0117		No	3,380
Scaling up complexity of DNA brick structures	12.300	N00014-14-1-0610		No	4,379
Self-Assembly of Large Scale Shape Controlled DNA Nano- Structures	12.300	N00014-11-1-0914		No	206,255
<b>Subtotal of 12.300</b>	<b>12.300</b>				<b>4,563,944</b>
Coherent Molecular Profiling Using Nano- Structured Environments	12.351	HDTRA1-10-1-0046-DOD35CAP		No	416,921
Mid-infrared high-power, broadband quantum cascade laser arrays for standoff detection	12.351	HDTRA1-10-1-0031		No	204,966
<b>Subtotal of 12.351</b>	<b>12.351</b>				<b>621,887</b>
Identification, Characterization, and Utilization of Adult Meniscal Progenitor Cells	12.420	W81XWH-13-1-0244		No	126,647
BC120436 A New Cell-Free System to Study BRCA1 Function	12.420	W81XWH-13-1-0063		No	194,961
Behavioral-Based Predictors of Workplace Violence in the Army STARRS	12.420	W81XWH-12-2-0113		No	740,912
BM120114 Role of Fanconi Anemia Pathway in Repairing Formaldehyde-Induced DNA Lesions	12.420	W81XWH-13-1-0049		No	55,583
Defining the therapeutic implications of the integrative stress response in TSC	12.420	W81XWH-10-1-0861		No	106,734
Development of Affinity Reagents for Multiplexed, Rapid Diagnosis of Bacterial Infections at the Point-of-Care using Diagnostic Magnetic Resonance	12.420	W81XWH-10-2-0161		No	104,255
Elucidating the Role of a Novel Tumor Suppressor in Breast Cancer	12.420	W81XWH-11-1-0140		No	4,072
Identification of Premotor Parkinson disease	12.420	W81XWH-14-1-0131		No	7,351

The accompanying notes are an integral part of this schedule.

# Harvard University Schedule of Expenditures of Federal Awards Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Microarray and Viral Genome Sample Processing and Analysis Supporting USAMRIID TMTI Development and Characterization of Animal Models for Arena virus	12.420	W81XWH-10-1-0098		No	78,700
Molecular Heterogeneity in Primary and Metastatic Prostate Tumor Tissue - PC110650	12.420	W81XWH-12-1-0072		No	58,605
New Methods of Low-Field Magnetic Resonance Imaging for Applications to Traumatic Brain Injury	12.420	W81XWH-11-2-0076		No	759,632
Phylogenetic Analysis of Human Primary Breast Cancers and Metastases	12.420	W81XWH-11-1-0146		No	31,913
Role of Klotho in osteoporosis and renal osteodystrophy	12.420	W81XWH-13-1-0200		No	262,463
Roles of SGK Isoform Signaling in Breast Cancer Migration and Invasion	12.420	W81XWH-10-1-0172		No	39,214
Sexual Trauma and Post-Traumatic Stress Disorder among Warfighters in Army STARRS	12.420	W81XWH-13-1-0037		No	320,267
Unbiased Combinatorial Genomic Approaches to Identify Alternative Therapeutic Targets within the TSC Signaling Network	12.420	W81XWH-12-1-0179		No	396,864
Vitamin D, Genes, and Lethal Prostate Cancer	12.420	W81XWH-12-1-0057		No	57,312
<b>Subtotal of 12.420</b>	<b>12.420</b>				<b>3,345,485</b>
A System for Rapid Fabrication of Monolithic High Performance Robots	12.431	W911NF-13-1-0311		No	175,000
Acquisition of environmental atomic force microscope and construction of high temperature in-situ probe station for local electronic property measurements in 2-D oxides and membrane structures	12.431	W911NF-12-1-0409		No	10,105
Bioinspired, Mobile Robots with High Stability, Functionality, and Low Cost	12.431	W911NF-11-1-0094		No	15,607
Buffer Gas Cooling for Chemical Mixture Analysis	12.431	W911NF-13-1-0080		No	71,624
Continuum Models for Multi-Agent Cooperative Control	12.431	W911NF-12-1-0350		No	111,456
Fundamental Studies on Confinement Effects in Ionic Conduction and Inversion Layers in 2-D Single Crystal Free Standing Oxide Membranes	12.431	W911NF-10-1-0515-DOD35CAP		No	3,038
Integrated Human Organ-on-Chip Microphysiological Systems	12.431	W911NF-12-2-0036		No	9,627,521
Measuring, Understanding, and Responding to Covert Social Networks: Passive and Active Tomography	12.431	W911NF-11-1-0036-DOD35CAP		No	(90,525)
Measuring, Understanding, and Responding to Covert Social Networks: Passive and Active Tomography	12.431	W911NF-11-1-0036-DOD35CAP		No	619,423
Mechanically Actuated Peptide-polymer thin films for selective capture and release	12.431	W911NF-13-1-0242		No	85,732
Multi-Qubit Systems Based on Electron Spins in Coupled Quantum Dots	12.431	W911NF-10-1-0330		No	(2,727)
Novel Therapeutics to Increase Survival in Viral Pneumonias	12.431	W911NF-10-1-0217		No	277,535
Peptide nanotube reinforced polymers: A system for tunable, composite materials	12.431	W911NF-12-1-0229		No	(1,002)
Scalable Biomarker Discovery for Diverse High-Dimensional Phenotypes	12.431	W911NF-11-1-0429		No	136,796
Self-Assembly of Complex 3D DNA Nanostructures from Modular Components	12.431	W911NF-12-1-0238		No	173,423
Shock Response of Dry and Water-Saturated Soils	12.431	W911NF-10-1-0377		No	50,184
Spectral Methods and Inference for the Analysis of Graphs and Networks: New Tools for Massive Data Sets	12.431	W911NF-09-1-0555-DOD35CAP		No	(49,393)
Synthetic Biological Engineering of Photosynthesis	12.431	W911NF-09-1-0226		No	29,439
The Human Microbiome as a Multipurpose Biomarker	12.431	W911NF-11-1-0473		No	147,606
<b>Subtotal of 12.431</b>	<b>12.431</b>				<b>11,390,842</b>
A novel approach to measuring oxygen isotopes in the amino acids in hair	12.630	HM1582-08-1-0024		No	41,194
<b>Subtotal of 12.630</b>	<b>12.630</b>				<b>41,194</b>
Bifunctional catalysts for CO2 reduction	12.800	FA9550-11-1-0049		No	132,822
Bio-Inspired Optics: Offering Physical and Technological Insights in Color and Structure (BIOOPTICS)	12.800	FA9550-09-1-0669-DOD35CAP		No	1,341,714
Catalysts for Lightweight Solar Fuels Generation	12.800	FA9550-13-1-0028		No	199,378
Fabrication and Characterization of Novel Refractory Coatings using Combinatorial Nanocalorimetry	12.800	FA9550-12-1-0098		No	233,153
Fabrication and Electrical Characterization of Correlated Oxide Field Effect Switching Devices for High Speed Electronics	12.800	FA9550-12-1-0189		No	203,057
High Performance Terahertz Quantum Cascade Nonlinear Optical Sources and Lasers	12.800	FA9550-09-1-0505-DOD35CAP		No	(45,886)
Integrated Nano Optoplasmonics	12.800	FA2386-10-1-4064-DOD35CAP		No	9,194
Integrating Programming Language and Operating System Information Security Mechanisms	12.800	FA9550-12-1-0262		No	222,879
Nanoelectronics Innervated Cells, Cell Networks and Three-Dimensional Biomaterials	12.800	FA9550-14-1-0136		No	54,131
Pump-Probe Study of fs-Laser Hyperdoping and Texturing of Silicon for Advanced Non-equilibrium Materials	12.800	FA9550-14-1-0150		No	9,644
Quantum Control of Light and Matter: from the Macroscopic to the Nano Scale	12.800	FA9550-10-1-0208-DOD35CAP		No	685,603
Synthesis of One-dimensional Pd (III) Wires	12.800	FA9550-10-1-0170-DOD35CAP		No	(154)
The Production and Study of Antiprotons and Anthydrogen	12.800	FA9550-10-1-0107-DOD35CAP		No	363,349
Ultra-Subwavelength Graphene Plasmonic THz Circuits and Metamaterials	12.800	FA9550-13-1-0211		No	67,835
Wavefront engineering with phase discontinuities: designer interfaces for high performance planar optical components	12.800	FA9550-12-1-0289		No	159,838
<b>Subtotal of 12.800</b>	<b>12.800</b>				<b>3,636,557</b>
Continuous Directed Evolution of Synthetic Regulatory Elements for Use in Mammalian Cells	12.910	HR0011-11-2-0003		No	1,526,984
Design Strategies for Multi-Dimensional Synthetic Biology	12.910	HR0011-12-C-0061		No	427,972
Developing New Methods of Multi-Core Statistical Inference Towards Rapid Data Fusion and Information Extraction	12.910	N66001-12-1-4219		No	158,248
Development of Diamond Nanoscale Magnetometer Using Quantum Assisted Sensing and Readout	12.910	HR0011-11-C-0073		No	2,064,627
Diamond Based Magnetometry for Quantum Information Processing Using Endohedral Fullerenes	12.910	HR0011-09-1-0005		No	141,736
Generation and Detection of Optical Vortices for High Information Capacity Secure Free-space Communications	12.910	N66001-13-1-2007		No	297,544
Germanium nanowires as spectrally-sensitive photodetectors	12.910	W911NF-13-2-0015		No	141,952
New Homotopy Theoretic Methods in Geometry, Topology and Physics	12.910	HR0011-10-1-0054-DOD35CAP		No	183,218
Programmable Inorganic Materials Synthesis with DNA Nano-structures	12.910	N66001-11-1-4136		No	10,875
Safe Genomically Recoded Organisms	12.910	HR0011-13-1-0002		No	397,741
Smart Exoskeleton Suit: Biomechanically Synergistic Body Support and Protection System	12.910	W911QX-12-C-0084		No	1,187,279

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Spleen-on-a-Chip Sepsis Therapeutic Device	12.910	N66001-11-1-4180		No	2,184,626
Towards a Living Foundry: Continuous Directed Evolution of Components for Engineering Biology	12.910	N66001-12-C-4207		No	496,242
Ultra-high-Throughput Virus-Host Cell PicoReactor System for Predictive Modeling of Viral Evolution	12.910	HR0011-11-C-0093		No	7,286,208
<b>Subtotal of 12.910</b>	<b>12.910</b>				<b>16,505,252</b>
Bioactive Peptide libraries for rapid identification of Novel therapeutics	12.Contract	HDTRA1-12-C-0038		No	274,953
Center for Integrated Biological Redesign	12.Contract	HR0011-14-C-0072		No	182,677
De Novo lipogenesis, fat intake and prostate cancer survival	12.Contract	W81XWH-11-1-0529		No	271,109
Endangered butterflies as a model system for managing source-sink dynamics on Department of Defense lands	12.Contract	W912HQ-11-C-0050		No	308,127
Examining Individual Differences in the Cognitive Processes and Brain Networks Supporting Social Cognition in the Contextualized Soldier	12.Contract	W911QY-14-C-0009		No	42,882
Genetic systems for recording misuse and escape of microbes	12.Contract	N66001-11-C-4203		No	1,121,152
Integrated Microfluidic DLT Device for Sepsis Therapy	12.Contract	HR0011-13-C-0025		No	2,187,436
Macrophage Genomic 'Barcodes' for Rapid Identification of Pathogens and Therapeutic Targets	12.Contract	HDTRA1-10-C-0052		No	1,925
Restoration of soil microbial function following degradation on Department of Defense lands: Mediating biological invasions in a global change context	12.Contract	W912HQ-13-C-0025		No	189,260
The Influence of Basement Membrane and Other Extracellular Matrix Components on Response to HER2-Targeted Therapies	12.Contract	W81XWH-11-1-0572		No	92,834
<b>Subtotal of 12.Contract</b>	<b>12.Contract</b>				<b>4,672,355</b>
<b>Total Department of Defense Direct Award</b>					<b>44,777,516</b>
<b>Department of Education</b>					
Fulbright-Hays Doctoral Dissertation Research Abroad Program Application (2012-2013)	84.022A	P022A120040		No	10,655
<b>Subtotal of 84.022A</b>	<b>84.022A</b>				<b>10,655</b>
Developing more effective test-based accountability by improving validity under high-stakes conditions	84.305A	R305A110420-14		No	412,947
DOUBLING UP: THE IMPACT OF REMEDIAL ALGEBRA ON STUDENTS' LONG-RUN OUTCOMES	84.305A	R305A120466		No	178,844
Effective Early Childhood Education Programs: Meta-Analytic Lessons from High Quality Program Evaluations	84.305A	R305A110035-12		No	129,882
Language Diversity and Literacy Development: Increasing Opportunities-to-Learn in Urban Middle Schools	84.305A	R305A080631		No	(7)
NCER-AARW, Goal 3: World Generation: An Efficacy Trial	84.305A	R305A090555-12		No	282,656
<b>Subtotal of 84.305A</b>	<b>84.305A</b>				<b>1,004,322</b>
National Center for Teacher Effectiveness: Validating Measures of Effective Math Teaching	84.305C	R305C090023		No	1,697,459
<b>Subtotal of 84.305C</b>	<b>84.305C</b>				<b>1,697,459</b>
Intended and Unintended Consequences of State High-Stakes Testing: Evidence from Standards-Based Reform in Massachusetts	84.305E	R305E100013		No	23,204
<b>Subtotal of 84.305E</b>	<b>84.305E</b>				<b>23,204</b>
Project READS: Using Data to Promote Summer Reading and Close the Achievement Gap for Low-SES Students in North Carolina	84.396B	U396B100195		Yes	3,892,677
<b>Subtotal of 84.396B</b>	<b>84.396B</b>				<b>3,892,677</b>
<b>Total Department of Education Direct Award</b>					<b>6,628,317</b>
<b>Department of Energy</b>					
Actuation of Bioinspired, Adaptive 'Hairs' Powered by Responsive Hydrogels	81.049	DE-SC0005247		No	461,966
Brazil-USA Collaborative Research: Modifications by Anthropogenic Pollution of the Natural Atmospheric Chemistry and Particle Microphysics of the Tropical Rain Forest During the GoAmazon IOPs	81.049	DE-SC00111115		No	4,539
Bystander Effects of Ionizing Radiation	81.049	DE-FG02-05ER64089-009		No	6,095
Development of new and integrated stable isotope tools for characterizing Nitrogen-Uranium cycling in subsurface environments	81.049	DE-SC0006681		No	43,293
Dynamic Self-Assembly, Emergence, and Complexity	81.049	DE-FG02-00ER45852		No	216,244
Early Career: Catalyst design for small molecule activation of energy consequence	81.049	DE-SC0008313		No	265,824
Electron Imaging in Graphene	81.049	DE-FG02-07ER46422		No	(431)
Fluxes of CO <sub>2</sub> , CH <sub>4</sub> , CO, BVOCs, NO <sub>x</sub> , and O <sub>3</sub> in an Old Growth Amazonian Forest: Ecosystem Processes, Carbon Cycle, Atmospheric Chemistry, and Feedbacks on Climate	81.049	DE-SC0008311		No	476,376
Hangman Catalysis for Photo- and Photoelectro-Chemical Activation of Water	81.049	DE-SC0009758		No	205,654
Harnessing Chemo-mechanical Energy Transduction to Create Systems that Selectively Catch and Release Biomolecules	81.049	DE-SC0005247		No	21,666
Imaging Electrons in Atomically Layered Materials	81.049	DE-FG02-07ER46422		No	127,764
Improving interannual prediction skill in a changing climate via the identification of compensating coupled model errors	81.049	DE-SC004984		No	155,208
Microbial Ecology, Proteogenomics and Computational Optima	81.049	DE-FG02-02ER63445		No	3,466,919
Modeling, Patterning and Evolving Syntrophic Communities that Link Fermentation to Metal Reduction	81.049	DE-SC0006731		No	774,481
Molecular-scale Understanding of Selective Oxidative Transformations of Alcohols Promoted by Au and Au-based Alloys	81.049	DE-FG-02-84ER13289		No	22,997
Molecular-scale Understanding of Selective Oxidative Transformations of Alcohols Promoted by Au and Au-based Alloys	81.049	DE-FG02-84ER13289		No	269,830
Nanoscale Morphology Evolution Under Ion Irradiation	81.049	DE-FG02-06ER46335		No	(6,878)
Partitioning CO <sub>2</sub> fluxes with isotopologue measurements and modeling to understand mechanisms of forest carbon sequestration	81.049	DE-SC0006975		No	74,428
Probing the transition from shallow to deep convection using ASR data and large-eddy simulations	81.049	DE-SC0008679		No	107,562
Process Studies of Climatically Relevant Parts of the Aerosol Life Cycle: Chamber Experiments on the	81.049	DE-SC0006677		No	82,767
Research in High Energy Physics	81.049	DE-FG02-91ER40654		No	(155)
Research in High Energy Physics	81.049	DE-SC0007881		No	1,462,432
Research Theoretical in High Energy Physics	81.049	DE-SC0007870		No	280,501
SISGER: Transport and Imaging of Mesoscopic Phenomena in Single and Bilayer Graphene	81.049	DE-SC0001819		No	653,955
SISGR: Room Temperature Single-Molecule Detection and Imaging by Stimulated Raman Scattering Microscopy	81.049	DE-SC0001548		No	214,148

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# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Study of Plant Cell Wall Polymers Affected by Metal Accumulation Using Stimulated Raman Scattering Microscopy	81.049	DE-SC0006732		No	397,007
The ARM Climate Research Facility in the Amazon Basin	81.049	DE-SC0006680		No	170,919
The c-AbJ Signaling Network in the Radio-Adaptive Response	81.049	DE-SC0009428		No	283,556
Theory of Electron Imaging in Small Devices	81.049	DE-FG02-08ER46513		No	167,127
Towards 3rd generation organic tandem solar cells w/ 20 percent efficiency: Accelerated discovery and rational design of carbon-based photovoltaic materials thru massive distrib. volunteer computing	81.049	DE-SC0008733		No	337,145
Ultracold Molecules: Physics in the Quantum Regime	81.049	DE-FG02-02ER15316		No	123,079
Understanding Jets at The Large Hadron Collider	81.049	DE-SC0003916		Yes	135,694
Understanding Jets at The Large Hadron Collider	81.049	DE-SC0003916		Yes	36,456
Water Splitting by Thin Film Metal-Oxo Catalysts	81.049	DE-SC0009565		No	252,209
<b>Subtotal of 81.049</b>	<b>81.049</b>				<b>11,290,377</b>
Hydrogen and its Isotopes at Ultra-High Pressure	81.112	DE-FG52-10NA29656		No	8,544
Planetary Science and Astrophysical Applications of Experimental Studies with the SNL Z facilities	81.112	DE-FG52-09NA29549		No	69
Pressing for Metallic Hydrogen	81.112	DE-NA0001990		No	205,879
Soft X-Ray Shock Loading and Momentum Coupling in Meteorite and Planetary Material	81.112	DE-FG52-09NA29457		No	238
<b>Subtotal of 81.112</b>	<b>81.112</b>				<b>214,730</b>
From Z to Planets	81.115	DE-NA0001804		No	259,398
<b>Subtotal of 81.115</b>	<b>81.115</b>				<b>259,398</b>
Engineering a Bacterial Reverse Fuel Cell	81.135	DE-AR0000079		Yes	315,046
Novel slippery coatings for extreme energy-savings associated with fluid handling in oil pipelines and water circulation systems	81.135	DE-AR0000326		No	997,755
Small Organic Molecule Based Flow Battery	81.135	DE-AR0000348		No	402,075
Small Organic Molecule Based Flow Battery	81.135	DE-AR0000348		No	375,346
<b>Subtotal of 81.135</b>	<b>81.135</b>				<b>2,090,222</b>
<b>Total Department of Energy Direct Award</b>					<b>13,854,727</b>
<b>Department of Homeland Security</b>					
Exercise Tolerance as a Predictor of Firefighters' Future Risks	97.044	EMW-2009-FP-00835		No	393,020
Non-Invasive Identification of LVH/Cardiomegaly in Firefighters	97.044	EMW-2011-FP-00663		No	136,782
<b>Subtotal of 97.044</b>	<b>97.044</b>				<b>529,802</b>
New Jersey UASI Meta-Leadership Training	97.067	No Award Number		No	55,102
<b>Subtotal of 97.067</b>	<b>97.067</b>				<b>55,102</b>
<b>Total Department of Homeland Security Direct Award</b>					<b>584,904</b>
<b>Department of Housing &amp; Urban Development</b>					
Benchmarking the Benefits of Green Public Housing: Health, Comfort and Environmental Performance	14.Unknown	MALHH0229-10		No	228,623
<b>Subtotal of 14.Unknown</b>	<b>14.Unknown</b>				<b>228,623</b>
<b>Total Department of Housing &amp; Urban Development Direct Award</b>					<b>228,623</b>
<b>Department of Justice</b>					
Community Corrections: An Executive Session on the Future of Correctional Policy	16.560	2012-R2-CX-0048		No	304,603
Policing in the New Century: An Executive Session on Public Safety	16.560	2011-JJ-CX-0025		No	290,639
<b>Subtotal of 16.560</b>	<b>16.560</b>				<b>595,242</b>
<b>Total Department of Justice Direct Award</b>					<b>595,242</b>
<b>Department of the Interior</b>					
Digitization of Analogue Seismograms for Improved Seismicity Constraints in the Northeastern United States	15.807	G14AP00016		No	7,649
<b>Subtotal of 15.807</b>	<b>15.807</b>				<b>7,649</b>
Monitoring phenology as a method to track ecosystem responses to climate change	15.808	G10AP00129		No	145
<b>Subtotal of 15.808</b>	<b>15.808</b>				<b>145</b>
Application of a biotechnology technique for accurate identification and regional localization of mammalian materials in Native American cultural heritage	15.923	P13AP00078		No	15,269
<b>Subtotal of 15.923</b>	<b>15.923</b>				<b>15,269</b>
<b>Total Department of the Interior Direct Award</b>					<b>23,063</b>
<b>Department of Transportation</b>					
Natural Sounds Program	20.Contract	DTRT5714P80033		No	50,472
<b>Subtotal of 20.Contract</b>	<b>20.Contract</b>				<b>50,472</b>
Center of Excellence for Research in the Intermodal Transport Environment (RITE)	20.Unknown	10-C-RITE-HU		No	162,267
Health Impacts of Aviation-Related Air Pollutants (PARTNER PHASE III-FY10)	20.Unknown	09-C-NE-HU-009		No	116,630
<b>Subtotal of 20.Unknown</b>	<b>20.Unknown</b>				<b>278,897</b>
<b>Total Department of Transportation Direct Award</b>					<b>329,369</b>

The accompanying notes are an integral part of this schedule.



# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
<b>Department of Veterans Affairs</b>					
Comparative Effectiveness of Localized Prostate Cancer Treatments (Pilot Study)	64.Contract	PPO-10-280		No	10,113
Comparative Effectiveness of Treatment Options for Asymptomatic Carotid Disease	64.Contract	PPO-10-271		No	10,113
Ultraviolet Nursing Home Influenza Prevention (UNHIP) Field Study	64.Contract	VA241-12-C-0045-518c35116		No	1,261
Ultraviolet Nursing Home Influenza Prevention (UNHIP) Field Study	64.Contract	VA241-13-D-0153		No	78,421
<b>Subtotal of 64.Contract</b>	<b>64.Contract</b>				<b>99,908</b>
<b>Total Department of Veterans Affairs Direct Award</b>					<b>99,908</b>
<b>DHHS</b>					
Impact Evaluation of Combination HIV Prevention Interventions in Botswana	93.067	5U01GH000447-03REVISED		No	4,742,342
Impact Evaluation of Combination HIV Prevention Interventions in Botswana	93.067	3U01GH000447-03S1		No	63,272
<b>Subtotal of 93.067</b>	<b>93.067</b>				<b>4,805,614</b>
Green Housing Study; Boston Follow up	93.070	5U01EH000991-02Rev		No	217,914
<b>Subtotal of 93.070</b>	<b>93.070</b>				<b>217,914</b>
A Regulatory Framework for Substantial Equivalence Product Applications under the FSPTCA	93.077	1R21DA036485-01Revised		No	144,426
Lung Cancer Disparities Center: Jointly Addressing Race and Socioeconomic Status	93.077	5P50CA148596-05S1Revised		No	2,120,950
The evolutionary and molecular mechanisms underlying sperm performance in an emerging mammalian model	93.077	5K99HD071972-02		No	119,525
<b>Subtotal of 93.077</b>	<b>93.077</b>				<b>2,384,901</b>
THE MDEPINET MEDICAL COUNTER MEASURES STUDY	93.103	1U01FD004493-01 REVISED		No	175,074
<b>Subtotal of 93.103</b>	<b>93.103</b>				<b>175,074</b>
Epidemiological MCH/SPH Institute	93.110	5T03MC07648-09-00		No	26,000
Maternal and Child Health Training Grant	93.110	5T76MC00001-59-00		No	337,959
<b>Subtotal of 93.110</b>	<b>93.110</b>				<b>363,959</b>
Air pollution and Parkinson Disease: a GIS-based approach	93.113	5K01ES019183-05		No	122,426
Air Pollution, Epigenetics and Cardiovascular Health: A Human Intervention Trial	93.113	5R21ES021895-02		No	146,428
Ambient Particles and Cardiac Vulnerability in Humans	93.113	5P01ES009825-10revised		No	(127)
Arsenic Exposure, ER stress and Type 2 Diabetes	93.113	5R01ES022230-02rev		No	294,711
BPA, Phthalates and Stress: Mechanisms and Interactions for Childhood Obesity	93.113	5R01ES021357-03		No	620,710
Cardiovascular Effects of Particles: The Role of Oxidative Stress and Metal Pathways	93.113	5R01ES014663-04rev		No	(2,869)
CBH Partnership on Environmental Public Health Exploration and Mitigation	93.113	5R21ES017948-04		No	80,078
Climate Change and Cardiac Vulnerability in Humans	93.113	5R21ES020194-02		No	63,322
COPD and Response to Traffic Related Particles	93.113	5R01ES019853-03		No	686,568
Crossover Study on Human Exposure to Phthalates and Male Fertility	93.113	5R01ES017285-05		No	403,081
Data-Driven identification of environmental factors in cardiovascular disease	93.113	1K99ES023504-01		No	35,940
Dioxins and Male Pubertal Growth and Development	93.113	5R01ES014370-09Revised		No	496,669
DNA methylation and endocrine disrupting chemical exposure in children	93.113	5R21ES019173-02		No	4,822
DNA Methylation as a Biomarker of Exposure and Effect for Particles and Metals	93.113	5R01ES015172-08		No	650,734
Epidemiology of Immunotoxicant Exposure in Children	93.113	5R01ES012199-09		No	396,315
Epigenetic Regulation by Large Non-Coding RNAs in the p53 Mediated DNA Damage Response	93.113	5R01ES020260-04		No	440,168
Glucose Metabolism in Adults Prenatally Exposed to Diabetogenic Pollutants	93.113	5R01ES021477-02Revised		No	581,887
Graduate Training in Biostatistics	93.113	5T32ES007142-30rev		No	70,732
Graduate Training in Biostatistics	93.113	5T32ES007142-32		No	238,086
Gut Microbiome in Adults with Early Life Exposures to Environmental Chemicals	93.113	1R21ES023376-01		No	21,109
HSPH NIEHS Center for Environmental Health	93.113	5P30ES000002-50Revised		No	1,122,968
HSPH NIEHS Center for Environmental Health	93.113	2P30ES000002-51		No	219,663
Human Exposure to Bisphenol A, Phthalates and Fertility, Pregnancy Outcomes	93.113	5R01ES009718-15Revised		No	547,145
Immunotoxicity in Humans with Lifetime Exposure to Ocean Pollutants	93.113	5R01ES021993-03		No	174,993
Impact of Obesity on Airway Responses to Air Pollution	93.113	5R01ES013307-10		No	422,070
Individual and Community Factors Conveying Vulnerability to Weather Extremes	93.113	5R21ES020695-02		No	247,624
Integrative genomic analysis on the role of lncRNAs in the DNA damage response to environmental toxins	93.113	5K25ES022984-02		No	102,940
Interdisciplinary Training in Genes and the Environment	93.113	5T32ES016645-05		No	214,438
Liability threshold modeling of genes and environment in case-control studies	93.113	5R21ES020754-03		No	64,082
Manganese Transport and Toxicity	93.113	5R01ES014638-09Rev		No	323,688
Maternal and Paternal Flame Retardant Exposure, Impact on Fertility and Pregnancy	93.113	1R01ES022955-01A1		No	37
Measurement Errors in Environmental Epidemiology	93.113	5R01ES009411-09rev		No	313,431
Mercury Associated Neurobehavioral Deficit in Children	93.113	5R01ES009797-11rev		No	2,061
Mercury exposure from fish consumption in subsistence fishers in rural Oklahoma	93.113	5R21ES017941-04		No	35,419
Mercury, Selenium, and Risk of Cardiovascular Disease in Women and Men	93.113	5R01ES014433-05		No	(4,653)
Metal mixtures, children's cognition, and sensitive developmental windows	93.113	1K99ES022986-01rev		No	65,081
Mitochondriomic Biomarkers of Air Pollution Exposure and Respiratory Function Decline	93.113	1F32ES024068-01		No	4,325
Molecular and Epigenetic Mitochondriomics of Air Particles, Lead and Cognition	93.113	5R01ES021733-03		No	423,617
Platelet Mitochondrial Epigenetics: New CVD Markers of Particle and Metal Effects	93.113	1R21ES022694-01A1		No	26,282
Pollutant-related diabetes in the Nurses' Health Study II	93.113	5R01ES021372-02		No	574,139
Population-Based Study of Environmental Risk Factors for ALS	93.113	5R01ES019188-05		No	239,387
prenatal Exposure to Endocrine Disrupters, DNA Methylation, and Childhood Obesity	93.113	1K99ES023450-01		No	25,806
prenatal Programming of Neonatal Asthma Susceptibility	93.113	5R01ES017588-05revised		No	312,624
prospective Study of Air Pollution and Psychiatric Disorders	93.113	5R21ES019982-02		No	211,034
Resolution of ozone induced lung injury requires gamma/delta T cells	93.113	5F32ES022556-02Rev		No	56,556
RNAi Screen in Air Pollutant-Enhanced Influenza Infection	93.113	5R21ES019825-02		No	30,958
Semiparametric Methods for Gene-environment Interaction	93.113	5R01ES020337-03		No	254,914
Semiparametric Methods for Secondary Outcomes in Case-control Studies	93.113	5R21ES019172-02		No	61,902
Summer Intern Program (SIP) in Environmental Health Sciences	93.113	5R25ES020722-04		No	45,468
The Cardiopulmonary Effects of Particulate Exposure	93.113	5R01ES009860-12		No	307,407

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# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
The Role of Ultraviolet Radiation and Skin Pigmentation in Melanoma Development	93.113	5F30ES020663-02		No	30,169
Theory and Methods for Sufficient Cause Interactions	93.113	5R01ES017876-05		No	152,146
Training Program in Environmental Epidemiology	93.113	5T32ES007069-35		No	503,442
Transgenerational Susceptibility to Asthma from Air Pollution Exposure	93.113	5R21ES023281-02		No	136,311
Vulnerability and Adaptation to Heat and Air Pollution in a Changing Climate	93.113	1R21ES022585-01A1		No	46,682
<b>Subtotal of 93.113</b>	<b>93.113</b>				<b>12,644,946</b>
A Cognitive Approach to Refine and Enhance Use of a Dental Diagnostic Terminology	93.121	5R01DE021051-05		No	716,439
A whole systems approach to implementing standardized dental diagnostic terms	93.121	1 R01 DE023061-01A1		No	123,921
BMP2 regulation of the intramembranous bone stem cell niche	93.121	5R00DE021069-05		No	236,581
Characterization of cranial dermal bone-specific miRNAs	93.121	5R21DE021535-02		No	16,838
c-Kit Signaling in Osteoclast Function	93.121	5R03DE019819-02		No	(2,315)
Engineering Skeletal Muscle With Biodegradable Hydrogels	93.121	5R01DE013349-13S1		No	324,280
Epigenetic Regulation of HSV Infection of Oral Cells	93.121	1R56DE023909-01		No	239,246
Improving the Quality of Dental Care by Implementing a Clinical Checklist	93.121	1R21DE023408-01A1 REVISED		No	74,985
Polymeric Matrices With Defined Cell Adhesion	93.121	5R37DE013033-16 REVISED		No	217,085
Polymeric Matrices With Defined Cell Adhesion	93.121	2R01DE013033-17A1 REVISED		No	52,789
Programming dendritic cells in concert with morphagen delivery for periodontal regeneration	93.121	5R01DE019917-05		No	580,394
Role of a Novel Secreted Protein Tyrosine Kinase in Development	93.121	1R21DE024312-01		No	25,585
Role of the Bradykinin Pathway in Craniofacial Development	93.121	5F30DE022989-02		No	29,637
The Use of Novel Implantable Cancer Vaccines for the Treatment of Oral Cancer	93.121	5K99DE023577-02		No	85,518
Transient Receptor Potential Vanilloid-1 Sensitization in Inflammation	93.121	5F30DE023033-02 REVISED		No	24,538
<b>Subtotal of 93.121</b>	<b>93.121</b>				<b>2,745,521</b>
Harvard Prevention Research Center on Nutrition and Physical Activity - Category 1	93.135	3U48DP001946-05S1Rev		No	618,894
<b>Subtotal of 93.135</b>	<b>93.135</b>				<b>618,894</b>
Safety and Health Management of Hazards Associated with Emerging Technologies.	93.143	5R25ES023635-02		No	92,655
Superfund Metal Mixtures, Biomarkers and Neurodevelopment	93.143	5P42ES016454-04Revised		No	1,987,732
<b>Subtotal of 93.143</b>	<b>93.143</b>				<b>2,080,387</b>
Center of Excellence in Minority Health and Health Disparities	93.157	6 D34HP16868-03-04		No	81,012
<b>Subtotal of 93.157</b>	<b>93.157</b>				<b>81,012</b>
Accurate analysis of genome structural variation using large-scale sequence data	93.172	5U01HG006510-03 REVISED		No	731,018
Causal Transcriptional Consequences of Human Genetic Variation (CTCHGV)	93.172	5P50HG005550-05		No	3,135,501
Detecting natural selection by comparing African-ancestry populations	93.172	5R03HG006170-02rev		No	109,572
Electronic Sequencing in Graphene Nanopores	93.172	5R01HG003703-10		No	1,045,095
Flybase: A Drosophila Genomic and Genetic Database	93.172	3P41HG000739-21S2 REVISED		No	3,997,187
Heritability of complex traits via IBD and IBS in related and unrelated individuals	93.172	5R03HG006731-02		No	103,180
Insights from ancient and recent population mixture relevant to medical genetics	93.172	5F32HG006411-03 REVISED		No	10,631
Large-Scale High-Confidence Binary Protein Interaction Network for Drosophila	93.172	5R01HG007118-02		No	459,328
Mechanisms of Transcriptional Control Revealed by Nascent Transcript Sequencing	93.172	5R01HG007173-02		No	586,976
Methods for Genome-wide Association Studies in Admixed Populations	93.172	5R01HG006399-04		No	489,041
Multi-allelic copy number variation of the human genome	93.172	5R01HG006855-03		No	491,951
Protein complex inter-connections in Drosophila	93.172	1R21HG007123-02		No	288,128
Relaxing genetic models to identify genetic variants involved in gene-gene and gene-environment interactions	93.172	5R03HG006720-02		No	100,570
Systematic Exploration of the Human Interactome	93.172	5U41HG006673-03		No	964,730
Training in Bioinformatics and Integrative Genomics	93.172	2T32HG002295-11 REVISED		No	199,335
TRAINING PROGRAM IN BIOINFORMATICS AND INTEGRATIVE GENOMICS	93.172	5T32HG002295-9		No	355,888
Visualization of (Epi)Genomic Data for Discovery of Disease-Associated Variants	93.172	1K99HG007583-01A1		No	37,887
<b>Subtotal of 93.172</b>	<b>93.172</b>				<b>13,106,018</b>
Cellular and Molecular Mechanisms of Ear Morphogenesis	93.173	5R01DC007195-10		No	519,907
Characterizing Central Auditory Neurons in Drosophila melanogaster	93.173	5F31DC013220-02		No	24,082
Characterizing Odor Maps in the Olfactory Bulb and Cortex	93.173	5R01DC011558-04		No	164,143
Developmental Influences on the Functional Organization of the Vestibular System	93.173	5K99DC012775-02 REVISED		No	61,311
Force Spectroscopy and Structural Biology of Hair-Cell Tip Links	93.173	1K99DC012534-01 REVISED		No	2,745
Functional integration of adult-born neurons into the mammalian brain	93.173	5R01DC013329-02		No	545,337
Genetic analysis of brain circuits underlying pheromone signaling	93.173	5R01DC009019-05		No	333,137
Genetic Determinants of Taste Preferences and Risk of Metabolic Disease	93.173	1R03DC013373-01A1		No	1,166
Genetic Dissection of Auditory Circuit Assembly	93.173	5R01DC009223-05 REVISED		No	172,813
In Toto Imaging and genomics to Decode Ear Hair Cell Formation and Regeneration	93.173	5R01DC010791-05 Revised		No	372,615
Mechanics of Inner Ear Hair Bundles	93.173	5R03DC010466-03 REVISED		No	17,011
Molecular and Cellular Mechanisms of a Neuronal Network that Regulates Olfactory Learning	93.173	5R01DC009852-05		No	186,708
Molecular Basis of Inherited Deafness	93.173	5R01DC002281-17		No	429,725
Molecular Mechanisms of Auditory Transduction	93.173	5R01DC000304-30		No	449,905
Network anatomy of olfactory processing	93.173	5R03DC013622-02		No	60,669
Neural circuit mechanisms of odor localization in mice	93.173	5K99DC013305-02		No	109,241
Non-Canonical Olfactory and Vomeronasal Receptors	93.173	5R01DC010155-05		No	331,265
Olfactory navigation in Drosophila as a model for multi-sensory integration	93.173	5K99DC012065-02		No	36,037
Olfactory circuits that control behavior	93.173	1R01DC013289-01A1		No	99,808
Optogenetic studies of mouse olfaction	93.173	5R01DC011291-04 REVISED		No	287,028
Sensory processing of social and defensive chemosignals	93.173	3R01DC013087-02S1		No	713,291
Streamlined cloning of auditory and vestibular mutants by whole genome sequencing	93.173	5R21DC012097-02 REVISED		No	106,324
Synaptic and Circuit Mechanisms of Olfactory Processing	93.173	5R01DC008174-09		No	714,011

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
The role of MafB in auditory synapse development	93.173	5F32DC012695-02 REVISED		No	59,006
The role of short-term plasticity at the calyx of Held for auditory processing	93.173	5F30DC013716-02		No	42,006
Training for Speech and Hearing Sciences	93.173	5T32DC000038-23		No	1,061,759
<b>Subtotal of 93.173</b>	<b>93.173</b>				<b>6,901,050</b>
Structural Integration for Chronic Low Back Pain	93.213	5K01AT004916-05 REVISED		No	55,939
Tai Chi for Osteopenic Women: A Pilot Randomized Controlled Trial	93.213	5 R21 AT003503-05		No	124
<b>Subtotal of 93.213</b>	<b>93.213</b>				<b>56,063</b>
Health Policy Training Program	93.225	5T32HS000055-19		No	27,760
Health Policy Training Program	93.225	5T32HS000055-21		No	339,510
<b>Subtotal of 93.225</b>	<b>93.225</b>				<b>367,270</b>
A Translational Framework for Methodological Rigor to Improve Patient Centered Outcomes in End of Life Cancer Research	93.226	1K18HS021991-01A1		No	117,947
Comparative Effectiveness and Safety of Depression Treatments during Pregnancy	93.226	5R01HS018533-05Revised		No	476,245
Comparative Effectiveness of Basic and Advanced Life Support in Ambulances	93.226	1R36HS022798-01		No	21,793
Factors Associated with Effective Implementation of a Surgical Safety Checklist	93.226	5R18HS019631-03Revised		No	237,235
Medicaid Policy, Coverage, and Access to Care Among Low-Income Americans Under Health Reform	93.226	5K02HS021291-03		No	134,816
<b>Subtotal of 93.226</b>	<b>93.226</b>				<b>988,036</b>
Genetics of Sleep in Zebrafish	93.233	5R01HL109525-07		No	335,151
<b>Subtotal of 93.233</b>	<b>93.233</b>				<b>335,151</b>
A new approach to mental health: Phenotypes in family genomewide association scans	93.242	5R01MH087590-04rev		No	201,306
Activity-dependent phosphorylation of MeCP2	93.242	5K08MH090306-05		No	152,432
Characterizing the genetic systems of autism through multi-disease analysis	93.242	5R01MH090611-04 REVISED		No	276,157
Control of Glutamatergic Transmission by Acetylcholine Release in Striatum	93.242	5F31MH093026-03		No	28,806
Developing research capacity for mental health interventions for youth in Haiti	93.242	5R21MH093298-02		No	69,898
Development of Tonic and Phasic Neural Systems Mediating Affect and Anxiety	93.242	5R00MH087813-05		No	280,629
Effects of HIV and ARV Exposure on Child Health and Neurodevelopment in Botswana	93.242	3R01MH087344-05S1		No	396,651
Event-related Neuroimaging of Human Memory Formation	93.242	5R01MH060941-14		No	290,075
Experimental examinations of the mechanisms that generate the responses of midbrain dopamine neurons	93.242	5R01MH101207-02		No	401,125
Family Based Prevention of Mental Health Problems in HIV/AIDS Affected Children	93.242	3R34MH084679-03S1		No	419,487
Health Policy Training Program	93.242	5T32MH019733-20		No	147,360
Healthy Options: Group psychotherapy for HIV-positive depressed perinatal women	93.242	5R01MH100338-02		No	175,109
HIV Treatment Interruptions Among Labor Migrants in South Africa	93.242	5F30MH098797-02 REVISED		No	46,822
Imprinting a Connectome: Developmental Circuit Approach to Mental Illness	93.242	5P50MH094271-04		No	1,779,184
Influences on Psychiatrist Prescribing of Antipsychotics	93.242	5R01MH093359-03 REVISED		No	547,052
Large functional roles of long noncoding RNAs during neuronal development	93.242	1R01MH102416-01		No	228,456
Mental Health Coverage and Payment in Private Health Plans	93.242	2R01MH094290-03		No	84,106
Mental Health Coverage in Health Care Reform	93.242	5R01MH094290-02 REVISED		No	247,894
Mental Health Spending and Quality of Care	93.242	5R01MH081819-03 REVISED		No	14,240
METTL23 is essential for human cognitive function	93.242	5F30MH102909-02		No	41,450
Modeling schizophrenia gamma deficits using cell-specific RNAi knockdown of GAD67	93.242	5R21MH094803-02		No	28,339
Modeling the Impact of HIV Prevention Interventions	93.242	5R01MH087328-04		No	699,684
Neural circuits for computing dopamine prediction errors	93.242	5F30MH100729-02		No	29,784
Neural circuits that regulate dopamine neuron activity	93.242	5R01MH095953-03		No	421,901
Neural Dynamics in Schizophrenia	93.242	5R01MH080187-05		No	169,814
Neuronal Epigenomic Changes in Neurodevelopment and Disease	93.242	5R01MH094663-04		No	403,931
Neuronal mechanisms of attention: changes in sensitivity and decision criterion	93.242	1F31MH103895-01 REVISED		No	5,619
Neurophysiological Studies of Schizophrenia	93.242	5R01MH040799-25		No	7,111
Novel Statistical Approaches to Mental Health Phenotype Analysis in GWA Studies	93.242	5R01MH081862-06		No	302,699
Optimizing Delivery of ART/PrEP for HIV Prevention through Qualitative Research	93.242	1R01MH101027-01A1 REVISED		No	306,359
Peptide Modulation of Striatal Patch and Matrix Subdivisions	93.242	5R01MH100568-02		No	331,342
Ph.D. Training in Neuroscience	93.242	5T32MH020017-17 REVISED		No	582,800
Real time fMRI feedback and auditory processing in schizophrenia	93.242	5R21MH094509-02		No	127,239
Regulation of Memory by the microRNA/RISC Pathway	93.242	5R01MH081294-05 REVISED		No	164,739
Regulation of neuron and synapse function by neuropeptides	93.242	5R01MH085498-04		No	(24)
Schizophrenia International Research Society Scientific Conference	93.242	5R13MH082446-06 REVISED		No	36,530
Social Imprinting in the Development of Major Depression	93.242	5R01MH087544-04		No	118,827
Suicide Attempts and Unintentional Injury Among Older Americans on Psychotropics	93.242	5R01MH085021-03		No	95,828
Synaptic Basis of Sleep Cycle Control	93.242	5R01MH039683-28 REVISED		No	191,031
Technology Diffusion under New Payment and Delivery Models	93.242	1U01MH103018-01 REVISED		No	236,922
The algorithms used by the genome to interpret neural activity	93.242	5R01MH101528-02		No	567,515
The biochemical correlates of sleep homeostasis	93.242	5R01MH099180-02		No	113,053
The effects of social deprivation on socio-cognitive functioning	93.242	5R21MH096992-02		No	209,199
Training Program in Psychiatric Genetics and Translational Research	93.242	5T32MH017119-28		No	344,594
World Congress of Psychiatric Genetics Student Awards	93.242	5R13MH060596-15 REVISED		No	42,497
<b>Subtotal of 93.242</b>	<b>93.242</b>				<b>11,365,572</b>
Determinants of Multistage Musculoskeletal Pain Among Construction Workers	93.262	1K01OH010485-01		No	73,800
Interactions of Biomechanics and Psychosocial Stressors and MSDs in the Modern Office	93.262	5R01OH008781-03rev		No	101,269
Lung Disease in Chinese Textile Workers	93.262	5R01OH002421-20		No	418,146
The Harvard School of Public Health Center for Work, Health and Wellbeing	93.262	5U19OH008861-08		No	1,370,696
The HSPH Education and Research Center for Occupational Safety and Health	93.262	5T42OH008416-08rev		No	6,494
The HSPH Education and Research Center for Occupational Safety and Health	93.262	5T42OH008416-10		No	1,161,526
<b>Subtotal of 93.262</b>	<b>93.262</b>				<b>3,131,931</b>

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Alcohol and Cell Adhesion	93.273	5R01AA012974-13 REVISED		No	394,359
Behavioral Couples Group Therapy for Alcoholic Patients: Clinical and Cost Outcomes	93.273	5R01AA017865-05		No	315,888
Endocannabinoid signaling in alcohol induced hepatic steatosis	93.273	5F31AA022548-02		No	25,993
Functional genetic evolution of human brain and behavior	93.273	5R01AA019688-05		No	387,327
GABAA receptor subtype mechanisms in nonhuman primate models of alcohol abuse	93.273	5R01AA016179-03 REVISED		No	87,832
Opioid Receptor Polymorphisms and Nonhuman Primate Models of Alcohol Abuse	93.273	5R01AA016828-05 REVISED		No	127,161
Patients, Clinics, and Systems: Screening for Alcohol Use	93.273	7K24AA000289-11 REVISED		No	17,374
<b>Subtotal of 93.273</b>	<b>93.273</b>				<b>1,355,934</b>
Anxiolytic Effects and Abuse of BZ Receptor Ligands	93.279	5R01DA011792-15 REVISED		No	32,582
Behavioral Couples Therapy for Female Drug-Abusing Patients	93.279	5R01DA025618-05		No	484,854
Biological Prediction of Psychosis Susceptibility among Adolescent Cannabis Users	93.279	5R01DA021576-07		No	17,972
Compartment-specific signaling of striatal opioid peptides in reward-guided behavior	93.279	5K99DA034648-02		No	104,252
Developmental gene networks of 5HT neurons in addiction, aggression, and anxiety	93.279	1R01DA034022-01A1		No	127,932
Dopaminergic Enabling of Synaptic Plasticity in Prefrontal Circuits	93.279	5R01DA032283-04		No	398,543
Drug Abuse-related Neurobiology and Genetic Variance Modeled in Rhesus Monkeys	93.279	5K02DA025697-05		No	111,757
Duration of Behavioral Counseling Treatment Needed to Optimize Smoking Abstinence	93.279	5R01DA012165-10		No	6,197
Epigenetic Regulation of Serotonin: Relevance to HIV and Methamphetamine Abuse	93.279	5R21DA030177-03 REVISED		No	78,395
Function of RIM-dependent Synaptic Plasticity in Cocaine-induced Behaviors	93.279	5K01DA029044-06		No	157,055
Function-specific serotonergic neurons, discrete brain targets, and addiction	93.279	1R21DA036056-01A1		No	56,222
Generation and characterization of tools for target-specific de novo DNA methylation	93.279	5R01DA036898-02		No	272,297
Integration and Dynamics of Neuromodulator Action in the Striatum	93.279	1F32DA035543-01A1		No	4,830
Methamphetamine and neurodevelopment in adolescent and adult mice	93.279	5R21DA029790-02		No	216
Monitoring Neural Activity in Freely Behaving Zebrafish Larvae with Bioluminescence	93.279	5R01DA030304-04		No	264,342
Naltrexone and AIDS progression	93.279	1R21DA034420-02		No	228,150
Neurosteroid-BZ combinations: Strategy for reducing abuse and sedation	93.279	5R01DA033795-02 REVISED		No	68,059
Presynaptic Mechanisms for Variability in Human Dopamine Function and Impulsivity	93.279	1R03DA034126-01REV		No	169,843
Retrograde Signaling by Endogenous Cannabinoids	93.279	5R01DA024090-10		No	(215)
Substance Use Disorder Treatment under New Payment and Delivery System Models	93.279	5R01DA035214-02		No	557,543
<b>Subtotal of 93.279</b>	<b>93.279</b>				<b>3,140,446</b>
Function of microtubule plus-end-tracking proteins in the neuronal growth cone	93.281	5K99MH095768-02		No	45,334
Mentoring in Qualitative Methods for Patient-Oriented Research on HIV Care	93.281	5K24MH090894-05		No	158,561
<b>Subtotal of 93.281</b>	<b>93.281</b>				<b>203,895</b>
Behavioral and Physiological Predictors of Suicidal Behavior in Adolescents	93.282	5F32MH097354-03		No	49,214
Evaluation of a community-based psychosocial intervention for war-affected youth	93.282	5F31MH097333-02		No	29,529
Health Policy Training Program	93.282	5T32MH019733-18 REVISED		No	(3,585)
Ph.D. Training in Neuroscience	93.282	5T32MH020017-15		No	43,476
<b>Subtotal of 93.282</b>	<b>93.282</b>				<b>118,634</b>
Biomaterial based breast cancer vaccine	93.286	5R01EB015498-02		No	374,822
Building the Hematopoietic Stem Cell Niche	93.286	5R01EB014703-04		No	756,594
Engineering Microbial Rhodopsins as Optical Voltage Sensors	93.286	5R01EB012498-04 REVISED		No	302,234
New Chemical Methods for Molecular Imaging to Impact Clinical Care	93.286	5R01EB013042-04		No	572,077
<b>Subtotal of 93.286</b>	<b>93.286</b>				<b>2,005,727</b>
Functional Activity and Inter-organismal Interactions in the Human Microbiome	93.301	5R01HG005969-03REVISED		No	227,937
<b>Subtotal of 93.301</b>	<b>93.301</b>				<b>227,937</b>
Addressing Mental Health Disparities in Refugee Children: A CBPR Collaboration	93.307	5R24MD008057-02		No	177,799
Harvard School of Public Health MHIRT Training Program Grant	93.307	5T37MD001449-16rev		No	129,373
Harvard School of Public Health MHIRT Training Program Grant	93.307	2T37MD001449-17		No	156,639
MassCONNECT 4 Kids: Promoting Smoke-Free Homes	93.307	5R24MD002772-05REVISED		No	264,064
Understanding Disparities in Patient-Centered Hospital Care	93.307	5R01MD006230-03REVISED		No	265,348
<b>Subtotal of 93.307</b>	<b>93.307</b>				<b>993,223</b>
A New Genetic Approach for Studying Prions and other Pathogenic Protein Aggregate	93.310	8DP1A1H04284-05 REVISED		No	417,938
A Road Map to the Neocortex	93.310	5DP1MH099906-04		No	1,082,331
Biocompatible Chemistry for In Vivo Metabolite Modification	93.310	1DP2GM105434-01		No	694,385
Biophysical approaches to complex navigational behaviors in larval Drosophila melanogaster	93.310	8DP1GM105383-05 REVISED		No	475,629
Cellular Control of Microtubule-based Transport: Unraveling its Molecular Mechanism	93.310	1DP2OD004268-01 REVISED		No	(271)
Coordinating Center for the Undiagnosed Diseases Network	93.310	1 U01 HG007530-01		No	248,856
Dynamic cellular architecture of bacteria by system-wide super-resolution imaging	93.310	5R01GM096450-05		No	537,041
Engineering Bioimaging Probes Based on Triggered Molecular Geometry	93.310	1DP2OD007292-01 REVISED		No	789,897
Epistatic and Cross Tissue Analysis for Human Gene Expression Traits	93.310	5R01MH090948-02		No	39,760
High Resolution Connectomics of Mammalian Neural Circuits	93.310	5R01NS076467-04		No	2,923,630
Host and Pathogen Evolution in Lassa Fever	93.310	1DP2OD006514-01 Rev5		No	720,827
Imaging the Invisible with no Labels: A Major Opportunity in Biology and Medicine	93.310	5R01EB010244-05		No	872,259
Investigating the Role of Alternative Splicing Regulatory Networks in Nervous System Development and Function	93.310	5DP5OD009153-04		No	420,873
Modeling the Aging Epigenome	93.310	5DP1AG044161-05		No	558,413
Nano- and Microelectronic Tools for Interrogating Neuronal Circuits and Networks	93.310	8DP1DA035083-05 REVISED		No	(41,220)
Nanowire Nanoelectronic Cell Assemblies as Hybrid Functional Biomaterials	93.310	8DP1GM105379-05		No	332,034
Optical Sensing of Voltage, pH, and Small Molecules Using Microbial Rhodopsins	93.310	1DP2OD007428-01 REVISED		No	376,150
Pancreatic Islet Design and Engineering (SysCODE 3 of 10)	93.310	5RL1DK081184-05		No	21,026
Pharmac Response Signatures and Disease Mechanism	93.310	3U54HG006097-03S3		No	2,785,147
Physician Determinants of Health Care Spending, Quality, and Patient Outcomes	93.310	1DP5OD017897-01 REVISED		No	226,037
Probing Dynamics of The Human Genome by Single Cell Sequencing	93.310	5DP1CA186693-02 REVISED		No	239,890
Quantitative Imaging of Signaling Networks	93.310	5R01GM090317-05 REVISED		No	698,585
Revealing fear: new methods to study neural circuits, behavior and disease	93.310	1DP2OD007109-01		No	174,041

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
RNA and Chromatin Formation: From Discovery to Mechanism	93.310	7DP2OD006670-02 REVISED		No	1,055,085
Single cell analysis of metabolism using genetically-encoded fluorescent sensors	93.310	5DP1EB016985-03		No	1,246,759
Super-resolution imaging via programmable autonomous blinking	93.310	1R01EB018659-01		No	287,935
The inheritance of position: It's not just who you are, it's where you are	93.310	5DP1GM06412-03		No	676,469
Using mobile phones for social and behavioral sensing of mood disorder patients	93.310	1DP2MH103909-01		No	99,973
Watching a vertebrate brain learn and behave in a virtual environment	93.310	5DP1NS082121-04		No	864,771
<b>Subtotal of 93.310</b>	<b>93.310</b>				<b>18,824,250</b>
Harvard Clinical and Translational Science Center	93.350	1KL2TR001100-01 REVISED		No	643,308
Harvard Clinical and Translational Science Center	93.350	1TL1TR001101-01 REVISED		No	528,136
Harvard Clinical and Translational Science Center (KL2)	93.350	3KL2TR000168-05S1 REVISED		No	599,728
Harvard Clinical and Translational Science Center (TL1)	93.350	8TL1TR000169-05 REVISED		No	51,408
Human Cardio-Pulmonary System on a Chip	93.350	4UH3TR000522-03		No	1,144,339
<b>Subtotal of 93.350</b>	<b>93.350</b>				<b>2,966,919</b>
New England Primate Research Center Base Grant	93.351	3P51OD011103-51S1 REVISED		No	10,001,263
Research Training in Veterinary and Comparative Pathology	93.351	5T32OD011064-38		No	254,641
Self-Injurious Behavior and Primate Well-Being	93.351	8R24OD011180-15 REVISED		No	112,810
The NEPRC SPF Rhesus Macaque Breeding Colony	93.351	5U42OD010849-13 REVISED		No	1,167,858
<b>Subtotal of 93.351</b>	<b>93.351</b>				<b>11,536,572</b>
HRQOL Impacts of Illness on Family and Caregivers	93.361	7R01NR011880-03rev		No	6,263
Novel Epigenomic Biomarkers of Prenatal Risk Factors, and Childhood Obesity	93.361	5R01NR013945-02rev		No	280,371
<b>Subtotal of 93.361</b>	<b>93.361</b>				<b>286,634</b>
Bone metabolism and bone metastases in prostate cancer	93.389	5R01CA179129-02		No	188,344
Cancer Epidemiology Cohort in Male Health Professionals	93.389	5UM1CA167552-02		No	2,442,230
Cervical Cancer Screening in Homeless Women: A Discrete Choice Experiment	93.389	5R21CA164712-02		No	172,377
Circulating Vitamin D Levels and Risk of Breast and Colorectal Cancer: a Pooled Analysis	93.389	5R01CA152071-04		No	185,793
Comparative and Cost-Effectiveness of Preventing HPV-Related Diseases	93.389	5R01CA160744-03		No	373,343
Design and Characterization of Cigarettes	93.389	5R01CA087477-12Rev		No	471,530
Development of Validated Drosophila in Vivo RNAi Models of Human Diseases	93.389	3R24OD011176-04S1		No	376,805
Discovery, Biology and Risk of Inherited Variants in Breast Cancer	93.389	5U19CA148065-04		No	2,490,733
Do Medicare Claims Measure Cancer Relapse Patients: An External Validation Study	93.389	5R21CA155351-02		No	97,766
Energy Balance-Related Hormones and Prostate Cancer Incidence and Progression	93.389	5R01CA133891-05REVISED		No	639,104
Explaining Variations in End-of-Life Care Intensity	93.389	5R01CA164021-03		No	470,261
Gastric Cancer Prevention: Evaluating U.S. Risk Factor Trends and New Technology	93.389	5K07CA143044-05		No	131,960
Gene-environment EBV Interactions in the Etiology of Nasopharyngeal Carcinoma (NPC)	93.389	5R01CA115873-06		No	686,756
Genomic targets of oncoproteins and tumor suppressors	93.389	5R01CA107486-08 REVISED		No	947,947
Gut microbiota and inflammatory monocytes in colorectal cancer	93.389	5R01CA154426-04Rev		No	325,106
GWAS on childhood body fatness as an intermediate phenotype of breast cancer	93.389	5R03CA165131-02		No	103,453
Jim Crow and health disparities: exploring age-period-cohort effects	93.389	5R21CA168470-02rev		No	280,559
Life Course Cancer Epidemiology Cohort in Women	93.389	5UM1CA176726-02		No	1,638,841
Long-Term Trends in Breast Cancer Tumor Profiles and Disparities	93.389	5R21CA166115-02		No	250,926
Measurement Errors in Cancer Epidemiology	93.389	5R01CA050597-18rev		No	293,810
Measuring and Improving Colonoscopy Quality Using Natural Language Processing	93.389	7R01CA168959-02 REVISED		No	190,757
Mechanisms of Eukaryotic Translation Initiation	93.389	5R01CA068262-19 REVISED		No	215,308
Methods to Identify Genetic Markers That Interact with Multiple Environmental Exposure	93.389	5R21CA165920-02revised		No	166,456
Molecular and Genetic Analysis of Lung Cancer Survival	93.389	5R01CA092824-11		No	340,861
Papillomavirus E2 Functions: Cellular Regulation and Effectors	93.389	5R01CA116720-08		No	437,643
Population-based assessment of cancer trial generalizability in the elderly	93.389	5R01CA132900-05 REVISED		No	243,811
Premenopausal Hormone Levels and Risk of Breast Cancer	93.389	5R01CA067262-16rev		No	229,267
Prospective Studies of Diet and Cancer in Men and Women	93.389	5U19CA055075-20-REVISED		No	(578,718)
Reducing Skin Cancer Risk in Childhood Cancer Survivors	93.389	5R01CA175231-02		No	644,407
Regulatory mechanisms and role of the PI3K-TSC-mTOR signaling network in tumors	93.389	5R01CA122617-09		No	440,315
Restrictive Provisions in Faculty Consulting Agreements with Industry (Phase I)	93.389	5R21RR031916-02		No	3,039
Risk Factors for Breast Cancer in Younger Nurses	93.389	5R01CA050385-25		No	2,595,038
Signal processing for accurate detection of copy number variants in cancer	93.389	5R03CA165070-02rev		No	51,778
Small Molecule Screen Targeting p53 proteolysis in HPV positive cancers	93.389	5R21CA175473-02		No	222,990
Social Networks and the Spread of Cancer Care Practices	93.389	5R01CA174468-02		No	1,012,322
Statistical Informatics for Cancer Research	93.389	5P01CA134294-05		No	203,161
Statistical Informatics for Cancer Research	93.389	5P01CA134294-07		No	638,007
Statistical Methods for Correlated and High-Dimensional Biomedical Data	93.389	5R37CA076404-18		No	299,935
The genetic architecture of breast cancer risk factors and breast cancer	93.389	5R03CA173785-02		No	73,169
The role of beclin 1/class III PI-3 kinase and p53 in breast tumorigenesis	93.389	7R01CA125144-05		No	100,555
Use of Geographic Variations to Estimate Effectiveness with Non-Randomized Data	93.389	5R01CA142744-03		No	137,383
Validity of Diet and Activity Measures in Men	93.389	5U01CA152904-04		No	1,341,732
Whole Genome Amplification and Sequencing of Single Cancer Cells	93.389	5R33CA174560-02		No	196,233
<b>Subtotal of 93.389</b>	<b>93.389</b>				<b>21,773,093</b>
Clustered semi-competing risks analysis in quality of end-of-life care studies	93.393	1R01CA181360-01		No	152,957
<b>Subtotal of 93.393</b>	<b>93.393</b>				<b>152,957</b>
A p53/NFkB-mediated metabolic mechanism for chemotherapy protection	93.395	1R01CA183074-01A1		No	18,909
Mechanistic Pharmacology of Anti-Mitotics and Apoptosis Regulation	93.395	5P01CA139980-05		No	1,856,891
Modulation of p53 function by tyrosine kinase networks	93.395	5R01CA167814-03		No	414,554
Synthesis and Study of Natural and Non-natural Antiproliferative Agents	93.395	5R01CA047148-27 REVISED		No	633,502
<b>Subtotal of 93.395</b>	<b>93.395</b>				<b>2,923,856</b>

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Analysis of Intratumoral Crosstalk in Clonal Populations of Ovarian Tumor Cells	93.396	1R01CA181543-01		No	61,989
MDM2 and MDMX function together as the p53 E3 ligase	93.396	5R01CA085679-13		No	354,009
Mitogenic and Oncogenic Regulation of ERK/RSK Signaling	93.396	5R37CA046595-26		No	(3,018)
Mitogenic and Oncogenic Regulation of ERK/RSK Signaling	93.396	2R01CA046595-27A1 REVISED		No	634,739
Notch Signaling in Mammary Development and Tumorigenesis	93.396	5R01CA098402-11		No	341,645
Structural and Mechanistic Studies of Regulation of let-7 biogenesis by Lin28'	93.396	5R01CA163647-03		No	336,667
Structure and function in Notch Signaling	93.396	7R01CA092433-11 REVISED		No	361,547
Structure and Mechanism in DNA Excision Repair	93.396	5R01CA100742-10 REVISED		No	22,615
<b>Subtotal of 93.396</b>	<b>93.396</b>				<b>2,110,193</b>
Harvard Transdisciplinary Research in Energetics and Cancer	93.397	5U54CA155626-04		No	1,867,236
<b>Subtotal of 93.397</b>	<b>93.397</b>				<b>1,867,236</b>
A Global Screen for Genes Regulating Cdt1 Turnover In Response To DNA Damage	93.398	5F32CA139885-03		No	4,597
Analyzing the Efficacy of Galectin-1 ligand inhibition in Adoptive T Cell Therapy	93.398	5F31CA171520-02		No	22,810
Biostatistics/Epidemiology Training Grant in Biostatistics	93.398	5T32CA009337-34		No	495,225
Chemical suppressors of the neural crest lineage for the treatment of melanoma	93.398	5F31CA180313-02		No	31,211
Defining the CD44-STAT3 axis in the pathogenesis of triple-negative breast cancer	93.398	5F30CA180340-02		No	32,348
Exploring the mechanism and function of somatic homolog pairing	93.398	5F32CA157188-03		No	53,767
Genomic and Functional Dissection of GTPase-Mutant Melanoma	93.398	5F31CA171320-02		No	28,379
Harvard Education Program in Cancer Prevention Control	93.398	5R25CA057711-20Revised		No	493,786
Investigating Merkel Cell Polyomavirus Small T Antigen-Host Interactions	93.398	5F31CA177274-02		No	31,241
Investigation of a candidate chemotherapy-induced nausea sensory circuit	93.398	1F30CA177170-01A1 REVISED		No	15,995
Large-scale F1 Somatic Screens for New Tumor Suppressors and Oncogenes in Drosophila	93.398	5 F32 CA168084-02		No	4,212
Mechanisms of extracellular matrix mediated drug resistance	93.398	5K99CA180221-02		No	79,386
MIR-146b, a novel STAT target: regulatory mechanisms and role in cancer	93.398	5F30CA165740-02		No	33,633
Mitochondrial Homeostasis in Metabolically Distinct Subsets of B-Cell	93.398	5F31CA171400-03		No	27,971
Molecular analysis of the function of BRCA1-TONSL complexes	93.398	5F30CA167895-03		No	44,985
mTORC1 Regulation by Amino Acids	93.398	5F31CA173942-02		No	27,069
Network organization and dynamics of the Hippo pathway during oncogenesis	93.398	5F32CA165738-03 REVISED		No	53,935
Novel UV-induced DNA lesions as new signature mutations for melanoma	93.398	1F31CA176930-01		No	16,738
Nutritional Epidemiology of Cancer Education and Career Development Program	93.398	5R25CA098566-10		No	432,943
Pathobiology of Cancer at the Host and Population Level	93.398	5T32CA009382-30		No	101,991
Perturbation of a cellular microRNA by human papillomavirus type 16	93.398	5F31CA180516-02		No	32,263
Probing the Role of TIM-4 in Cross-Presentation of Tumor-Associated Antigens	93.398	5F31CA171339-03		No	28,806
Program for Training in Cancer Epidemiology	93.398	5T32CA009001-38		No	736,180
Quantitative and Spatial Optimization for Designing Cancer Therapeutics	93.398	5F32CA168274-03		No	51,639
Regulation of Cell Motility by the Oncogenic ERK-MAPK Pathway	93.398	5K01CA168850-02 REVISED		No	48,850
Regulation of Glutamine Metabolism by SIRT3 in Tumor Cells	93.398	1F31CA183575-01		No	1,433
Role of the transcription factor Cdx2 in intestinal stem cells	93.398	5F31CA180784-02		No	24,082
Stress as a determinant of smoking among sub-populations of Blacks in the U.S.	93.398	5F31CA142259-02rev		No	(3,865)
The differential regulation of poly(ADP-ribose) in cancer and its role in protein	93.398	5K99CA175176-02		No	84,337
The role of Folliculin, tumor suppressor mutated in BHD, in mTOR nutrient sensing	93.398	5F30CA180754-02		No	43,560
The Role of Mechanics in Tumor Progression and Malignancy	93.398	5F32CA153802-03		No	6,052
The Role of SWI/SNF Alternative Splicing in Cancer	93.398	5F31CA183558-02		No	27,539
The Role of the Human Holliday Junction Resolvase Component SLX4 in DNA Recombination and Repair	93.398	5F32CA159612-03		No	54,467
<b>Subtotal of 93.398</b>	<b>93.398</b>				<b>3,167,565</b>
Statistical Methods for Analysis of Failure Time Data	93.399	5R01CA075971-11revised		No	22,117
<b>Subtotal of 93.399</b>	<b>93.399</b>				<b>22,117</b>
Harvard Prevention Research Center on Nutrition and Physical Activity - Category 1	93.542	5U48DP001946-04Revised		No	146,966
Harvard Prevention Research Center on Nutrition and Physical Activity - Category 1	93.542	5U48DP001946-05Rev		No	340,922
<b>Subtotal of 93.542</b>	<b>93.542</b>				<b>487,888</b>
A Systems Approach to Advancing Workforce Inclusion and Diversity	93.701	1DP4GM096852-01 REVISED		Yes	150,549
Accounting for confounding bias and heterogeneity in comparative effectiveness	93.701	1RC4MH092717-01 REVISED		Yes	205,239
Deconvolution of metabolic adaptation of endoplasmic reticulum	93.701	1RC4DK090942-01rev		Yes	190,591
Genome Surveillance for Drug Resistant Malaria	93.701	5R01AI075080-02		Yes	(497)
GWAS on Determinants of HIV-1 Subtype C Infection	93.701	1RC4AI092715-01rev		Yes	1,432,679
Identification of Genes and Compounds that Control Beta Cell Replication	93.701	1RC4DK090781-01 REVISED		Yes	313,966
New England Primate Research Center Base Grant	93.701	3P51RR000168-48S4 REVISED		Yes	(15,784)
Personalized Medicine in Comparative Effectiveness	93.701	1RC4CA155940-01rev		Yes	85,222
Prospective Studies of Diet and Cancer in Men and Women	93.701	3P01CA055075-18S1		Yes	(99)
Quantifying post-translational modifications and protein expression by HTP-MS	93.701	1RC4GM096319-01 REVISED		Yes	605,353
Regulation of Osteoblast Differentiation by Delta FosB	93.701	3R01AR048218-07S1 REVISED		Yes	11,291
Using GWAS Data for Enhanced Mendelian Randomization Studies	93.701	1RC4MH092707-01rev		Yes	243,282
<b>Subtotal of 93.701</b>	<b>93.701</b>				<b>3,221,792</b>
Innovation Platform for Substitutable Apps with Access to Networked Healthcare Data	93.728	90TR0001/01		Yes	3,734,972
<b>Subtotal of 93.728</b>	<b>93.728</b>				<b>3,734,972</b>
Circulating Dietary and Metabolic Fatty Acids, Major CVD Outcomes, and Healthy Aging	93.837	2R01HL085710-06A1Revised		No	406,120
Comparative-Effectiveness of Population Strategies to Improve Diet and Reduce CVD in the US	93.837	5R01HL115189-02		No	322,833
CVD Epidemiology Training Program in Behavior, the Environment and Global Health	93.837	5T32HL098048-05		No	177,298
Defining Genetic Architecture and Pathways of DCM	93.837	5R01HL080494-08		No	455,837
Dietary Etiologies of Heart Disease and Cancer	93.837	5R01HL035464-25		No	584,463
Dietary Fat and HDL Metabolism	93.837	5R01HL095964-05		No	734,141
Dietary Patterns and Risk of Cardiovascular Disease	93.837	5R01HL060712-13		No	195,603
Endogenous Anti-Inflammatory Lipid Mediators, Fish Oil and Post-Operative Atrial Fibrillation	93.837	5R21HL109924-02rev		No	244,354

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Engineering Capillary Networks	93.837	5R01HL069957-08 REVISED		No	630,089
Estimating Effects of Interventions in Longitudinal Data	93.837	5R01HL080644-09rev		No	280,904
Genetic Markers of CHD in Type 2 Diabetes	93.837	5R01HL071981-08Rev		No	224,882
Global Cardiovascular Disease Policy Model for Screening Prevention and Treatment	93.837	5R01HL104284-04		No	539,885
Identifying Ways to Reduce Readmissions Among Minority-Serving U.S. Hospitals	93.837	5R01HL113567-03Rev		No	487,082
Long Term Outcomes of Open Versus Endovascular AAA Repair	93.837	5R01HL105453-03		No	485,842
Macrophage Regulation of the Hematopoietic Stem Cell Niche	93.837	5K99HL119559-02		No	70,040
Mapping Transcriptional Networks in Cardiac Development	93.837	5U01HL098166-06		No	1,837,933
Mechanism and inhibition of SREBP-dependent cholesterol/lipid metabolism	93.837	5R01HL116391-02		No	605,404
Mediterranean diet, Metabolites, and cardiovascular Disease	93.837	1R01HL118264-01		No	258,372
Molecular Signaling in Hypertrophic Cardiomyopathy	93.837	5R01HL084553-05 REVISED		No	7,548
NHLBI Summer Training Experience to Increase Diversity in Health-Related Research	93.837	1R25HL121029-01 REVISED		No	9,955
Proximity to Food Establishments and BMI in the Framingham Heart Study	93.837	5R01HL109263-02 REVISED x 2		No	(5,319)
Statistical methods for rare variant effects in sequencing association studies	93.837	5K99HL113164-02revised		No	12,415
Stem Cell Models of Familial Combined Hypolipidemia	93.837	5R01HL118744-02 REVISED		No	461,552
SysCODE: PMAGE Technology Development (10 of 10)	93.837	5PL1HL092552-05REVISED		No	8
The Role of Diabetes in Fibrosis and Peripheral Artery Disease	93.837	1F30HL118775-01A1 REVISED		No	15,854
Vitamin D supplementations as adjunct to anti-tuberculosis drugs in Mongolia	93.837	5R00HL089710-06		No	255,836
<b>Subtotal of 93.837</b>	<b>93.837</b>				<b>9,298,931</b>
Factors that Promote and Support Careers of Women of Color in Academic Medicine	93.838	5R01HL101996-04 REVISED		No	291,373
Mechanics of Monolayer Migration	93.838	5R01HL107561-04		No	446,612
Mechanism and Function of Beta-2 Adrenergic Receptor Degradation in the Lung	93.838	5R01HL114769-02		No	282,735
Mechanobiology of Lung Fibrosis	93.838	5R01HL092961-04		No	95,487
Molecular and biochemical basis of Lymphangioliomyomatosis	93.838	1R01HL121266-01 REVISED		No	210,694
Molecular Epidemiology of ARDS	93.838	5R01HL060710-12		No	977,041
Obesity and Airway Responsiveness	93.838	5R01HL084044-05		No	(1,137)
Plasma Gelsolin and Host Defense After Lung Injury	93.838	5R01HL115778-02rev		No	508,924
Rho Kinase and Airway Hyperresponsiveness	93.838	5R01HL091933-04-rev		No	318,721
The resident cell in the asthmatic airway: a victim of its physical microenvironment	93.838	5R01HL102373-04rev		No	423,401
Training in Interdisciplinary Pulmonary Sciences	93.838	5T32HL007118-39		No	665,003
<b>Subtotal of 93.838</b>	<b>93.838</b>				<b>4,218,854</b>
A synthetic biology approach to targeting erythropoietin-based therapeutics	93.839	1F32HL122007-01 REVISED		No	21,281
Harvard Stem Cell Institute Training Program for Pre- and Post-Doctoral Fellows	93.839	5T32HL087735-05		No	233,038
Integrin-Based Mechanisms in Terminal Erythroid Maturation	93.839	5R01HL116327-03		No	406,718
Short and long term depressive symptoms and arrhythmic pathways to stroke	93.839	5F31HL112613-02		No	16,992
Stem Cell Engagement of the Niche	93.839	5R01HL097794-04		No	324,819
The Fanconi anemia pathway: role in DNA interstrand cross-link repair	93.839	5R01HL098316-04 REVISED		No	222,961
Ubiquitination in erythropoiesis and the pathophysiology of anemia	93.839	5R21HL116210-02		No	176,248
<b>Subtotal of 93.839</b>	<b>93.839</b>				<b>1,402,057</b>
Adult Bone Mass Regulation by Type 2 BMP Receptors	93.846	1R01AR064227-01A1		No	12,714
Assessment and Evaluation of Hill-type Muscle Models for Predicting In Vivo Force	93.846	5R01AR055648-04 REVISED		No	111,379
Biogenesis of Extracellular Matrix	93.846	5R01AR036819-30		No	555,768
BMP-2 Regulation of Bone Homeostasis	93.846	5R01AR055904-05		No	130,692
BMP2 signaling of the development of osteoarthritis	93.846	5R21AR063955-02		No	296,638
Calcitonin Regulation of Osteoclast Integrin Functions	93.846	5R01AR049879-11		No	229,597
Characterization of the Insulin to Autophagy Pathway in Muscles	93.846	5R01AR057352-05		No	369,344
Collagen Gene Structure and Expression	93.846	5R01AR036820-28		No	356,712
Creation and Validation of a BMP/TGF-B/Activin Biosensor System	93.846	5R21AR062740-02 Revised		No	240,987
Identification of the transcriptional regulators of chondrocyte hypertrophy	93.846	5R01AR055552-05		No	337,610
Mechanisms and function of the microtubule podosome connection in osteoclasts	93.846	5R01AR062054-03		No	565,638
Mechanisms of sensory neuron control over skin immune responses	93.846	5F31AR063546-03		No	34,859
Molecular and Cellular Mechanisms of Vascular Anomalies	93.846	5P01AR048564-10		No	2,690,661
Regulation of Osteoblast Differentiation by Delta FosB	93.846	5R01AR048218-10		No	(203,468)
Role of CD48/CD244 Pathway in Systemic Lupus Erythematosus	93.846	5K08AR057861-04		No	106,133
Role of GATA6 in regulating hedgehog signaling in the growth plate	93.846	5R01AR060735-02		No	352,597
Role of Zfp521 in bone formation and anabolic responses	93.846	5R01AR057769-05		No	783,694
R-Spondin3 as a target for anabolic bone therapy	93.846	1R01AR064724-01A1		No	80,889
<b>Subtotal of 93.846</b>	<b>93.846</b>				<b>7,052,444</b>
A high-throughput method for simultaneous profiling of mRNA and protein levels in single cells	93.847	5 R21 DK098818-02		No	244,259
Action and interaction of ionotropic and metabotropic neurotransmission	93.847	5R01NS046579-11		No	487,029
Activity-dependent modification of electrical synapse strength	93.847	5R03NS075722-02 REVISED		No	131,672
Adipose-issuse Tregs: Important Players In The Immunological Control Of Metabolism	93.847	5R01DK092541-04		No	416,696
Adult Neurogenesis after Stroke: The role of SDF-1 in mechanisms of neural repair	93.847	5F30NS070589-04		No	21,263
Aire, a zinc-finger protein that controls autoimmunity	93.847	5R37DK060027-14		No	532,452
Analysis of Pancreatic B-cell Survival in Long-Lasting Type 1 Diabetes Patients	93.847	1F31DK098931-01		No	28,591
Anatomical, physiological, and behavioral correlates of a C-LTMR circuit	93.847	7F32NS077836-04		No	37,607
Bayesian Variable Selection Methods for Matched Case-Control Studies	93.847	5F32NS081904-02		No	49,619
Benefits of dietary essential amino acid restriction	93.847	5R01DK090629-04rev		No	328,734
Cellular mechanisms of dietary therapy for epilepsy	93.847	5R01NS055031-05 REVISED		No	4,154
Cellular mechanisms of dietary therapy for epilepsy	93.847	5R01NS055031-07		No	422,539
Cellular models of hypocretin neuron loss in narcolepsy	93.847	1K99NS083713-02		No	76,851
Characterization of a Novel Protein Required for Glomural Podocyte Function	93.847	7F32DK085959-02		No	2,278
Chemical Genetics of Iron Transport	93.847	5R01DK064750-08		No	250,244

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Circadian Clock of the Paraventricular Nucleus	93.847	5R01NS060860-05		No	18,145
Compartmentation of Neuronal ATP and Metabolic Regulation of Excitability	93.847	5F32NS066613-03		No	32,704
Core Facilities for Analysis of Neural Circuit Structure and Function	93.847	5P30NS062685-05 REVISED		No	324,747
Core Facilities for Analysis of Neural Circuit Structure and Function	93.847	2P30NS062685-06A1		No	131,421
Ctip1 Function in Neocortical Projection Neuron Subtype Specification and Arealiz	93.847	5F31NS080343-02		No	37,644
Ctip2 Function in Corticospinal Motor Neuron Development	93.847	5F31NS064730-03 REVISED		No	(72)
Dendritic Ca Signals in Striatal Medium Spiny Neurons	93.847	5R01NS046579-09 REVISED		No	124,534
Development of novel transsynaptic tracers for use in the central nervous system	93.847	5R01NS083848-02		No	272,127
Developmental Regulation of Bone Morphogenesis	93.847	5P01DK056246-14		No	1,189,957
Dissecting the role of cellular transport in neurodegeneration using A.nidulans	93.847	5F31NS083142-02		No	46,492
Dopaminergic modulation of brain circuits that control movement	93.847	1K99NS087098-01		No	5,319
Electrical Stimulation of Immediate Early Genes	93.847	5R37NS028829-25 REVISED		No	611,163
Environmental Risk Factors for ALS in a Representative Sample of the US	93.847	1R56NS082105-01A1		No	311,836
Exploring the role of neuronal activity-dependent enhancers in brain development and plasticity	93.847	1F32NS086270-01A1		No	4,358
Extracellular Matrix and Neuromuscular Development	93.847	R37NS019195-30		No	9,085
Fate Specification of Corticospinal Neurons by Cell Autonomous Signaling	93.847	5R01NS062849-06 REVISED		No	207,349
From sugar to fat: How the transcription factor XBP1 regulates hepatic lipogenesis	93.847	5R01DK082448-03rev		No	(965)
Function and Mechanism of Neural Spike Coherence in Drosophila	93.847	5F32NS083262-02		No	47,302
Function-Specific Serotonergic Neurons and Body Temperature Regulation	93.847	1F31NS083165-01A1 REVISED		No	5,619
Fundamental Neurobiology	93.847	5T32NS007484-15		No	473,089
Genetic and Functional Profile of Serotonergic Neuron Subtypes	93.847	5F31NS073276-02		No	6,221
Genome-Wide Light-Inducible Tuning of Transcriptional Network Dynamic	93.847	5R01NS073124-05 REVISED		No	713,358
Gut microbial promotion of energy gain from processed diets	93.847	1F32DK101154-01		No	28,133
Heart-Lung Micro machine for Safety and Efficacy Testing	93.847	5U01NS073474-03 REVISED		No	171,553
HMSICHB Center for Neuroscience Research	93.847	5P30NS072030-03 REVISED		No	855,113
Human Cell-Based Models of Primary Adipocyte Disorders	93.847	5R01DK095384-03		No	314,280
Imaging cellular energy metabolism in brain slices using fluorescent biosensors	93.847	5F32NS080455-02 REVISED		No	49,749
Inflammatory and stress signaling networks in metabolic disease	93.847	5R01DK052539-16REVISED		No	197,194
Investigating the mechanism of TNFalpha mediated cell death in oligodendrocytes	93.847	5R01NS082257-02		No	271,322
Investigating the role of MeCP2 in activity-dependent gene expression	93.847	1F32NS089186-01		No	4,212
Involvement of motor cortex in the acquisition and production of motor sequences	93.847	5F31NS078942-03 REVISED		No	26,409
Katanin p80: A Role for Regulation of Microtubule Severing in Cortical Development	93.847	5F31NS083111-02		No	34,736
Lipids, Inflammation and Insulin Action	93.847	5R01DK064360-09rev		No	277,359
Long-term effects of botulinum neurotoxins on neuronal viability	93.847	5R01NS080833-02 REVISED		No	235,086
Maturation and Maintenance of the Postsynaptic Apparatus	93.847	5R01NS059853-05		No	(20,519)
Metabolic and KATP channel regulation of the cortical slow oscillation	93.847	5F31NS077633-03		No	27,754
Molecular Controls over Induction of Neurogenesis for Brain Repair	93.847	5R01NS045523-11		No	249,314
Molecular Mechanisms of CTIP2 Function in Corticospinal Motor Neuron Development	93.847	5R01NS075672-03 REVISED		No	311,863
mTORC1 regulation in the liver by metformin, AMPK and energy status	93.847	5F32DK095508-03		No	53,685
Network analysis of Signal Transduction	93.847	5R01DK088718-05		No	601,355
Neural mechanisms underlying vocal learning in the songbird	93.847	5R01NS066408-04		No	79,183
Neuronal Activity-Dependent Regulation of MeCP2	93.847	5R01NS048276-10		No	424,235
Neurotrophic Factor Regulation of Gene Expression	93.847	5R01NS045500-26 REVISED		No	94,354
Neurotrophin regulation of mRNA localization and translation in axons	93.847	5F31NS077620-03		No	27,754
Neurotrophin signals controlling development of the peripheral nervous system	93.847	5R01NS034814-21		No	107,434
Next Generation Brainbow Transgenes for Neural Circuit Analysis	93.847	5U24NS063931-04		No	(2,498)
Next generation of botulinum neurotoxins with enhanced binding to human receptors	93.847	5R21NS082830-02		No	94,292
Nitric Neuro-smooth Muscle Transmission in the Gut	93.847	5R01DK062867-09 REVISED		No	124,564
Novel EM technologies for imaging neural network anatomy	93.847	5R21NS085320-02		No	213,349
Novel targets in the regulation of NF-kB and SREBP activity: A two-faceted approach to combat diabetes	93.847	5K01DK085198-03		No	47,857
Obesity Genes, Energy Regulation in Response to Weight-Loss Diets	93.847	5R01DK091718-02		No	321,092
OGlcNAc as a regulator of mitochondrial motility in diabetic neuropathy	93.847	5F31NS084629-02		No	32,234
Optogenetic dissection of basal forebrain neurons involved in sleep homeostasis	93.847	5R21NS079866-02		No	91,028
Podhgs pattern starburst amacrine dendrites and direction selective circuits	93.847	5F31NS078893-02		No	29,776
Polymer mediated delivery of siRNA for malignant glioma treatment	93.847	5F30NS064686-05 REVISED		No	47,718
Pooling of Prospective Studies of Diet, Lifestyle and ALS	93.847	5R01NS072494-03		No	165,658
PPAR Delta Functions in Liver	93.847	5R01DK075046-05rev		No	675
PPAR Delta Functions in Liver	93.847	5R01DK075046-07		No	284,635
Projection neuron control over interneuron positioning into neocortical circuitry	93.847	5R01NS078164-02		No	350,358
Prospective study of biomarkers and risk factors for ALS incidence and progression	93.847	5R01NS045893-09		No	276,729
Prospective Study of Vitamin D and Multiple Sclerosis	93.847	5R01NS044635-07Revised		No	143,977
Reconstruction of Human Type 1 Diabetes in Mice	93.847	1R24DK092758-01		No	144,891
Reducing disparities in diabetes through expanded insurance coverage	93.847	5R01DK090435-04		No	361,723
Regenerating Beta Cells by Lineage Reprogramming	93.847	5U01DK089536-05 REVISED		No	723,014
Regulation of feedforward retinogeniculate development by cortical feedback	93.847	5F31NS083437-02		No	23,323
Regulation of pacemaking and bursting of substantia nigra dopamine neurons by cal	93.847	5F31NS080323-03		No	28,806
Regulation of release probability by tonic presynaptic inhibition	93.847	5F31NS073252-03 REVISED		No	20,295
Regulation of Synapse Morphogenesis in Drosophila	93.847	5R01NS069695-05		No	281,810
Resolving the role of nicotine-mediated phosphorylation on pancreatic fibrosis	93.847	1K01DK098285-01A1		No	103,775
Role of cortical interneurons in synchronization of brain electroencephalogram	93.847	5R01NS064193-04 REVISED		No	202,108
Roles of SAD kinases in formation and maturation of multiple synaptic types	93.847	5R21NS076880-02		No	51,777
Scalable Assays for Morphological Analysis of Mammalian Neurons	93.847	5R01NS077907-04		No	352,306
Selective targeting of sodium channel blockers to pain-sensing neurons	93.847	5R01NS064274-04		No	178,373

The accompanying notes are an integral part of this schedule.



# Harvard University Schedule of Expenditures of Federal Awards Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Short-Term Synaptic Plasticity in the CNS	93.847	5R01NS032405-20		No	483,992
Signal Transduction in Axon Guidance	93.847	5R01NS069913-04		No	415,338
Store-operated cAMP signaling in colon pathophysiology	93.847	5R21DK088197-02 REVISED		No	12,577
Synaptic Choices in the Retinotectal System	93.847	5R01NS029169-22		No	(44,343)
Synaptic Choices in the Retinotectal System	93.847	5R37NS029169-24 REVISED		No	951,755
Systematic discovery and functional analysis of the PARKIN modified proteome	93.847	5R37NS083524-10		No	339,503
The cold-sensing circuit of Drosophila larvae	93.847	5F31NS080356-02 REVISED		No	3,672
The Regulation of the Parathyroid Gland	93.847	5R01DK097105-03		No	661,887
The Role of GABAergic Transmission in the Development of Basal Ganglia Pathways	93.847	5F31NS074842-03 REVISED		No	20,462
The Role of Semaphorins in Axon and Blood Vessel Guidance	93.847	5R01NS064583-05 REVISED		No	403,337
Thermosensory encoding in the Drosophila larva	93.847	5F32NS077835-03		No	55,670
Training Grant in Academic Nutrition	93.847	5T32DK007703-19S1		No	226,256
Training in Neurostatistics and Neuroepidemiology	93.847	3T32NS048005-10S1		No	250,321
Transgenic zebrafish for neurobiology	93.847	1R24NS086601-01		No	45,651
Trial of Vitamin D in HIV Progression	93.847	5R01DK098075-02		No	376,357
Tuft cells in intestinal homeostasis	93.847	5F32DK098826-02Revised		No	53,419
Uncovering the transcription factor networks in early human cell specification	93.847	5F32DK095537-02		No	54,393
Unraveling the interactions between T regulatory cells and the gut microbiota in Health and Disease.	93.847	5F32DK095506-02rev		No	573
Urate as a Predictor of Parkinson's Disease Risk and Progression	93.847	5R01NS061858-05rev		No	284,789
Vitamin D, cigarette smoking, EBV infection and risk of MS progression	93.847	5R01NS071082-04Rev		No	39,053
Vitamin D, Epstein-Barr virus infection, and cigarette smoking and risk of multiple sclerosis among women in the Finnish Maternity Cohort and their offspring	93.847	5R01NS073633-04		No	638,127
Voltage-Dependent Ion Channels Controlling Firing Patterns of Central Neurons	93.847	5R01NS036855-16 REVISED		No	347,856
Voltage-Dependent Ion Channels Controlling Firing Patterns of Central Neurons	93.847	2R01NS036855-17		No	238,993
Zebrafish models of muscular dystrophies	93.847	5F31NS081928-03		No	33,923
<b>Subtotal of 93.847</b>	<b>93.847</b>				<b>22,614,185</b>
A Cellular Chip for High-Throughput Measurements of Single, Growing Cells	93.855	5R21AI094363-02		No	57,632
A forward genetic screen to identify determinants of malaria stage conversion	93.855	5R21AI105328-01 Revised		No	178,219
A study of the functional determinants of a Plasmodium falciparum invasion ligand	93.855	5F32AI093059-03		No	47,086
Accurate and Efficient Measures for HIV Incidence	93.855	5R01AI097015-03		No	234,881
Activation of NF-kB by the cytoplasmic domains of HIV and SIV gp41	93.855	1R56AI104415-01A1		No	195,758
An HIV Prevention Program for Mochudi, Botswana	93.855	5R01AI083036-04		No	82,500
Analytic Methods for HIV Treatment and Co-Factor Effects	93.855	5R37AI032475-23		No	600,986
Antagonizing miRNAs in a strategy to cure HSV latency	93.855	5R21AI105896-02		No	235,064
Antibiotic Prescribing for Acute Respiratory Infections: Impact of Shifts in Care	93.855	7R21AI097759-03 REVISED		No	175,354
Anti-viral immune responses in lymph node	93.855	5P01AI078897-04		No	422,101
Associating Genetic Variation to Resistance to Severe Malaria in East Africa	93.855	5 R21 AI064519-02 REVISED		No	(8,572)
Biostatistics/Epidemiology Training Grants in AIDS	93.855	5T32AI007358-25		No	465,730
Botswana-Harvard School of Public Health AIDS Initiative Partnership CTU	93.855	5UM1AI069456-07Revised		No	726,146
Botswana-Harvard School of Public Health AIDS Initiative Partnership CTU	93.855	2UM1AI069456-08REVISED		No	1,652,151
Characterization of the antiviral activity of BCA2	93.855	1R21AI106400-01A1		No	12,133
Chemical Tools for the Study of Dengue Virus Entry	93.855	1R56AI095499-01 REVISED		No	38,539
Chemical Tools for the Study of Dengue Virus Entry	93.855	1R01AI095499-01A1 REVISED		No	125,964
Chromatin and Herpes Simplex Virus Latency	93.855	5R01AI099081-02 REVISED		No	354,794
Commensal Bacteroides signal through sphingolipid rafts during intestinal stress	93.855	7R21AI090102-03		No	(269)
Coordinate Regulation of Bacterial Virulence Factors	93.855	5R01AI026289-25 REVISED		No	367,581
Coordinate Regulation of Bacterial Virulence Factors	93.855	2R01AI026289-26A1		No	59,214
Cytoadherence and sequestration in malaria transmission stages	93.855	5R01AI077558-04		No	258,476
Cytotoxic T Cell Mediated Immunity to Chlamydia	93.855	5R01AI039558-18 REVISED		No	387,214
Cytotoxicity of botulinum neurotoxins	93.855	1R56AI097834-01		No	122,089
Decoding the roles of critical genes of unknown function in M. tuberculosis	93.855	5U19AI107774-02		No	2,051,511
Disease Initiation and the Role of DCs in the TRUC model of Ulcerative Colitis	93.855	5K08AI078942-06		No	62,444
Dissecting the role of YeeG in E. coli cell wall biogenesis	93.855	1 F31 AI110046-01- Revised		No	15,995
Doctoral Training Program in Tropical Diseases	93.855	5T32AI049928-10Revised		No	76,079
Dynamic Strategies for the clinical management of HIV disease	93.855	1R01AI102634-01A1		No	16,150
Dynamic Strategies for the clinical management of HIV disease	93.855	5R01AI102634-02Revised		No	634,536
Ecological and genetic contributions to the spread of resistance in pneumococcus	93.855	5R01AI106786-02		No	292,509
Elucidating a role for Calcium signaling in activation of the Nlrp3 inflammasome	93.855	5R01AI102964-02rev		No	429,467
Elucidation of structure and dynamics of bacterial biofilms by particle tracking	93.855	1F30AI110053-01		No	9,365
Epidemiology and modeling of the population dynamics of influenza and antimicrobial resistance in gonorrhea	93.855	5K01AI101010-02		No	117,204
Epidemiology of Infectious Diseases and Biodefense	93.855	5T32AI007535-15revised		No	158,956
Epidemiology of Multidrug-Resistant Tuberculosis in Peru	93.855	5U01AI057786-05 REVISED		No	3,000
Evolutionary medicine in the development of antimalarial drugs	93.855	1R01AI106734-01A1		No	88,628
Factors Mediating Host Resistance to Chlamydia trachomatis	93.855	5R01AI062827-09		No	251,589
Functional analysis of erythrocyte determinants of malaria infection	93.855	5R01AI091787-04		No	380,318
Functional Role of O-Glycosylation of HIV-1	93.855	1R01AI104523-01A1 REVISED		No	(10,955)
Generation and Function of NK Cell Memory (Project 1 - Disaggregated project)	93.855	5R01AI111595-02		No	643,357
Genetic Analysis of Toxinogenesis in Vibrio Cholerae	93.855	5R01AI018045-33 REVISED		No	480,608
Genetic Analysis of Toxinogenesis in Vibrio Cholerae	93.855	2R01AI018045-34		No	123,716
Genetic Variation and Evolution of Artemisinin Resistance	93.855	5R01AI099105-02		No	609,120
Genetics of Herpesvirus Transformation	93.855	5R01AI063106-31		No	335,372
Harvard Tanzania HIV/AIDS Clinical Trials Unit	93.855	5U01AI069403-07REV		No	100,360
Harvard University Center for AIDS Research	93.855	5P30AI060354-10 REVISED		No	4,847,791

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Human Cytomegalovirus Nuclear Egress: Molecular Mechanisms and Drug Targeting	93.855	5R01AI026077-27		No	633,441
Human Decidual Leukocytes and Their Placental Ligands	93.855	5R01AI053330-10		No	477,947
Identification and Inference for Longitudinal Causal Mediation Analysis in HIV Research	93.855	5R01AI104459-02		No	362,944
Identifying and validating new antibiotic targets in cell wall synthesis pathways	93.855	5R01AI099144-03		No	731,478
Imaging autoimmune disease	93.855	5P01AI054904-10		No	1,755,933
ImmGen: Gene Expression and Regulation in Immune Cells	93.855	5R24AI072073-08 REVISED		No	796,518
Immunoglobulins Delivered by AAV Vector for the Prevention of SIV Infection	93.855	1R01AI098446-01A1 REVISED		No	308
Immunology and Infectious Diseases	93.855	5T32AI007638-15		No	190,761
In Vivo Function of the B7 Family of Costimulators	93.855	5R37AI038310-20 REVISED		No	328,115
In vivo role of CTLA-4 in Costimulation and Autoimmunity	93.855	5R01AI040614-15 REVISED		No	(17,556)
In vivo role of CTLA-4 in Costimulation and Autoimmunity	93.855	2R01AI040614-16A1 REVISED		No	234,668
Infectious Disease and Basic Microbiological Mechanisms	93.855	5T32AI007061-35 REVISED		No	(34,110)
Innovative Platforms for Antimicrobial Therapy and Vaccine Development	93.855	1U19AI109764-01 REVISED		No	1,039,549
Integrated discovery and development of innovative TB Diagnostics	93.855	1U19AI109755-01 REVISED		No	903,163
Interferon gamma-mediated restriction of Shigella flexneri replication	93.855	5R21AI097691-02		No	160,692
International Herpes Vaccine Project	93.855	5R01AI057552-09		No	296,651
Interrogating the Cellular Mechanisms of Host-Pathogen Interactions during IBD	93.855	1F32AI108144-01A1 REVISED		No	21,539
KIR and MHC Class I Immunogenetics in SIV Infection	93.855	5R01AI095098-02 REVISED		No	2,683
Knowledge-based Vaccines Built on Paradigm Changes in Antigen Presentation	93.855	5R01AI089915-05		No	383,654
Lentiviral Resistance to Tetherin	93.855	5R01AI098485-02 REVISED		No	4,946
Listeria Monocytogenes Infection of the Brain	93.855	1R21AI103806-01A1		No	26,605
Mechanics of Bacterial Swarming	93.855	2R56AI065540-06A1		No	658
Mechanisms and Population Genomics of Pneumococcal Antigenic Diversity	93.855	5R01AI048935-12		No	624,178
Mechanisms of Lentiviral Resistance to Tetherin	93.855	5R21AI087498-02 REVISED		No	1,621
Mechanisms of protective immunity induced by live attenuated SIV vaccines	93.855	5P01AI071306-05 REVISED		No	78,918
Mechanistic Studies of the Function of Desmosterol Homeostasis in HCV Replication	93.855	5F32AI106178-02 REVISED		No	53,076
Merging Microfluidics and Metagenomics for Novel High-throughput Virus Discovery	93.855	5R21AI101291-03		No	216,196
Methods to Advance the HIV Prevention Research Agenda	93.855	5R37AI051164-12Rev		No	457,301
Methods to find and model predictors of the causal effect of HAART	93.855	5R01AI100762-03		No	268,432
Modeling atomic structure of the EmrE multidrug pump to design inhibitor peptides	93.855	1R03AI111416-01		No	13,146
Modification of host proteins during Chlamydia infection	93.855	5F32AI094932-03 REVISED		No	52,846
Modulation of the early host response to SIV in pathogenic infection	93.855	5R01AI084810-05		No	531,742
Molecular Basis of Viral Infectivity	93.855	5T32AI007245-30 REVISED		No	178,267
Molecular Biomarkers for Malaria	93.855	1R56AI082589-01rev		No	(497)
Molecular Genetics of HSV DNA Polymerase Gene	93.855	5R01AI019838-29		No	340,556
Molecular Mechanisms of Bacterial Pathogenesis	93.855	5R01AI022021-29		No	34,526
Molecular Mechanisms of Rhabdovirus Entry	93.855	5R01AI081842-05		No	443,752
Mycobacterial single cell drug susceptibility	93.855	1F32AI104287-01A1rev		No	22,519
Naive T cell homeostasis: Treg selection and survival	93.855	5R37AI051530-12		No	240,555
Naive T cell homeostasis: Treg selection and survival	93.855	4R37AI051530-12 REVISED		No	319,208
Natural killer cells and control of SIV infection	93.855	5R01AI090735-04		No	698,448
New England Regional Center of Excellence for Biodefense and Emerging Infectious Diseases Research	93.855	5U54AI057159-10 REVISED		No	7,944,989
NKT cells as modulators of AIDS vaccine efficacy	93.855	5R01AI102693-03		No	495,365
Novel Strategy for HIV Drug Resistance Monitoring in Developing Countries	93.855	5R01AI089350-04		No	220,905
Nuclear Sensing of Herpesviral DNA	93.855	1R01AI106934-01A1 REVISED		No	30,120
Outer Membrane Biogenesis: New Antibiotic Targets	93.855	2R01AI081059-06A1 REVISED		No	226,812
Outer Membrane Biogenesis: New Antibiotic Targets	93.855	5R01AI081059-05 REVISED		No	260,360
P. aeruginosa Virulence Determinants	93.855	5R37AI021451-28		No	271,403
Peptidoglycan Biogenesis in Escherichia Coli	93.855	5R01AI083365-05 REVISED		No	282,254
Poliovirus Cell Entry Pathways	93.855	3R01AI020566-29S1		No	7,689
Poliovirus Cell Entry Pathways	93.855	2R01AI020566-30A1		No	232,553
Probes for Fluids in Bacterial Swarms	93.855	5R21AI100902-02		No	315,783
Program for AIDS Clinical Research Training (PACRT)	93.855	5T32AI007433-20		No	30,035
Program for AIDS Clinical Research Training (PACRT)	93.855	5T32AI007433-23		No	452,649
Randomized Trial of High-Dose Rifampin in Patients with New Smear-Positive TB	93.855	5U01AI091429-03 REVISED		No	3,355,126
Regulation of CD28 Signaling in T cells by Cytoplasmic Domain Membrane Binding	93.855	5F31AI091155-03		No	3,672
Regulation of chronic viral infection by co-inhibitory pathways	93.855	5R01AI081846-05		No	183,006
Regulation of Host Innate Immunity Against Viral Infection	93.855	5R01AI087846-05		No	371,519
Regulatory mechanisms of the MDA5-mediated antiviral interferon response	93.855	5R21AI097899-02		No	201,483
Rhesus Monkey Rhadinovirus Glycoproteins, Entry and Neutralization	93.855	5R01AI072004-05		No	(871)
RNA Processing in Non-Segmented Minus-Strand RNA Viruses	93.855	5R01AI059371-10		No	413,025
Role of host cell metabolism in supporting intracellular Trypanosoma cruzi growth	93.855	5R21AI099689-02		No	183,749
Role of NK Cells in GBV-B Infection: Modeling HCV Clearance and Control	93.855	1R21AI101170-01A1 REVISED		No	139,095
Role of TBK1 polyubiquitination in innate antiviral immunity	93.855	5R01AI089829-04		No	543,807
SDMC - IMPACT Leadership Group	93.855	2UM1AI068616-08REVISED		No	3,351,910
SDMC, AIDS Clinical Trials Group	93.855	2UM1AI068634-08REVISED		No	4,788,619
Sensory Transduction in Bacterial Chemotaxis	93.855	5R01AI016478-35 REVISED		No	752,318
Signaling Networks Controlling Innate Immune Responses to Cytosolic DNA	93.855	5R21AI099860-02		No	165,817
Small Molecule Inhibitors of Enveloped Virus Entry	93.855	1U19AI109740-01 REVISED		No	479,694
Statistical and Data Management Center for the AIDS Clinical Trials Group	93.855	5UM1AI068634-07REVISED		No	8,615,914
Statistical and Data Management Center-Pediatric, Adolescent, and Maternal CTG	93.855	5UM1AI068616-07REVISED		No	4,631,815
Statistical Methods for HIV/AIDS Studies	93.855	5R01AI052817-09rev		No	210,396
Statistical Methods in AIDS Research	93.855	5R01AI024643-26		No	428,796

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Structural Basis of Immune Cell Receptor Function	93.855	5R01AI037581-19		No	351,838
Structure and Mechanism of Programmed Ribosomal Frameshifting in SARS coronavirus	93.855	5R01AI104711-02 REVISED		No	359,229
Synthesis of Antibiotics	93.855	2R56AI048825-11A1 REVISED		No	1,152
T Cell Activation in Lymph Nodes	93.855	5R01AI069259-10		No	748,382
T Cell Costimulatory Pathways: Functions and Interactions	93.855	5P01AI056299-10 REVISED		No	2,422,532
Targeting cell separation systems of gram-negative bacteria	93.855	1R21AI111713-01		No	29,659
Targeting the outer membrane protein translocation pathways	93.855	5R21AI098696-02		No	165,524
Targeting the reproductive interactome of the malaria vector Anopheles gambiae	93.855	5R01AI104956-02		No	548,344
The Evolutionary Dynamics of Plasmid Uptake in Pathogenic Bacteria	93.855	7F32AI102520-04		No	33,803
The molecular mechanism of Aire: partnering with DNA-PK	93.855	5R01AI088204-04 REVISED		No	487,695
Transcriptome profiling of Trypanosoma cruzi and its host cell	93.855	5R21AI094195-02		No	53,497
Urban malaria mapping: a new methodology to assess spatio-temporal trends	93.855	5R03AI094401-02		No	24,032
Validation of Src kinases as Anti-Dengue Viral Targets	93.855	5R01AI076442-05 REVISED		No	220,464
Viral and host mechanisms that tilt the HSV lytic/latent balance	93.855	5P01AI098681-02		No	1,060,154
<b>Subtotal of 93.855</b>	<b>93.855</b>				<b>77,479,380</b>
A comparative structural study of ATP-dependent chromatin remodeling complexes	93.859	5R01GM092895-04		No	289,761
An alignment free network approach to analyzing highly recombinant malaria parasite antigens	93.859	5R21GM100207-02rev		No	200,052
An Unbiased Chemical Approach for the Discovery of Naturally Occurring Ribozymes	93.859	5F32GM099359-02		No	43,392
Antibiotic Biosynthesis: Amino Acid Morphing	93.859	5R01GM049338-20 REVISED		No	2,681
Atomic Resolution in Biological Electron Microscopy	93.859	5P01GM062580-10 REVISED		No	179
Atomic Resolution in Biological Electron Microscopy	93.859	5P01GM062580-13		No	1,200,077
Biochemical Studies of Mitosis	93.859	5R01GM026875-37 REVISED		No	790,343
Bioinspired Enantioselective Catalytic alpha-Alkylation of Aldehydes	93.859	5F32GM100680-03 REVISED		No	41,258
Biological Diversity: Generation, Control, and Exploitation	93.859	5P50GM068763-10 REVISED		No	786,375
BMAL1 Complexes of the Circadian Clock	93.859	5R01GM095945-04		No	441,815
Cell Cycle proteomics in Xenopus	93.859	5R01GM103785-03		No	472,219
Cell Cycle Regulation	93.859	5R01GM039023-26		No	8,628
Cell Cycle Regulation	93.859	2R01GM039023-27A1		No	126,111
Cellular and Developmental Biology	93.859	5T32GM007226-39		No	639,953
Characterization of Disulfide-Bond Formation in Mycobacteria	93.859	5F32GM108443-02		No	46,937
Chemical biology of bacterial symbionts	93.859	5R01GM086258-06		No	458,641
Chemical Biology of Microbial Interspecies Signaling	93.859	5R01GM082137-07		No	430,875
Chemical Biology Studies of Human Disease-Relevant Small Molecules	93.859	5R01GM090068-04		No	193,413
Chemical Genetic and Biochemical Studies of Mitotic Proteolysis	93.859	5R01GM066492-11 REVISED		No	434,488
Chiral Catalysts Designed to Catalyze Organic Reactions	93.859	5R01GM043214-24 REVISED		No	544,909
Chromosome Dynamics in Bacillus Subtilis	93.859	5R01GM086466-04 REVISED		No	145,109
Designing Biological Circuits	93.859	3R01GM036373-30S1		No	371,061
Direct Stimulation of Bacterial Metabolism with Applied Electrical Current	93.859	5F32GM105122-02		No	44,356
Discovering new compounds to treat global infectious disease	93.859	5K99GM099796-02		No	87,305
Discovery of Potential Therapeutic Agents from Insect-Associated Symbiotic Bacteria	93.859	1F32GM108415-01A1		No	8,424
Dissecting dynein motor function using DNA nanotechnology	93.859	5R01GM100947-02 REVISED		No	311,546
Dissecting the establishment and regulation of human pluripotency	93.859	5P01GM099117-03		No	2,108,271
Drosophila Transgenic RNAi Resource Project	93.859	5R01GM084947-07		No	735,815
Dynamics of BRCA1-Mediated Double-Strand Break Repair	93.859	5K99GM102325-02		No	83,336
Dynamics of cellular senescence in single human cells	93.859	1K99GM102372-01		No	17,248
Dynamics of Signaling Pathways: Mechanism and Function	93.859	5R01GM083303-05 REVISED		No	(938)
Dynamics of Signaling Pathways: Mechanism and Function	93.859	3R01GM083303-07S1		No	382,992
Earth-Abundant Transition Metal Catalysts for HX Splitting	93.859	5F32GM103211-03		No	51,484
Elucidating mechanisms of mitochondrial gene expression at nucleotide resolution	93.859	1F32GM106531-01 REVISED		No	49,338
Enantioselective Thiourea-Catalyzed C-H Functionalization via Hydride Transfer	93.859	5F32GM099249-03		No	50,086
Enantioselective Thiourea-Catalyzed Syntheses of beta-Lactones and beta-Lactams	93.859	5F32GM097831-03 REVISED		No	51,630
Enzyme Delivery With Supercharged Proteins to Address Citrullinemia	93.859	5F32GM106601-02		No	41,176
ERK regulation of the cell fate decision network	93.859	1F32GM106582-01 REVISED		No	51,304
Evolution of Genome Incompatibilities	93.859	5R01GM065169-08		No	10,196
Evolution of Meiotic Mechanisms in Divergent Cytological Environments	93.859	5F32GM105293-02 REVISED		No	53,379
Experimental evolution recapitulating adaptation after horizontal gene transfer	93.859	5F32GM106629-02 REVISED		No	48,057
Factors Controlling Transcription and Chromatin in Yeast	93.859	5R37GM032967-30 REVISED		No	43,005
Factors Controlling Transcription and Chromatin in Yeast	93.859	2R01GM032967-31		No	326,456
Feedback Control of the Cell Cycle	93.859	5R01GM043987-24 REVISED		No	461,916
Fine-mapping heritability at known disease loci with correlated markers	93.859	5F32GM106584-02		No	48,739
Functional Analysis of the Proteasome Base	93.859	5R37GM043601-23 REVISED		No	326,282
Functional Coupling of Steps in Genes Expression	93.859	5R01GM043375-24		No	648,302
Functional Genomic Analysis by RNAi Screening in Drosophila Cells	93.859	5R01GM067761-11 REVISED		No	884,247
Functional Testing of Conserved Regions in Eukaryotic Divalent Metal Transporters	93.859	1F33GM103079-01		No	27,763
Genetic Mechanisms of Axis Formation in Vertebrates	93.859	5R01GM056211-16 REVISED		No	291,992
Genetics and Genomics PhD Training Grant	93.859	5T32GM096911-04		No	221,470
Genome wide views of chromatin occupancy in the control of Aquilegia development	93.859	5F32GM096699-03		No	55,942
Genomic Functions of Nucleosome Dynamics	93.859	5R01GM098349-02		No	126,273
Global characterization of ubiquitin information networks with mass spectrometry	93.859	2R01GM067945-11		No	419,378
Harvard Chemical Biology Graduate Program	93.859	5T32GM095450-04		No	268,043
Harvard Systems Biology Graduate Program	93.859	5T32GM080177-05		No	267,619
High-throughput screening and stem cell modeling of causal eQTL variants	93.859	1R01GM104464-01		No	236,511
Hormonal Modulation of Aggression in Drosophila	93.859	5R01GM074675-08		No	290,689

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
How do Amine Neurons Work	93.859	5R01GM099883-03		No	404,204
Illegitimate Recombination by Drug Resistance Elements	93.859	5R01GM025326-35		No	760,692
Interrogation of functional aspects of transcription at heterochromatic loci	93.859	5F32GM101794-03		No	52,348
Investigating the Import Mechanism of Folded Proteins into Peroxisomes	93.859	5F32GM100550-02 REVISED		No	44,783
Joint Interdisciplinary Training Program in Biostatistics and Computational Biology	93.859	5T32GM074897-10Revised		No	145,636
Joint Training Program in Molecules, Cells and Organisms	93.859	5T32GM007598-36		No	884,600
Limits and trade-offs of feedback control	93.859	5R01GM081563-05		No	12,268
MBSR IMSD Program at the Harvard School of Public Health	93.859	5R25GM055353-16rev		No	587,547
Measuring and Predicting PDZ Domain-Peptide Interactions on a Genome-wide Scale	93.859	5R01GM072872-09		No	304,661
Mechanism and Function of Chromatin Positional Dynamics in Interphase	93.859	1K99GM104152-01 REVISED		No	74,072
Mechanism and Inhibition of Bacterial Transglycosylases and Transpeptidases	93.859	5R01GM076110-08		No	588,742
Mechanism of Action of Halofuginone as a Novel Therapeutic	93.859	5R01GM089885-04 REVISED		No	360,447
Mechanism of Action of Yeast Silencing Complexes	93.859	5R01GM061641-13		No	228,751
Mechanism of CRL4-Cdt2, an S phase-specific ubiquitin ligase	93.859	5R01GM080676-07		No	252,498
Mechanism of the eukaryotic replicative DNA helicase	93.859	5R01GM062267-13		No	311,164
Mechanisms of Vertebrate Hedgehog Signaling	93.859	5R01GM092924-04		No	348,367
Mechanisms of yeast transcriptional initiation	93.859	5R01GM030186-33		No	876,369
Mechanistic analysis of post-translation membrane protein insertion into the ER	93.859	5R01GM099943-03		No	264,073
Mechanistic investigation of the roles of transcription pausing in co-transcriptional RNA	93.859	5F32GM102999-02 REVISED		No	38,585
Mechanistic studies on peptidoglycan tailoring that mediate biofilm stability	93.859	5F32GM103056-02		No	51,869
Medical Scientists Training Program	93.859	3T32GM007753-36S1		No	2,127,058
Meiotic Chromosome Synapsis and Recombination in Yeast	93.859	5R01GM044794-25		No	804,057
Membrane protein structures by solution NMR	93.859	5U54GM094608-04 REVISED		No	2,507,443
Membrane Remodeling and Protein Trafficking in Bacteria	93.859	5R01GM073831-09 REVISED		No	451,901
Metabolic Adaptability of E. Coli: Engineering Autotrophic CO2 fixation	93.859	5F32GM101767-02		No	42,187
Microbial adaptation and the statistics of epistasis and pleiotropy	93.859	5R01GM104239-02		No	322,281
Microbial Community Dynamics: A Systems Biology and Evolutionary Approach	93.859	5F32GM090760-03		No	5,433
Microbial Diversity in Mechanisms of Disulfide Bond Formation and Reduction	93.859	5R01GM041883-25		No	622,096
Microtubule Dynamics and Mitotic Mechanism	93.859	5R01GM039565-27		No	501,888
MIDAS Center for Communicable Disease Dynamics	93.859	5U54GM088558-05Revised		No	2,636,579
Minority Physicians and Research Careers: Applying the Theory of Planned Behavior	93.859	5R01GM098549-04		No	357,061
Molecular Biophysics Training Grant	93.859	5T32GM008313-25		No	625,291
Molecular Chaperones and Protein Degradation	93.859	5R01GM051923-18		No	416,038
Molecular Genetic Analysis of Extracellular RNAs in C. elegans	93.859	5R01GM089795-04		No	62,356
Molecular Genetic Analysis of Extracellular RNAs in C. elegans	93.859	2R01GM089795-05		No	261,126
Molecular Genetics of Biofilm Formation	93.859	5R01GM058213-16 REVISED		No	401,716
Molecular Genetics of the Bithorax Complex	93.859	3R01GM028630-27S1		No	94,874
Molecular Genetics of the Bithorax Complex	93.859	2R01GM028630-28A1		No	24,000
mRNA Capping Enzyme	93.859	5R01GM056663-16		No	507,099
Network organization of the human autophagy system	93.859	5R01GM095567-04		No	290,840
New Approaches for the Delivery of Proteins and Nucleic Acids Into Cells	93.859	5R01GM095501-04 REVISED		No	288,896
NMR and Computational Studies of Biomolecules	93.859	5P01GM047467-22		No	2,076,746
Novel genomic effects of Y-linked polymorphisms	93.859	5R01GM084236-04 REVISED		No	(35,531)
Novel mechanisms for oxysterols in cell-cell signaling	93.859	1R01GM110041-01		No	15,617
Organogenesis of the Pharynx in C. Elegans	93.859	3R37GM056264-18S1		No	294,185
Organometallic Chemistry for Applications in Biomedical Sciences	93.859	5R01GM088237-05 REVISED		No	300,296
Phages and Genomic Variation in Vibrio Cholerae Evolution	93.859	5R01GM068851-10		No	284,679
Pharmacological Sciences	93.859	5T32GM007306-38		No	355,855
Pipelines into Biostatistics: Training in Quantitative Public Health	93.859	5T36GM093773-02		No	145,470
Polynuclear iron complexes as functional mimics of the nitrogenase FeMo-cofactor	93.859	5R01GM098395-02		No	475,750
Population genetics methods for inference of ancestry and association mapping in diverse populations	93.859	5F32GM103098-02 REVISED		No	23,901
Population mixture in evolutionary and medical genetics	93.859	5R01GM100233-03		No	324,629
Preparation of a Solid-Phase Polyketide Synthase Mimic	93.859	5F32GM099233-03		No	51,961
Primer Synthesis and Handoff by Bacteriophage T7 DNA Primase	93.859	5F32GM101761-03		No	49,890
Protein Transport Across Membranes	93.859	5R01GM052586-20		No	338,569
Protein/Protein Interactions in Prokaryotic Gene Control	93.859	5R01GM044025-24		No	393,695
Proton-Coupled Electron Transfer in Biomimetic and Natural Systems	93.859	5R01GM047274-23		No	359,893
Quantitative methods for systems-level analyses of regulation and signaling dynamics	93.859	5R01GM096193-05		No	47,532
Regulation of Cytoplasmic Dynein	93.859	1R01GM107214-01A1		No	161,110
Regulation of Mitochondrial Release from Microtubules during Cell Division	93.859	5F31GM108199-02		No	32,293
Regulation of organelle function by spatiotemporal control of gene expression	93.859	1F32GM101751-01A1		No	34,209
Reprogramming using small molecules	93.859	5R01GM096067-03		No	314,574
RNAi-Mediated Heterochromatin Assembly	93.859	5R01GM072805-10		No	361,065
Robust Approaches to the Development and Evaluation of Prognostic Classifiers	93.859	5R01GM079330-07		No	158,968
Role of RNA polymerase in bacterial differentiation	93.859	5R01GM018568-42		No	609,488
Role of synonymous codons as gene regulators in bacteria and cancer cells	93.859	5K99GM107113-02		No	77,214
Scope and Mechanism of Peptide Translation from Short Open Reading Frames in the Human Genome	93.859	5F32GM099408-03 REVISED		No	48,943
Signal Transduction to P70 S6 Kinase 1	93.859	5R01GM051405-19 REVISED		No	783,921
Signaling network reconstruction from biosensor image fluctuations	93.859	1F32GM103278-02 REVISED		No	52,731
Signatures of Immunity on the Antigenic Diversity of Pathogens	93.859	5F32GM097997-02rev		No	573
Single-molecule studies of ATP-dependent chromatin remodeling	93.859	5R01GM105637-02		No	450,376
Spatiotemporal Coordination of Formin and Arp2/3 in Epithelial Cell Migration	93.859	5F32GM100695-02		No	28,923
Statistical Models and Inference in the Single-Molecule Approach to Biology	93.859	5R01GM090202-04		No	112,903

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Stochastic Partitioning and Degradation of Macromolecules	93.859	5R01GM095784-04		No	395,044
Structural Basis for SCAP/SREBP Interaction	93.859	5F32GM103005-03		No	51,842
Structure and Biochemistry of TRPA1: a noxious chemical and temperature sensor	93.859	1F31GM109741-01 REVISED		No	9,365
Structure and Function of the Transient Receptor Potential Vanilloid-1 Channel	93.859	5F31GM100779-02 REVISED		No	27,754
Structure and interactions of the Voltage-Dependent Anion Channel(VDAC)	93.859	5R01GM075879-09		No	206,261
Structure, Function and Inhibition of Human O-GlcNAc Transferase	93.859	5R01GM094263-03 REVISED		No	484,879
Studies of transcriptional redundancy by pair-wise depletion of coactivators	93.859	1F32GM106548-01A1 REVISED		No	29,707
Studies on the Biological Mechanisms of Antibiotics	93.859	5R01GM066174-12		No	475,597
Study of biological evolution of structure and function in proteins	93.859	5R01GM068670-11		No	486,638
Super-resolution studies of the entry mechanisms of influenza viruses	93.859	5R01GM068518-09 REVISED		No	459,639
Synaptonemal Complex Assembly and Function in Meiosis	93.859	5R01GM072551-09		No	233,522
Synthesis and Discovery Enabled by Small Molecule-Nucleic Acid Conjugates	93.859	5R01GM065865-11		No	279,382
Synthesis of Bioactive Alkaloids and Peptides	93.859	5R01GM03328-26		No	140,921
Systematic Analysis of the Dub Proteome	93.859	5R01GM054137-17 REVISED		No	53,517
Systems-Level Physiological Basis of Selection and Epistasis in Adaptation	93.859	5R01GM078209-05		No	(251)
The Chemical Biology of Naturally Occurring Redox-Active Small Molecules	93.859	5F32GM103010-02		No	40,505
The Combinatorial Effect of p53 Dynamics and Modifications on Cell Fate Decisions	93.859	5F32GM105205-02 REVISED		No	53,434
The Discovery of Human Peptide Encoding Genes	93.859	5R01GM102491-02 REVISED		No	434,012
The population genetics of antibiotic resistance in multi-drug environments	93.859	5R01GM081617-08		No	319,481
The RNA polymerase II transcription complex	93.859	5R01GM046498-24		No	407,580
The Role of Peptidoglycan-binding Factors in Cytokinetic Ring Stabilization	93.859	5F32GM100609-02		No	30,555
Thiourea Catalyzed Enantioselective Fluorination	93.859	1F32GM109563-01 REVISED		No	16,538
Transport of Proteins In and Out of the Nucleus	93.859	5R37GM036373-28 REVISED		No	6,544
Transvection and somatic homolog pairing in Drosophila	93.859	5R01GM085169-04 Revised		No	41,500
Ubiquitin chain editing by the mammalian proteasome	93.859	5R01GM095526-04		No	427,993
Uncovering the mechanism of OGT substrate recognition and membrane localization	93.859	5F32GM100539-02		No	26,228
Understanding the roles of histone demethylation in germline maintenance	93.859	5F32GM100515-02 REVISED		No	54,755
<b>Subtotal of 93.859</b>	<b>93.859</b>				<b>50,663,175</b>
A Cohort Study of Preterm Delivery in Relation to Partner Abuse, Mood and Anxiety	93.865	5R01 HD059835-04		No	588,519
Adversity and Resilience After Hurricane Katrina	93.865	7R01HD057599-06-REVISED		No	366,894
Birth Outcomes Surveillance in Botswana	93.865	1R01HD080471-01 REVISED		No	3,021
Boston Re-entry Survey	93.865	5R21HD073761-02		No	60,026
Cadherin-independent epithelium formation	93.865	5R21HD066263-02		No	22,456
Children's Acquisition of Counterintuitive Concepts	93.865	5F32HD069099-03		No	49,933
Cognition in Infancy	93.865	5R01HD023103-29 REVISED		No	113,403
Developmental Reprogramming after Nuclear Transfer	93.865	5R01HD046732-09 REVISED		No	177,113
Dissecting expression divergence in developmental transcriptional networks across Drosophilids	93.865	5K99HD073191-02		No	123,613
Exploring Trends in US Health Inequities in Context: NHES to NHANES, 1959-2006	93.865	3R21HD068028-02S1		No	57,025
FUNCTIONAL ANALYSIS OF NOVEL SIGNALING PEPTIDES DURING EMBRYOGENESIS	93.865	5K99HD076935-02		No	99,809
Genetic regulation of ovariole development in Drosophila	93.865	5R01HD073499-02		No	101,340
Genetics of long non-coding RNAs in zebrafish	93.865	1R01HD076708-01A1		No	19,425
Hedgehog Signaling and Organogenesis of the Limb	93.865	5R37HD032443-20		No	577,724
Histone Modification During Embryogenesis	93.865	5R21HD072733-02 REVISED		No	126,999
In toto Image Analysis of Tissue Mechanics during Vertebrate Ear Development	93.865	5K25HD071969-02		No	86,188
Intergenerational impact of war: A prospective longitudinal study	93.865	5R01HD073349-03		No	574,905
Lineage and cell migration in patterning the limb primordium	93.865	5R01HD045499-10		No	564,318
Lopinavir/ritonavir + zidovudine to prevent perinatal HIV in Thailand	93.865	5R01HD056953-05		No	53,325
Malaria in Pregnancy: Nutrition and Immunologic Effects	93.865	3R01HD057941-05S1		No	501,095
Mechanical and molecular factors underlying morphogenesis of the intestinal villi	93.865	5F32HD069074-03		No	51,618
Monitoring HAART in HIV-Infected Parents in Thailand	93.865	5R01HD042964-05rev		No	(13,763)
Multicolor Fluorescent Analysis in Zebrafish	93.865	5R01HD067140-03		No	74,127
Multi-vitamins, HAART and HIV/AIDS in Uganda	93.865	5R01HD060333-05		No	206,179
Origins of Knowledge: Conceptual Continuity and Change	93.865	5R01HD038338-10 REVISED		No	109,673
Patterning and Morphogenesis of the Vertebrate Gut	93.865	5R01HD047360-10		No	325,462
PHIACS - Data and Operations Center	93.865	5U01HD052102-10Rvised		No	19,056,791
Phthalates in Drugs and Male Genital Malformation	93.865	5R01HD059861-04		No	405,701
Predoctoral Training Program in Reproductive Epidemiology, Perinatal and Pediatric Epidemiology	93.865	5T32HD060454-05		No	260,139
Prenatal Iron Supplements: Safety and Efficacy in Tanzania	93.865	3U01HD061232-05S1		No	217,390
Programmable metafluorophores for quantitative multiplex in situ imaging of mRNA	93.865	5R21HD072481-02 REVISED		No	188,252
School Reform and Beyond: Pre-K to 1st grade	93.865	5R21HD061718-02		No	70,709
Short Breastfeeding and Cotrimoxazole among HIV-Exposed Infants in Botswana	93.865	5R01HD061265-05		No	882,133
Standard zidovudine plus infant nevirapine to prevent perinatal HIV in Thailand	93.865	5R01HD052461-05Rev		No	479,139
Systems analysis of cell type differentiation in xenopus development	93.865	5R01HD073104-03		No	733,882
The Impact of Microfinance on Health: Experimental Evidence from India	93.865	5R01HD069546-02rev		No	276,780
Trial of Vitamins in HIV Progression and Transmission	93.865	5 R01 HD032257-14		No	134
Variation in Early Childhood Program Impacts by Race, Urbanicity, and Quality	93.865	1F32HD078034-01		No	12,988
<b>Subtotal of 93.865</b>	<b>93.865</b>				<b>27,604,465</b>
Age-associated chromatin changes in hematopoiesis	93.866	5K25AG037596-04		No	104,826
Aging and Cardioprotection by Skeletal Muscle PGC-1alpha in Endurance Exercise	93.866	5F31AG041598-03		No	28,846
Aging and Peripheral Nerve Regeneration	93.866	5F31AG042227-02 REVISED		No	26,970
Aging Memory	93.866	5R01AG008441-23		No	175,911
AP1-Dependent Regulation of Bone Mass and Energy Expenditure in the Hypothalamus	93.866	5R01AG040222-04		No	361,910
Archiving the occupational cohorts in the Work, Family, and Health Network	93.866	5R03AG046393-02		No	43,236

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Associative learning and brain structure in individuals at risk for dementia	93.866	5K23AG034258-05		No	135,523
ATPIF1 inhibition as a therapeutic strategy for mitochondrial dysfunction	93.866	5F30AG046047-02		No	41,448
Cellular and Molecular Analysis of Defects at Aging Neuromuscular Synapses	93.866	5R01AG032322-05		No	(47,057)
Cognitive and fMRI studies of socio-emotional processing in normal aging	93.866	5R01AG032780-04		No	32,866
Comparative Effectiveness of Treatment Regimens in Lung Cancer	93.866	1R21AG047175-01		No	11,272
Dissociating Intrinsic and Extrinsic Motor Learning in Alzheimer's Disease	93.866	5R01AG041878-03		No	433,352
DNA Damage and Neurodegeneration in the Aging Brain	93.866	5P01AG027916-05 REVISED		No	40,816
Episodic Simulation in Healthy Aging and Alzheimer's Disease	93.866	5F32AG038079-03		No	8,698
Estimating the Potential Medicare Savings from Comparative Effectiveness Research	93.866	5R37AG036791-04 REVISED		No	466,991
Evaluating the Health Benefits of Workplace Policies and Practices - Phase II	93.866	5U01AG027669-08REVISED		No	328,333
Functional impairment from stroke: an exploratory study of disparities	93.866	5R21AG034385-02revised		No	5,871
Health and Aging in Africa: Longitudinal Studies of INDEPTH Communities	93.866	5P01AG041710-02		No	353,677
Impact of social cohesion on functional recovery after earthquake and tsunami	93.866	5R01AG042463-02		No	447,111
Income Effects and Current Law Forecasts of Health Care Spending Growth	93.866	5R01AG034417-05		No	355,854
Investigating the neuroinflammatory role of RIP1 kinase	93.866	1R01AG047231-01		No	17,160
Longitudinal Aging Biomarker Study in India (LASI-Biomarkers)	93.866	5R21AG034443-02		No	143,743
Mechanism and Regulation of Caspase-11	93.866	5R37AG012859-18 REVISED		No	445,360
Mechanisms Specific to the Beneficial Effects of Dietary Restriction	93.866	5R01AG044346-02		No	295,623
Mechanistic Analysis of Age-Induced Changes in Protein Homeostatic	93.866	5F31AG044967-02		No	28,351
Medicare Part D Plan Generosity and Dual-Eligible Nursing Home Residents	93.866	5R01AG034085-03 REVISED		No	89,199
Molecular Mechanisms of Age-related Synaptic Disorganization	93.866	5K99AG044444-02		No	84,070
Network-based Health Interventions in Rural Honduras	93.866	1F30AG046978-01		No	31,754
Networks and Neighborhoods	93.866	5P01AG031093-05 REVISED		No	163
Novel GABA-A Modulators as Cognitive Enhancers	93.866	5R01AG035361-04 REVISED		No	238,199
Organizational Factors and the Delivery of Nursing Home Care	93.866	5K01AG038481-02 REVISED		No	8,725
Protection against renal ischemic injury by short term dietary restriction	93.866	5R01AG036712-05		No	338,062
Provider Payment Reform and Implications for Health Care Costs	93.866	5F30AG039175-04 REVISED		No	45,522
Public Policy and the Demand for Long-Term Care Insurance	93.866	5R01AG041109-02		No	262,453
Racial Discrimination and Risk of Chronic Disease	93.866	5R01AG027122-04rev		No	(9)
Reforming Medicare: Beneficiary Choice, Plan Payment, and Accountable Care	93.866	5K08AG038354-03		No	66,237
Regulation of mitochondrial metabolism by SIRT4	93.866	5R01AG032375-05		No	174,892
Reversing age-related dysfunction of skeletal muscle stem cells	93.866	5R01AG033053-06		No	222,987
Role of Chromatin in Genomic Maintenance	93.866	5R01AG019719-10		No	(4,279)
SIRT1 as a regulator of health and lifespan of mammals	93.866	5R37AG028730-08		No	263,248
Social protection, work and family strain: cumulative disadvantage effects in the US and Europe	93.866	5R01AG040248-04		No	329,759
Targeting novel AMPK effectors in the regulation of healthy aging	93.866	1F32AG044944-01Rev		No	24,732
TBONE and phosphonates in mineralization during aging	93.866	1K99AG047255-01		No	30,765
The Center for the Global Demography of Aging	93.866	5P30AG024409-09rev		No	424,840
The Longitudinal Aging Study in India	93.866	5R01AG042778-02		No	210,936
The Physiologic Response to Weather Changes and Extremes in an Elderly Cohort	93.866	5R21AG040027-02		No	72,089
The Role of Aging in Regulatory T cells during Skeletal Muscle Regeneration	93.866	5F30AG046045-02		No	34,508
The Role of Cortical Projection Neurons Susceptible to Progressive Degeneration with Age	93.866	1K99AG047335-01		No	27,108
The role of p97 in protein degradation during aging and disease	93.866	5F31AG041582-03		No	28,856
The Role of Private Plans in Medicare	93.866	5P01AG032952-05 REVISED		No	1,852,623
The Role of the NALP3 Inflammasome in Age-Related Macular Degeneration	93.866	5F31AG039245-03 REVISED		No	23,298
The variability of the lifespan phenotype in C. elegans	93.866	5R01AG034994-05 REVISED		No	294,442
Training and research application for c-spine ultrasound of an aging population.	93.866	5F30AG040931-03 REVISED		No	27,446
Training in the Molecular Biology of Neurodegeneration	93.866	5T32AG000222-20 REVISED		No	(53,137)
Training in the Molecular Biology of Neurodegeneration	93.866	5T32AG000222-23		No	806,318
Ubiquitin-mediated proteolysis and cell cycle control	93.866	5R01AG011085-21		No	374,140
Ubiquitin-mediated proteolysis and cell cycle control	93.866	5R01AG011085-19 REVISED		No	17,375
Widowhood and Mortality: Modifying Role of Individual and Community Context	93.866	5R21AG037889-02		No	4,721
<b>Subtotal of 93.866</b>	<b>93.866</b>				<b>10,638,733</b>
Cell surface molecules that require arrangement of retinal neurons and arbors	93.867	5R01EY022073-03 REVISED		No	723,800
Cell-Cell Signaling in Development and Regeneration of Visual Connections	93.867	5R01EY011559-22		No	430,816
Core Grant for Vision Research	93.867	3P30EY012196-15S1		No	1,251
CORE GRANT FOR VISION RESEARCH	93.867	5P30EY012196-17		No	766,776
Cortico-Cortical Feedback	93.867	5R01EY011379-17		No	393,003
Defining the neural correlates of ensemble representation	93.867	5F32EY022292-03 REVISED		No	53,312
Functional connectivity of mouse visual cortex	93.867	5R01EY010115-22 REVISED		No	453,798
Gene therapy to support cone metabolism in retinitis pigmentosa	93.867	5R01EY023291-02		No	531,940
Internal Signals in the Parietal Visual Pathway	93.867	5R01EY012106-14		No	353,107
Mechanisms of Morphogen Secretion in Visual System Development and Disease	93.867	1R01EY024093-01		No	152,388
Molecular Biology of Retinal Development	93.867	R01EY008064-23 (email)		No	211,851
Molecular patterning and specification of the fovea during retinal development	93.867	5F32EY023911-02		No	46,937
Neuronal Dynamics of Visual Attention and Eye Movements	93.867	5F32EY022529-03		No	52,846
Neuronal ensembles in the rodent visual cortex	93.867	2R01EY018742-06 REVISED		No	15
Neuronal Measures of the State of Visual Attention	93.867	5R01EY021550-03 REVISED		No	307,305
Representing object ensembles in the human brain: Where, when and what	93.867	5R01EY022355-03		No	382,263
Research Training Visual Neuroscience	93.867	5T32EY007110-25		No	177,995
Revealing IPS organization through its role in location and feature processing	93.867	5F32EY022874-03		No	56,525
Reverse Correlation Mapping in Face Patches	93.867	5R01EY016187-05 REVISED		No	(16)
Reverse Correlation Mapping in Face Patches	93.867	5R01EY016187-09		No	595,926

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Role of Fat3 at the intersection of neuronal morphology and synapse localization	93.867	1F32EY024184-01 REVISED		No	6,780
The Role of Animagy and Size in the Neural Organization of Object Knowledge	93.867	5F32EY022863-02		No	57,285
The role of Fat3 in amacrine cell dendrite development.	93.867	5R21EY022725-02		No	191,087
Visual Processing in the Cerebral Cortex	93.867	5R01EY005911-28 REVISED		No	86,917
Visual Psychophysics of Human Face Processing	93.867	5R01EY013602-10 REVISED		No	127,659
<b>Subtotal of 93.867</b>	<b>93.867</b>				<b>6,161,566</b>
Boston-Area Research Training Program in Biomedical Informatics	93.879	5T15LM007092-20 REVISED		No	42,152
Boston-Area Research Training Program in Biomedical Informatics	93.879	5T15LM007092-23		No	1,045,432
Novel integrative method to detect biomarkers of breast cancer resistance	93.879	5K99LM011595-02		No	67,723
Predictive optimal anticlotting treatment for segmented patient populations	93.879	1R01LM011566-01		No	152,398
Repurposing Electronic Health Data for Serendipitous Therapy Discovery	93.879	5K99LM011020-02		No	18,465
<b>Subtotal of 93.879</b>	<b>93.879</b>				<b>1,326,170</b>
Building Research Capacity to Improve Mental Health in China across the Lifespan	93.989	5D43TW009081-04		No	172,580
Enabling Biotechnologies to Generate Novel Phosphoglycolipid Antibiotics	93.989	5R03TW009424-02		No	28,707
Fogarty HIV Research Training Program for Low and Middle-Income Countries	93.989	5D43TW009610-02		No	111,061
International Training in AIDS-Related Epidemiology	93.989	5D43TW000004-25Revised		No	122,951
Substituting Brown Rice for White Rice: Effect on Diabetes Risk Factors in India	93.989	5R03TW008726-03Rev		No	13,500
Tanzania AIDS and TB ICOHRTA	93.989	5U2RTW008254-05		No	141,873
Tanzania Infectious Disease Research Training Program	93.989	5D43TW007886-05revised		No	(13,286)
The economic impacts of community-based integrated health care systems in rural Rwanda	93.989	5K01TW008773-05		No	126,503
<b>Subtotal of 93.989</b>	<b>93.989</b>				<b>703,889</b>
Genetic Modeling for SMA Therapeutic Pathways	93.853, 93.310	5P01NS0066888-05		No	1,386,744
<b>Subtotal of 93.853, 93.310</b>	<b>93.853, 93.310</b>				<b>1,386,744</b>
An Examination of Behavioral Healthcare Integration in Medicare Accountable Care Organizations	93.Contract	HHSP23320130051C		No	72,808
Diabetes Risk Across Women's Lifespan: A Study of Long-Term Health Implications of Glucose Intolerance in Pregnancy	93.Contract	HHSN275201000020C		No	668,587
Evaluating relative mitochondrial DNA copy number as an early diagnostic test for esophageal squamous cell carcinoma in Linxian, China	93.Contract	HHSN261201300199P		No	9,109
Innovative Methods for Evidence Synthesis for Medical Devices	93.Contract	HHSF223201000098C		No	55
Organ-on-Chips Tools for Testing of Radiation Countermeasures	93.Contract	HHSF223201310079C		No	940,675
Physic-Chemical, Pharmacokinetic and Toxicological Studies of Engineered Nanoparticles emitted from Photocopiers and Printing Equipment	93.Contract	PO-200-2013-M-57393		No	165,402
<b>Subtotal of 93.Contract</b>	<b>93.Contract</b>				<b>1,856,636</b>
Evaluation of Body Fatness in Early Adulthood, Adult Weight Change, and Risk of Breast Cancer in an International Pooling Project of Prospective Studies	93.Unknown	HHSN261201300268P		No	21,168
<b>Subtotal of 93.Unknown</b>	<b>93.Unknown</b>				<b>21,168</b>
<b>Total DHHS Direct Award</b>					<b>365,919,550</b>
<b>EPA</b>					
Air Pollution Mixtures: Health Effects Across Life Stages	66.509	RD-83479801-5		No	1,538,186
Are diabetics and the neurologically impaired at increased risk from air pollutant exposures - A National analysis	66.509	RD-83490001-0		No	67,178
Predicting Regional Allergy Hotspots in Future Climate Scenarios	66.509	RD-83435901-0		No	142,893
The effect of air pollution control on life expectancy in the United States: national population-based analysis	66.509	83489401-0		No	131,709
<b>Subtotal of 66.509</b>	<b>66.509</b>				<b>1,879,966</b>
Constraints on California and Arctic Methane Emissions using a Regional Lagrangian Model and Aircraft-based Measurements during the CalNex and HIPPO Campaigns	66.514	FP-91736501-1		No	1,959
<b>Subtotal of 66.514</b>	<b>66.514</b>				<b>1,959</b>
Analysis and Reports of CATHGEN Database	66.Contract	EP-12-D-000018		No	(421)
<b>Subtotal of 66.Contract</b>	<b>66.Contract</b>				<b>(421)</b>
<b>Total EPA Direct Award</b>					<b>1,881,504</b>
<b>Institute of Museum and Library Services</b>					
Peabody Museum Archaeological Collections Digital Imaging and Cataloguing Project	45.301	MA-05-11-0312-11		No	16,679
<b>Subtotal of 45.301</b>	<b>45.301</b>				<b>16,679</b>
<b>Total Institute of Museum and Library Services Direct Award</b>					<b>16,679</b>
<b>NASA</b>					
A higher resolution Galactic dust map: Mapping Galactic dust with the Wide-field Infrared Survey Explorer (WISE)	43.001	NNX12AE08G		No	8,567
A New Galactic Dust Map: Improving the Calibration, Dust Temperature Correction, and Point Source Subtraction of the SFD Dust Map for Cosmological Applications	43.001	NNX10AD69G		No	14,164
A Tropospheric Chemistry Module for Earth System Models and Data Assimilation Systems: Application to Chemical Data Assimilation of Satellite Observations in the GEOS DAS	43.001	NNX11AN17G		No	136,519
Advising GNSR Radio Occultation and Climate Modeling Studies for the CLARREO Science Definition Team	43.001	NNX11AE74G		No	259,414
Air Quality Applied Sciences Team Membership	43.001	NNX11A140G		No	368,887
Analysis of Aura satellite data for the tropics using the GEOS-Chem model	43.001	NNX10AG59G		No	(1)
Analysis of OMI observations to constrain the budget of tropospheric ozone and VOC emissions	43.001	NNX11AH23G		No	149,829
Analytic models for outcomes of collisions between icy bodies for outer solar system planet formation and evolution	43.001	NNX12AK25G		No	98,084
Astro-comb Optical Wavelength Calibrator for Exoplanet Research	43.001	NNX09AC92G		No	80,817
Astrophysical Consequences of a New Force in the Dark Sector	43.001	NNX10AD85G		No	41,807
Atmospheric Loss During High Angular Momentum Giant Impacts	43.001	NNX13A067H		No	20,226
Characterizing the UV environment of GJ1214b	43.001	HST-GO-12165.07-A		No	18,848
Cosmological Hydrodynamics on a Moving Mesh	43.001	NNX12AC67G		No	190,034
DASH Variables in the Kepler Field	43.001	NNX12AC91G		No	38,036
Development of a data-assimilation framework for integrating 25 years of surface and airborne observations to assess patterns of net CO2 exchange from arctic ecosystems	43.001	NNX13AK83G		No	83,860
Exploring Cryogenian biological and environmental change in Mongolia	43.001	NNX12AD72G		No	167,400
Fermi Cycle 6: Probing the Nature of the Fermi Bubbles With Improved Data Analysis	43.001	NNX13AF22G		No	25,879
FERMI Cycle 6: Rapid Spectroscopy of FERMI GRBS: Redshifts, Energetics, and Host Galaxies	43.001	NNX13A081G		No	74,999
Giant impacts on terrestrial planets: a high-resolution 3D study of magma ocean formation and atmospheric blow off	43.001	NNX11AK93G		No	45,599

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
High Accuracy 1 Hz Airborne Measurements of CO2 in SEAC4RS	43.001	NNX12A83G		No	36,851
High accuracy measurements of CO2, CH4, N2O, and CO from suborbital platforms	43.001	NNX09A194G		No	(3,685)
High Accuracy Measurements of CO2, CH4, N2O, and CO From Suborbital Platforms, and Related Measurements	43.001	NNX13AH36G		No	272,087
High Power Mid-IR Laser Development 2.8 to 3.5 Microns	43.001	NNX12AB13G		No	192,129
High Resolution Energetic X-ray Imager (HREXI)	43.001	NNX14AD59G		No	20,909
Improving predictions of terrestrial carbon, water, and energy cycling using novel plant phenology observation and modeling	43.001	NNX13AL24H		No	26,491
Integrating GRAIL Results with Lunar Laser Ranging Data and Ephemeris Modeling	43.001	NNX12AL12G		No	8,473
Investigation of Tropospheric Chemistry-Climate Interactions in Hindcasts of the Recent Past	43.001	NNX13A008G		No	37,933
Isotopic Constraints on the Giant Impact Hypothesis	43.001	NNX12AH65G		No	365,508
Isotopic Studies of Solar System Origins	43.001	NNX11AK82G		No	100,198
Linking Terrestrial Biosphere Models with Remote Sensing Measurements of Ecosystem Composition, Structure, and Function	43.001	NNX12AP33G		No	60,980
Management of the GEOS-Chem Chemical Transport Model and Application to Improve Understanding of Tropospheric Ozone	43.001	NNX11AH93G		No	310,915
Mobilization of water during planetary collisions: Shock thermodynamics experiments on icy mixtures and hydrated minerals	43.001	NNX11AQ24G		No	99,392
Multi-Scale Plasma Flows around Black Holes (Harvard node)	43.001	NNX14AB47G		No	15,159
Numerical Simulations of Accretion Flows, Jets and Winds Around Black Holes	43.001	NNX11AE16G		No	34,602
Physics of Colloids in Space	43.001	NNX08AE09G		No	91,652
Proposal to Measure H2O from the NASA ER-2 Aircraft Using a New Integrated Lyman-alpha and IR Absorption Instrument	43.001	NNX12AN06G		No	553,769
ProtoEXIST2-3 Development and Balloon Flight Demonstration	43.001	NNX11AF35G		No	33,740
Providing Advice on Issues of Infrared SI Traceability to the Science Definition Team for the CLARREO Mission	43.001	NNX11AF94G		No	17,015
RAPID OPTICAL and NEAR-INFRARED SPECTROSCOPY OF SWIFT GRBS:	43.001	NNX13AJ64G		No	28,000
COSMIC REIONIZATION, METAL ENRICHMENT, AND HIGH-HOSTS					
Rapid Spectroscopy of FERMI GRBS: Redshifts, Energetics, and Host Galaxies	43.001	NNX12AE72G		No	(934)
Rapid Spectroscopy of FERMI GRBS: Redshifts, Energetics, and Host Galaxies	43.001	NNX12AP19G		No	26,721
Redox Evolution of the Terrestrial and Martian Surfaces	43.001	NNX11AF89H		No	30,781
Regolith X-ray Imaging Spectrometer (REXIS)	43.001	NNX12AG65G		No	208,084
Revealing The Outer Solar System Using Occultations Of Stars	43.001	NNX10AH40G		No	10,693
SAINTS - The SN 1987A Intensive Study	43.001	HST-GO-12241.01-A		No	3,956
SEAC4RS Mission Leadership for Tropospheric Composition	43.001	NNX12AC49G		No	31,636
SEAC4RS mission support using the nested GEOS-Chem chemical transport model	43.001	NNX12AC05G		No	93,224
Source attribution, emission monitoring and treaty verification by combining remote sensing and suborbital data	43.001	NNX11AG47G		No	58,777
Spatial and Temporal Distributions of Sources for non-CO2 Greenhouse Gases (CH4, CO, N2O) and aerosols over Amazonia	43.001	NNX09AJ40G		No	(45,241)
Study of the Madden-Julian Oscillation with isotope-enabled regional and global models	43.001	NNX13AN47G		No	61,268
Swift Cycle 9: A Renaissance of GRB Radio Studies with the Jansky VLA	43.001	NNX13A098G		No	18,465
Testing the Borealis Impact Hypothesis: An investigation of mantle and crustal signatures from a giant impact	43.001	NNX11AE96G		No	40,177
The ADS All Sky Survey	43.001	NNX12AE11G		No	104,529
USE OF GOSAT, TES, AND SUBORBITAL OBSERVATIONS TO CONSTRAIN NORTH AMERICAN METHANE EMISSIONS IN THE CARBON MONITORING SYSTEM	43.001	NNX12AP10G		No	176,503
Validating Kepler's Habitable-Zone Super-Earths with the Spitzer Space Telescope	43.001	NNX12AC77G		No	65,194
Wavelength-Dependent Complex Indices of Refraction of Different Types of Secondary Organic Materials	43.001	NNX12AG95G		No	109,197
Wavelength-dependent complex refractive indices of light-absorbing secondary organic material updating the aerosol optical database to improve the accuracy and scope of satellite-retrieved information	43.001	NNX13AM94H		No	24,325
Smithsonian - An In-Depth Study of the Nearest Gamma-Ray Bursts GRB	43.001	GO0-11083D		No	1,058
Smithsonian - Are Convective Dynamos Super-Saturated at High Rotation Velocities	43.001	GO2-13007A		No	16,621
Smithsonian - Black Holes Through Cosmic Times	43.001	PF2-130096		No	105,602
Smithsonian - Testing the Wind-Jet Connection in a Black Hole Transient	43.001	GO2-13050B		No	3,859
Smithsonian - The Energetics and Environments of Type Ibc Supernovae	43.001	GO3-14062X		No	22,293
Smithsonian - The Topology of Magnetic Fields and Coronae at the Bottom of the Main Sequence	43.001	GO3-14001X		No	35,799
<b>Subtotal of 43.001</b>	<b>43.001</b>				<b>5,327,673</b>
Theoretical and Experimental Analysis of the Performance of Quantum Annealers	43.003	NNX14AF62G		No	26,971
<b>Subtotal of 43.003</b>	<b>43.003</b>				<b>26,971</b>
Metallic Hydrogen: A Game Changing Rocket Propellant	43.007	NNX11AR38G		No	4,972
Physics of Colloids in Space	43.007	NNX13AQ48G		No	123,141
<b>Subtotal of 43.007</b>	<b>43.007</b>				<b>128,113</b>
A LIBS Boroscope for Evaluation of Mars Sample Return Core Candidates	43.008	NNX13AM67H		No	28,100
<b>Subtotal of 43.008</b>	<b>43.008</b>				<b>28,100</b>
Augmentation of the Glue Visualization System, with Special Emphasis on Spectral-Line Data Cubes	43.Contract	NAS5-03127		No	114,001
NASA Algorithm Institute	43.Contract	NNH10C071C		No	2,775,139
<b>Subtotal of 43.Contract</b>	<b>43.Contract</b>				<b>2,889,140</b>
ATTREX: A Venture Class Mission to Understand the Role of the Tropical Tropopause Layer in Earth's Climate	43.Unknown	NNX10A082A		No	318,698
Budgets for Carbon Cycle Gases (CO2, CH4, and CO) in the Amazon Basin from Aircraft and Remote Sensing Data	43.Unknown	NNX10AR75G		No	181,548
Catastrophic Disruption of Small Bodies in the Outer Solar System	43.Unknown	NNX09AF27G		No	8,733
Cycle 21 Program: Understanding the Progenitor Systems, Explosion Mechanisms, and Cosmological Utility of Type Ia Supernovae	43.Unknown	HST-GO-13286.07-A		No	1,094
Dark Matter and Galactic Paleontology	43.Unknown	HST-HF-51283.001-A		No	18,035
Data-model fusion and forecasting 21st-Century environmental change in northeastern North America	43.Unknown	NNX10AT52A		No	108,814
Experimental investigation of isoprene oxidation for different limiting chemical regimes: updating the oxidation mechanism to evaluate and improve satellite retrievals of formaldehyde and glyoxal	43.Unknown	NNX11AL51H		No	22,446
Exploring the Universe with Next Generation Simulations	43.Unknown	HST-HF-51317.01-A		No	58,256
Identifying and studying gamma-ray bursts at very high redshifts	43.Unknown	HST-GO-12247.10-A		No	7,889
Measurement requirements for geostationary satellite instruments to observe	43.Unknown	NNX10AN74H		No	7,000
Quantifying Methane Sources in the United States Using Satellite and Aircraft Observations	43.Unknown	NNX10AP13H		No	7,000
RAISIN: Tracers of cosmic expansion with SN IA in the IR	43.Unknown	HST-GO-13046.01-A		No	162,070
Staring into the Beasts' Lair: HST Observations of the Host Galaxies of Pan-STARRS Ultra-luminous Supernovae	43.Unknown	HST-GO-13022.01A		No	6,723
The Atmospheric Structure of Giant Hot Exoplanets	43.Unknown	HST-GO-12181.06-A		No	(1,120)

The accompanying notes are an integral part of this schedule.



# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
The Compositional Role of Asteroids as Building Blocks of Planets	43.Unknown	HST-HF-51319.01-A		No	87,802
Ultraviolet Spectra of the Exceptional SN 2009ip	43.Unknown	HST-GO-13179.01-A		No	21,691
<b>Subtotal of 43.Unknown</b>	<b>43.Unknown</b>				<u>1,016,679</u>
<b>Total NASA Direct Award</b>					<u>9,416,676</u>
<b>National Endowment for the Humanities</b>					
Women's Worlds in Qajar Iran (NEH HCRR)	45.149	PW-51546-14		No	33,366
<b>Subtotal of 45.149</b>	<b>45.149</b>				<u>33,366</u>
Interpreting the Colonial Experience at Magdalena de Cao Viejo, Chicama Valley, Peru, 1578-1770	45.161	RZ-51150-10		No	11,966
<b>Subtotal of 45.161</b>	<b>45.161</b>				<u>11,966</u>
Containment: A Film about the Nuclear Landscape Now and for the Next 10,000 Years	45.164	TR5048513		No	37,447
<b>Subtotal of 45.164</b>	<b>45.164</b>				<u>37,447</u>
Extending WorldMap to Make It Easier for Humanists and Others to Find, Use, and Publish Geospatial Information	45.169	HK-50091-13		No	75,177
<b>Subtotal of 45.169</b>	<b>45.169</b>				<u>75,177</u>
<b>Total National Endowment for the Humanities Direct Award</b>					<u>157,956</u>
<b>National Science Foundation</b>					
IUCRC: Collaborative Research: Center for Spatiotemporal Thinking Computing and Applications	47.041	IIP-1338914		No	55,858
A Novel Safer Formulation Concept for Flame Generated Engineered Nanomaterials	47.041	1235806		No	137,463
Advanced Optical Antennas: Switchable, Spasing and Gain-Assisted	47.041	ECCS-1201687		No	212,488
Alan T. Waterman Award	47.041	CMMI-1251729		No	204,667
Calmodulin-based allosteric switches as a modular platform for peptide biosensors	47.041	CBET-1158784		No	91,243
CAREER: Bio-inspired Automatic Control of a Flying Robotic Insect	47.041	CMMI-0746638		No	117,372
CAREER: BuckliOrigami: Soft, Active and Foldable Structures Through Instabilities and Large Deformation	47.041	CMMI-1149456		No	101,898
CAREER: Nanoscale Opto-Mechanical Systems	47.041	ECCS-0846684		No	(12)
Castling Inorganic Nanostructure Arrays with 3D DNA Crystal Molds	47.041	CMMI-1333215		No	84,958
Collaborative Research: Geometric Shape Error Control for High-Precision Additive Manufacturing	47.041	CMMI-1334178		No	25,956
Collaborative Research: Ultrashort pulse generation and mid-infrared frequency combs from quantum cascade lasers	47.041	ECCS-1230477		No	35,389
Developing Computational Models to Guide the Design of Chemomechanically Responsive, Reconfigurable Surfaces	47.041	1124839		No	136,553
EAGER: A new coupling scheme for surface plasmon polaritons using structured illumination	47.041	ECCS-1347251		No	92,649
Experimental Electro-Mechanics of Dielectric Elastomers	47.041	CMMI-1333835		No	33,474
Harnessing the Nano-Optics of Nanowires for Novel Photonic Devices	47.041	ECCS-1307561		No	275,531
On-Chip, Integrated, Diamond Raman Laser	47.041	ECCS-1202157		No	203,310
Stretchable, Tough, Water-Retaining Hydrogels for Non-Traditional Applications	47.041	CMMI-1404653		No	1,048
TiO2 ultrafast all-optical devices	47.041	ECCS-1201976		No	116,718
<b>Subtotal of 47.041</b>	<b>47.041</b>				<u>1,926,563</u>
Collaborative Research: A field-experimental test for evolutionary trait-mediated indirect effects in food webs	47.047	DEB-0949531		No	21,555
<b>Subtotal of 47.047</b>	<b>47.047</b>				<u>21,555</u>
10th Workshop on Algorithms and Models for the Web Graph (WAW 2013)	47.049	DMS-1343125		No	8,630
16th Meeting of New Researchers in Statistics and Probability, July 31- August 2, 2014	47.049	DMS-1418827		No	4,074
A Biophysical Analysis of C. Elegans Thermotactic Behavior in Diverse Environments	47.049	PHY-0957185		No	7,449
Algebraic Geometric Approaches to Biological Complexity	47.049	DMS-0856285		No	39,940
Anthydrogen and Antiproton Studies	47.049	PHY-1310079		No	372,722
ATD: Collaborative Research: Statistical Modeling of Short-Read Counts in RNA-Seq	47.049	DMS-1120368		No	104,722
Bayesian Partition Models for Detecting Influential and Interactive Variables	47.049	DMS-1007762		No	118,181
Building a theoretical and methodological framework for collaborative statistical inference and learning: multi-party and multiphase paradigms	47.049	DMS-1208799		No	125,694
CAREER: Bimetallic Pd and Ag Catalysts for Electrophilic Trifluoromethylation	47.049	CHE-0952753		No	32,242
CAREER: Dynamics of neural circuits governing locomotory decisions in C. elegans	47.049	PHY-0952766		No	115,656
CAREER: Fluctuations and fitness- fundamental limits and selection conflicts	47.049	DMS-0748760		No	1,136
CAREER: Iron mediated catalytic C-H bond functionalization	47.049	CHE-0955885		No	228,374
CAREER: Quantum field theory in diverse dimensions, supersymmetry, and quantum gravity	47.049	PHY-1352084		No	2,493
CAREER: Sharing Deep CMB Maps for Cosmological Discovery	47.049	AST-1255358		No	78,738
CAREER: Spin Resolved Imaging of Correlated Electron Systems Including Cuprates and Pnictides	47.049	DMR-0847433		No	59,279
CAREER: Structure-Property Relation Studies in Functional Metal-Oxide Thin Films Photon Effects	47.049	DMR-0952794		No	74,651
Causal Inference From Two-Level Factorial Designs	47.049	DMS-1107004		No	53,752
CDI Type II: Scientific Computation for Astronomy Neurobiology and Chemistry using Graphics Processing Units and Solid-State Storage	47.049	PHY-0835713		No	13,677
Center for Integrated Quantum Materials	47.049	DMR-1231319		No	1,329,939
Classical and Quantum Aspects of Black Holes and Horizons	47.049	PHY-1205550		No	84,367
Classical and Quantum Geometric Langlands Correspondence	47.049	DMS-1063470		No	132,559
Collaborative Proposal: Statistical Methods for Analyzing Complexity and Growth of Large Biological and Information Networks	47.049	DMS-1106890		No	5,547
Collaborative Research: Abacus: A New State-of-the-Art Cosmological N-body Code	47.049	AST-1313285		No	22,697
Collaborative Research: Advanced Statistical Methods and Computation for Emerging Challenges in Astrophysics and Astronomy	47.049	DMS-1208791		No	86,616
Collaborative Research: At the Interface of LHC Theory and Experiment	47.049	PHY-1358729		No	98,676
Collaborative Research: Development of a Green-Orange Astro-comb for Exoplanet and Cosmology Research	47.049	AST-1006503		No	114,271
Collaborative Research: Homotopy Theory: Applications and New Dimensions	47.049	DMS-0906194		No	235,959
Collaborative Research: Institute for Theoretical, Atomic, Molecular and Optical Physics	47.049	PHY-1205635		No	354,219
Collaborative Research: Large-Aperture Experiment to Detect the Dark Age (LEDA)	47.049	AST-1106059		No	188,693
Collaborative Research: Optical Confirmation, Redshifts, and Richness for Galaxy Clusters Discovered with the South Pole Telescope	47.049	AST-1009012		No	303,818
Colloids as Models for Crystals and Glasses	47.049	DMR-1206765		No	78,014
Complex Dynamics and Moduli Spaces	47.049	DMS-0755765		No	13,659
Complex Dynamics and Moduli Spaces	47.049	DMS-1300315		No	34,152
Complex Dynamics and Moduli Spaces	47.049	DMS-1305116		No	95,636
Complex Manifold Theory and Kaehler Geometry	47.049	DMS-1001416		No	5,142
Current Developments in Mathematics Conference	47.049	DMS-1001688		No	12,702
Differential Equations in Geometry	47.049	DMS-0804454		No	189,229

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Electron Magnetic Moment, Fine Structure Constant, Mass Ratios, Laser Spectroscopy and QED	47.049	PHY-1068219		No	146,055
Fiber-laser Astro-comb as a Robust Wavelength Calibrator for Astrophysical Spectrographs	47.049	AST-1310981		No	71,304
FRG Collaborative Research: Generalized Geometry, String Theory and Deformations	47.049	DMS-1159412		No	21,345
FRG: Collaborative proposal: In and Around Theory X	47.049	DMS-1158983		No	46,719
FRG: Collaborative Research: High-Dimensional Statistical Inference: Theory, Methodology, and Applications	47.049	DMS-0854970		No	1,779
FRG: Collaborative Research: Periods of automorphic forms and applications to L-functions	47.049	DMS-1065527		No	104,458
Gamma-ray Bursts: From Progenitors to Probes	47.049	AST-1107973		No	118,968
Gauge Theory and Geometry in Dimensions Three and Four	47.049	DMS-0904589		No	204,708
Geometric structures in field and string theory	47.049	PHY-1306313		No	104,527
Geometry of Linear Systems on Curves: Birational Geometry of Moduli Spaces	47.049	DMS-1001926		No	29,093
Geometry of Strings and Gravity	47.049	PHY-0837443		No	45,424
Guided Fluidic Assembly of Patterned Ceramic Granules and Films	47.049	DMR-1301756		No	(2)
High-Fidelity, Long-Term Coherent Memory with Bose-Einstein Condensates for Implementation of Quantum Repeater Architectures	47.049	PHY-1104347		No	127,051
Hydrogen at Ultra-High Pressure	47.049	DMR-0804378		No	11,748
Hydrogen at Ultra-High Pressure	47.049	DMR-1308641		No	52,298
Imaging Electron States in Nanostructures	47.049	DMR-1105341		No	98,029
Interactions of Particles, Fields and Strings	47.049	PHY-1067976		No	546,238
Interference Selection and the Statistics of Evolution in Microbes	47.049	PHY-1313638		No	129,933
Mapping Dust in 3-D with Pan-STARRS	47.049	AST-1312891		No	66,605
Material Worlds Network: Control of the Electron Nuclear Interaction in Nano-Electronic Devices	47.049	DMR-0908070		No	(4,218)
Materials Research Science and Engineering Center	47.049	DMR-0820484		No	2,201,659
Materials World Network to Optimize the Growth of InGaN Quantum Dots within High Quality Optical Micro-Cavities	47.049	DMR-1008480		No	(4)
Mathematical Science Postdoctoral Research Fellowship (MSPRF)	47.049	DMS-1004464		No	595
Mathematical Sciences Postdoctoral Research Fellowship	47.049	DMS-1103790		No	4,135
Mathematical Sciences Postdoctoral Research Fellowship	47.049	DMS-1105381		No	557
Metal Platforms for the Photoactivation of Metal-Hydrate, -Halide and -Oxo Bonds	47.049	CHE-1332783		No	225,720
Microfluidic Printing of Interspersed and Interpenetrating Multicomponent Ceramic Architectures	47.049	DMR-1305284		No	79,731
Nanoscale Studies of Topological Insulators	47.049	DMR-1106023		No	99,652
New Reactions and Strategies in Synthesis	47.049	CHE-1152205		No	55,327
Nonequilibrium Physics of Spindle Assembly: Understanding the Response of the Spindle to Perturbations	47.049	PHY-1305254		No	107,650
Nonlinear Analysis on Symplectic, Complex Manifolds, General Relativity, and Graphs	47.049	DMS-1308244		No	100,301
Novel Phases of Quantum Matter	47.049	DMR-1103860		No	141,168
Novel routes for nitrogen functionalization of organics with metallic Ag, Au and Cu: Fundamental principles on a molecular level	47.049	CHE-0952790		No	135,988
Novel statistical models for text mining with applications to Chinese history and texts	47.049	DMS-1208771		No	127,273
Number Theory and Geometry	47.049	DMS-1100511		No	33,037
Number Theory and Related Fields	47.049	DMS-0968831		No	1,386
Number Theory and Related Fields	47.049	DMS-1302409		No	53,362
p-adic Hodge Theory and Applications	47.049	DMS-1001139		No	71,666
Particle Physics in the Era of Data	47.049	PHY-1216270		No	134,946
Physics with New Atomic Systems: Quantum Interactions, Cooling and Applications	47.049	PHY-1067990		No	60,475
Population and Ordering Dynamics in Bacterial Intestinal Infection	47.049	PHY-1205494		No	142,262
Quantum Optical Physics with Nanophotonics Systems	47.049	PHY-0969816		No	621,319
Random Matrices and Disordered Systems	47.049	DMS-1307444		No	60,453
Representation Theory, Automorphic Forms, and Complex Geometry	47.049	DMS-1302848		No	289
REU Site: Biomaterials Research Initiative Dedicated to Gateway Experiences (BRIDGE)	47.049	DMR-1005022		No	52,649
REU Site: Biomaterials Research Initiative Dedicated to Gateway Experiences (BRIDGE)	47.049	DMR-1262895		No	108,337
SAVI: Student Research Network in the Physics of Living Systems (PoLS)	47.049	PHY-1219334		No	337,376
Scanning-releasing the full-sky-century database to DASCH for TDA	47.049	AST-1313370		No	231,757
Shimura Varieties and Galois representations	47.049	DMS-1301921		No	73,591
Soft Materials: Synthesis and Properties	47.049	DMR-1310266		No	167,985
SOLAR Optical Hyperdoping: Transforming Semiconductor Band Structure for Solar Energy Harvesting	47.049	DMR-0934480		No	17,282
Spin, Heat and Charge Transport in Quantum Hall Edge Modes	47.049	DMR-1206016		No	137,651
Statistical Inference for Stochastic Processes, Analysis of MCMC Algorithms and Applications to Climate Science	47.049	DMS-1107070		No	48,334
Strongly Correlated Quantum Gas with Single Site Addressability	47.049	PHY-0969772		No	1,680
Structural transitions, energetics, and folding pathways of colloidal clusters	47.049	DMR-1306410		No	109,552
Studies in Representation Theory	47.049	DMS-1300185		No	70,678
Study of Plasmon-Assisted Cell Transfection	47.049	PHY-1205465		No	159,992
Synthesis and Properties of Deformable Biomaterials and Soft Matter Systems	47.049	DMR-1006546		No	(4,338)
Testing Accretion Physics and Strong-Field Gravity by Imaging Accreting Black Holes	47.049	AST-0907890		No	66,075
The MEarth Project: A Transit Search for Rocky Planets in the Habitable Zone of Low Mass Stars	47.049	AST-1109468		No	208,031
The Origin and Properties of Magnetic Dynamos Across the Sub-Stellar Boundary	47.049	AST-1008361		No	62,629
The Production and Study of Cold Anthydrogen	47.049	PHY-0757924		No	498,266
The Role of Water in the Hydrophobic Effect: Carbonic Anhydrase as a Model Protein for Physical-Organic Studies of Bimolecular Recognition	47.049	CHE-1152196		No	124,383
Theoretical Problems in Soft Matter and Quantitative Biology	47.049	DMR-1005289		No	2,144
Theoretical Problems in Soft Matter and Quantitative Biology	47.049	DMR-1306367		No	97,290
Three-Dimensional Radiation GRMHD Simulations of Accretion Flows Around Black Holes	47.049	AST-1312651		No	145,872
Time-dependent density functional theory for open quantum systems	47.049	CHE-1152291		No	120,793
Towards a Predictive Theory of Galaxy Formation: Cosmological Gas Accretion and Galactic Outflows	47.049	AST-1312095		No	167,733
Understanding Supernovae for Cosmology and for Themselves	47.049	AST-1211196		No	244,378
Universality of Random Matrices Statistics	47.049	DMS-1208859		No	31,757
Unraveling Reactions Mechanisms on Au-titania Nanostructures: Probing Interface Effects	47.049	CHE-0956653		No	40,810
Visualizing flagella while tracking bacteria	47.049	PHY-1057408		No	112,183
<b>Subtotal of 47.049</b>	<b>47.049</b>				<b>14,653,184</b>

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Directly quantifying the isotopic fractionation associated with the key enzymes in microbial sulfate reduction	47.050	EAR-1225980		No	71,507
A window on ancient systems: Understanding the environmental distributions of humanoids using compound-specific multi-isotope analysis and metagenomics	47.050	EAR-1349126		No	14,751
Ca Isotope Variations in Oceanic Basalts	47.050	EAR-1144727		No	89,733
CAREER: Quantifying the flux and isotope effects associated with sulfur-bearing intermediate species within dissimilatory sulfate reduction	47.050	EAR-1149555		No	148,831
Collaborative Research: Combined Influence of Snow Cover and El Nino/Southern Oscillation (ENSO) on North African/Mediterranean Temperature and Precipitation	47.050	AGS-1303604		No	22,756
Collaborative Research: EAGER--Evaluating Fluid Inclusion Geochemistry of U-Th Dated Speleothems as a Tool for Resolving Pale climate Controversies in the American Southwest	47.050	AGS-1420162		No	9,110
Collaborative Research: Beyond the Instrumental Record: The Ocean Circulation at the Last Glacial Maximum and the Deglacial Sequence	47.050	OCE-1060454		No	13,012
COLLABORATIVE RESEARCH: Calibrating the Cryogenian in the Yukon	47.050	EAR-1148058		No	10,489
Collaborative Research: Characterization of Microbial Transformations in Basement Fluids, from Genes to Geochemical Cycling	47.050	OCE-1061934		No	89,862
Collaborative Research: Climatic and Biotic Transformations of Neogene Mammalian Faunas of Pakistan	47.050	EAR-0958178		No	21,852
Collaborative Research: Constraining Arc Processes through Comprehensive Geochemical Study of the Chilean Southern Volcanic Zone	47.050	EAR-0948511		No	80,985
Collaborative Research: Do symmetric and asymmetric segments on the Mid-Atlantic Ridge have distinct geochemical signatures	47.050	OCE-1061264		No	100,549
Collaborative Research: Global 3-D Modeling of Atmospheric Mercury and its Coupling to the Ocean and Land: Impacts of Past and Future Anthropogenic Emissions	47.050	AGS-0961357		No	103,414
Collaborative Research: Helium Diffusion in Lower Mantle Minerals	47.050	EAR-1265292		No	40,494
Collaborative Research: HIAPER Pole-to-Pole Observations (HIPPO) of Carbon Cycle and Greenhouse Gases	47.050	AGS-0628575		No	(7,518)
Collaborative Research: Interwoven biogeochemical cycles and biological transformations of mercury and selenium in the upper ocean	47.050	OCE-1130549		No	38,352
Collaborative Research: Isotopic Fractionation in Snow (IFRACS)	47.050	AGS-1260380		No	91,053
Collaborative Research: Oxygen, ecology and the Cambrian Radiation of Animals	47.050	EAR-1325128		No	24,009
Collaborative Research: P2C2--ICE age Chemistry And Proxies (ICECAP) Phase 2	47.050	AGS-1102880		No	97,105
Collaborative Research: Quantifying Greenhouse Gas Emissions in Urban Areas	47.050	AGS-1265614		No	27,015
Collaborative Research: Science Observation with BICEP3 CMB Polarization Experiment	47.050	PLR-1313287		No	70,996
Collaborative Research: The Physics and Statistics of Global Sea Level Change	47.050	OCE-0960787		No	52,029
Collaborative Research: Understanding MJO initiation with DYNAMO observations and a hierarchy of models	47.050	AGS-1062016		No	68,424
Comparative Studies of Circum-Arctic Neoproterozoic-Paleozoic Terranes	47.050	EAR-1049463		No	54,360
Defining the heavy noble gas composition of the highly depleted regions of the upper mantle	47.050	OCE-1333787		No	18,377
Development and Deployment of a Modular, Autonomous In Situ Underwater Stable Isotope Analyzer	47.050	OCE-0838107		No	24,259
EAGER: Evaluating the efficacy of the DSV-2 Alvin in scientific operations via a scientific verification cruise (SVC)	47.050	OCE-1360660		No	74,227
FESD Type I: VOICE - Volcano, Ocean, Ice, and Carbon Experiments	47.050	AGS-1338832		No	150,565
Hopandic Physiology: Implications for Microbial Life on the Early Earth	47.050	EAR-1024723		No	1,168
Immunotoxicity in Humans with Lifetime Exposure in Ocean Pollutants	47.050	OCE-1321612		No	179,440
INSPIRE Track 1: Microbial Sulfur Metabolism and its Potential for Transforming the Growth of Epitaxial Solar Cell Absorbers	47.050	OCE-1344241		No	53,312
Magnesium Isotope Geochemistry of Carbonate Sediments	47.050	OCE-0961372		No	(3)
Materials physics of rapidly sheared faults and consequences for earthquake rupture dynamics	47.050	EAR-1315447		No	18,336
MRI: Acquisition of Muscular Network of Surface Sensors and Solar-tracking Spectrometers	47.050	AGS-1337512		No	208,706
P2C2: Paleo Perspectives on Temperature Extremes	47.050	AGS-1304309		No	97,012
Selected Studies of the Atmosphere with an Emphasis on Air Quality in China and on Prospects for Wind and Solar Energy as Potential Future Substitutes for Fossil Fuel	47.050	AGS-1019134		No	114,368
Semisolidity and Reactivity of Atmospheric Organic Aerosol Particles	47.050	AGS-1249565		No	29,107
Statistical State Dynamics of Turbulent Systems	47.050	AGS-1246929		No	117,945
Studies of Mantle Dynamics and Evolution	47.050	EAR-1215061		No	118,364
The acquisition of a specialized sulfur isotope mass-spectrometer, construction of a custom designed, semi-automated sample preparation-fluorination system and support for early career investigators	47.050	EAR-0949227		No	(9,120)
Thermo-Mechanics and Hydrology of Western Antarctic Ice Stream Margins	47.050	PLR-1341499		No	9,494
Tracing volatile accretion, mantle mixing and early degassing from plume derived noble gases	47.050	EAR-1250419		No	62,627
<b>Subtotal of 47.050</b>	<b>47.050</b>				<b>2,601,354</b>
A Prototype WorldWide Telescope Visualization Lab Designed in the Web-based Inquiry Science Environment	47.070	IIS-1254535		No	34,721
AF: Medium: Algorithmic Crowdsourcing Systems	47.070	CCF-1301976		No	109,540
AF: Medium: New Directions in Computational Complexity	47.070	CCF-0964401		No	115,278
AF: Small: The Theory and Practice of Hash-Based Algorithms and Data	47.070	CCF-0915922		No	106,788
AF:Small-Computational Entropy	47.070	CCF-1116616		No	155,362
CAREER: Foundations of Markets as Information Aggregation Mechanisms	47.070	CCF-0953516		No	119,763
CAREER: Practical, expressive, language-based information security	47.070	CCF-1054172		No	47,572
CAREER: Programming Nucleic Acids Self-Assembly	47.070	CCF-1054898		No	137,952
CAREER: Quantifying diffusion and dynamics on healthcare, innovation and communication networks	47.070	IIS-1149662		No	74,430
CAREER: Sketching Algorithms for Massive Data	47.070	CCF-1350670		No	28,526
CER: Factors Influencing College Success in Information Technology (FICISIT)	47.070	CNS-1339200		No	94,025
CGV: Large: Collaborative Research: Analyzing images through time	47.070	IIS-1110955		No	148,987
CGV: Medium: Collaborative Research: Understanding Translucency: Physics, Perception and Computation	47.070	IIS-1161564		No	103,228
CGV:Small:Collaborative Research:From Virtual to Real	47.070	IIS-1116619		No	63,139
CIF: Small: Sampling and Inference Methods for Spatiotemporal Single-Photon Imaging	47.070	CCF-1319140		No	44,437
Collaborative Research: I-New: Prototyping Platform to Enable Power-Centric Multicore Research	47.070	CNS-1059264		No	38,369
Collaborative Research: Molecular Programming Architectures, Abstractions, Algorithms, and Applications	47.070	CCF-1317291		No	236,782
CPS: Synergy: Multi-Robot Cyberphysical System for Assisting Young Developmentally-Delayed Children in Learning to Walk	47.070	CNS-1329363		No	84,127
CR1: CRD: Public Web-based Photo-Collections as a Research Testbed	47.070	CNS-0708895		No	(3,756)
CSR: Medium: Collaborative Research: The Commutativity Rule for Scalable System Software	47.070	CNS-1302359		No	3,919
DIP: Collaborative Research: Social Robots as Mechanism for Language Instruction, Interaction, and Evaluation in Pre-School Children	47.070	IIS-1123085		No	23,329
Flexible voltage stacking for chip multiprocessors	47.070	CCF-0903437		No	4,512
HCC: Collaborative Research: Information Exchange and Social Factors in Human-Computer-Teamwork Decision Making	47.070	IIS-0705406		No	404
HCC: Medium: Collaborative Research: Data-Parallel Hash Tables: Theory, Practice and Applications	47.070	IIS-0964473		No	65,779

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
HCC: Small: Incentive-Compatible Machine Learning	47.070	CCF-0915016		No	19,677
HCC:Large:Collaborative Research: Beyond Flat Images: Acquiring, Processing, and Fabricating Visually Rich Material Appearance	47.070	IIS-1012454		No	124,708
ICES: Small: Heuristic Mechanism Design	47.070	CCF-1101570		No	187,574
ICES: Small: Using Web Crawling and Complex Network Analysis to Understand Institutional Activity and Connectivity	47.070	CCF-1216028		No	28,765
III:Small:Representation, modeling and inference for large biological and information networks	47.070	IIS-1017967		No	10,634
INDP: Collaborative Research: Coding for All: Interest-Driven Trajectories to Computational Fluency	47.070	IIS-1348898		No	6,028
NRH-Large: Collaborative Research: Soft Compliant Robotic Augmentation for Human-Robot Teams	47.070	IIS-1226075		No	123,603
NRH-Small: Rapid on site development of soft disposable robots	47.070	IIS-1317744		No	35,725
NSF Expeditions in Computing PI Meeting	47.070	CCF-1339709		No	34,208
RI: Large: Collaborative Research: Reconstructive Recognition: Uniting statistical scene understanding and physics-based visual reasoning	47.070	IIS-1212928		No	388,218
SHF: Small: Collaborative Research: Reusable Tools for Formal Modeling of Machine Code	47.070	CCF-1217891		No	144,385
SHF: Small: Exploration of energy-optimized computing architectures using integrated voltage regulators	47.070	CCF-1218298		No	44,529
SHF:Medium:Collaborative Research:Scaling Up Programmable and Algorithmic DNA Self-Assembly	47.070	CCF-1162459		No	77,764
TWC: Frontier: Privacy Tools for Sharing Research Data	47.070	CNS-1237235		No	1,338,568
<b>Subtotal of 47.070</b>	<b>47.070</b>				<b>4,401,599</b>
Biogeographic and ecological diversification of trees across the Indonesian archipelago: developing indigenous leadership in biodiversity informatics	47.074	DEB-1020868		No	15,345
CAREER: Insect Flight in Turbulent Environments	47.074	IOS-1253677		No	203,903
CAREER: Scalable Computational Models for Multicellular Systems Biology	47.074	DBI-1053486		No	158,754
Collaborative Proposal: A New Model for Chemical Ecology: Integrating Chemistry, Genetics and Behavior to Understand the Role of Individual Scent in a Colonial Nesting Seabird	47.074	IOS-1258784		No	50,191
Collaborative Research and NEON: PalEON - A PaleoEcological Observatory Network to Assess Terrestrial Ecosystem Models	47.074	EF-1065646		No	26,711
Collaborative Research, LIT and MSB: The Changing Diversity and Evolution of Decomposer Fungi in Response to Soil Warming and Nitrogen Additions	47.074	DEB-1021079		No	44,201
Collaborative Research: A Functional Perspective on Adaptive Radiation: Explaining Differences in the Adaptive Radiations of Mainland and Island Anolis Lizards	47.074	IOS-1354620		No	129
COLLABORATIVE RESEARCH: AN INTEGRATIVE APPROACH TO THE PERFORMANCE AND EVOLUTION OF HIGH PERFORMANCE SUCTORIAL DISKS IN FISHES	47.074	IOS-1257946		No	33,448
Collaborative Research: ARTS: Taxonomy and systematics of selected Neotropical clades of arachnids	47.074	DEB-1144417		No	93,281
Collaborative Research: AToL: Phylogeny on the Half-shell--Assembling the Bivale Tree of Life	47.074	DEB-0732903		No	20,781
Collaborative Research: Continental-Scale Monitoring, Modeling and Forecasting of Phenological Responses to Climate Change	47.074	EF-1065029		No	185,946
Collaborative Research: Digitization TCN: Fossil Insect Collaborative: A deep-time approach to studying diversification and response to environmental change	47.074	EF-1304992		No	73,620
Collaborative Research: Digitization TCN: Mobilizing New England Vascular Plant Specimen Data to Track Environmental Changes	47.074	EF-1208835		No	236,396
Collaborative Research: Environmental and Internal Influences on the Activities of the Clavin- and Reductive Citric Acid Cycles in Hydrothermal Vent Symbiosis Riftia pachyptila	47.074	IOS-1257755		No	120,554
Collaborative Research: forecasting and Forestalling Tipping Points in an Aquatic Ecosystem	47.074	DEB-1144056		No	17,527
Collaborative Research: Gymnosperms on the Tree of Life: Resolving the Phylogeny of Seed Plants	47.074	IOS-0629890		No	28,277
Collaborative Research: Interacting influences of climate, land use, and other disturbances on regime shifts in forest ecosystems: Holocene dynamics in the northeastern US	47.074	DEB-1146207		No	122,813
Collaborative Research: Metabolism in Boston	47.074	DEB-0948580		No	(54)
Collaborative Research: Phylogeny and Floral Evolution of Malpighiaceae	47.074	DEB-1355064		No	11,322
Collaborative Research: Testing the Munch Hypothesis: Hydraulics of Phloem Transport in Vines and Trees	47.074	IOS-1021779		No	169,209
Collaborative Research: The Genetics of Convergence at Multiple Levels: Evolution of Colorful Dewlaps in Anolis	47.074	DEB-1119731		No	116,216
Collaborative Research: Thermal Controls on Ecosystem Metabolism and Function: Scaling from Leaves to Canopies to Regions	47.074	EF-1241616		No	81,642
Comparative genomics of a species radiation: sequencing the apple tribe	47.074	IOS-1416825		No	49,592
Developmental Mechanisms of Beak Shape Evolution in Galapagos Finches	47.074	IOS-1257122		No	185,477
Digitization PEN: Facilitating a Shared Image Library and Occurrence Database for Ants of the Southwest as Part of the SCAN TCN	47.074	EF-1305024		No	52,394
Digitization TCN: Collaborative Research: North American Lichens and Bryophytes: Sensitive Indicators of Environmental Quality and Change	47.074	EF-1114957		No	87,449
Digitization TCN: Collaborative: The Macro fungi Collection Consortium: Unlocking a Biodiversity Resource for Understanding Biotic Interactions, Nutrient Cycling and Human Affairs	47.074	EF-1206216		No	69,088
DIMENSIONS: Collab. Res:The climate cascade: functional and evolutionary consequences of climatic change on species, trait, and genetic diversity in a temperate ant community	47.074	DEB-1136646		No	100,023
Dimensions: Collaborative Research: Functional Diversity of Microbial Trophic Guilds Defined Using Stable Isotope Ratios of Proteins	47.074	DEB-1136484		No	183,742
Dissecting the Molecular Mechanisms Underlying Organization of the Bacterial Chromosome	47.074	MCB-1148818		No	177,425
DISSERTATION RESEARCH: Behavioral and genomic evidence for sexual isolation between two sister species of Peromyscus	47.074	DEB-1110450		No	(50)
DISSERTATION RESEARCH: Determining the drought sensitivity of the Amazon forest	47.074	DEB-1110540		No	379
DISSERTATION RESEARCH: Evolutionary consequences of behavioral drive and inhibition in a tropical lizard	47.074	DEB-1210293		No	3,870
DISSERTATION RESEARCH: Exploring convergence within pitcher plant microcosms	47.074	DEB-1400982		No	126
DISSERTATION RESEARCH: Function and Evolution of Sweet Taste Receptors in Birds	47.074	IOS-1110487		No	(11,000)
DISSERTATION RESEARCH: Function and Evolution of Sweet Taste Receptors in Birds	47.074	IOS-1110487		No	15,000
Dissertation Research: Investigating the Role of a Cryptic Life Stage in Fern Evolution and Community Assembly	47.074	DEB-1311169		No	21,407
DISSERTATION RESEARCH: Scalable phylogenomics at the species level: a novel target-gene approach to tracing the global diversification of prokaryotic flatworms (Platyhelminthes)	47.074	DEB-1210328		No	10,234
DISSERTATION RESEARCH: Surmounting the Bottleneck: Using Population Genomics to Study the Process of Formation and Establishment in Autotetraploids	47.074	DEB-1210308		No	4,816
DISSERTATION RESEARCH: Systematics and Evolution of Neotropical Bell-Flowers (Lobelioideae)	47.074	DEB-1210401		No	(682)
DISSERTATION RESEARCH: Systematics and Evolution of Neotropical Bell-Flowers (Lobelioideae)	47.074	DEB-1210401		No	2,369
DISSERTATION RESEARCH: Temperature-Dependent Biogeography and Limits of Thermal Tolerance in Anolis carolinensis	47.074	DEB-1311484		No	3,848
DISSERTATION RESEARCH: The adaptive significance and genetic basis of sperm midpiece length	47.074	DEB-1209659		No	6,571
DISSERTATION RESEARCH: The effect of development on evolution of a reproductive trait in Drosophila	47.074	DEB-1209570		No	1,464
DISSERTATION RESEARCH: The genetic and neurobiological mechanisms of species-specific burrowing behavior in deer mice	47.074	IOS-1209753		No	7,753
DISSERTATION RESEARCH: The Genetic Architecture of a Chromosomal Inversion	47.074	DEB-1311260		No	12,823
DISSERTATION RESEARCH: Functional ecology and evolution of an ant gut	47.074	DEB-1110515		No	631

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Dynamics, Plasticity and Evolvability of bacterial small regulatory RNAs	47.074	MCB-1121057		No	213,417
EAGER: Creating Gene Network Prediction Tools Applicable to Plants and Animals	47.074	IOS-1257554		No	120,338
Filtered Push: Continuous Quality Control for Distributed Collections and Other Species-Occurrence Data	47.074	DBI-0960535		No	425,384
Floral development, conservation genetics, and horizontal gene transfer in the world's largest flowers, Rafflesiaceae	47.074	DEB-1120243		No	102,631
Fluctuation Theories for Complex Biological Systems	47.074	EF-1137676		No	224,312
FSML: Walk-up towers for research, education, communication, and outreach at the Harvard Forest	47.074	DBI-1224437		No	212,381
HFR LTER V: New Science, Synthesis, Scholarship, and Strategic Vision for Society	47.074	DEB-1237491		No	944,623
How Important Is 'Colored' Stochasticity for Plant Population Dynamics	47.074	DEB-1020889		No	8,757
Inductive Mechanisms in Arthropod Germ Line Specification	47.074	IOS-1257217		No	57,161
LTER IV: Integrated Studies of the Drivers, Dynamics, and Consequences of Landscape Change in New England	47.074	DEB-0620443		No	223,492
Modification of the ABC Program and the Evolution of Floral Novelty	47.074	IOS-1121005		No	104,844
Molecular basis of developmental variation in Arabidopsis arenosa	47.074	IOS-1146465		No	165,689
Neuromuscular and Kinematic Mechanisms of Avian Maneuvering Flight	47.074	IOS-0744056		No	3,127
NSF Postdoctoral Fellowship in Biology FY 2010	47.074	DBI-1103761		No	1,690
Opening the Doors of Possibility: Creating New Space Through the Compactization of the Harvard University Herbaria (HUH)	47.074	DBI-0847923		No	76,371
RCN: EDEN (Evo-Devo-Eco Network): A research coordination network to promote technique and community development across the Evo-Devo-Eco field	47.074	IOS-0955517		No	99,556
RCN-SEES: Integrating Land-Use Scenarios, Ecosystem Services, and Linkages to Society (Scenarios, Services, and Society - S3)	47.074	DEB-1338809		No	42,067
REU Site: Cellular and Molecular Biology and Genetics	47.074	DBI-1263215		No	105,618
REU Site: Harvard Forest Summer Research Program in Forest Ecology 2010-2014: Ecological data-model fusion and environmental forecasting for the 21st Century	47.074	DBI-1003938		No	109,825
The interplay of genes and ecology in the social behavior of a halictid bee	47.074	IOS-1257543		No	191,757
The Single Origin of Mycorrhizas Among the Amanita: A Model for Elucidating the Genetic Architecture of Symbiosis	47.074	IOS-1021606		No	35,023
Theoretical and Experimental Study of Functional Association of Proteins	47.074	MCB-1243837		No	292,891
<b>Subtotal of 47.074</b>	<b>47.074</b>				<b>6,551,915</b>
Methods for Research Synthesis: A Cross Disciplinary Approach	47.075	1227327		No	40,014
2012 CCES	47.075	SES-1225750		No	361,204
A new history and geography of human genes informed by ancient DNA	47.075	BCS-1032255		No	340,202
Assessing Assessments: A Historical and Philosophical Study of Scientific Assessments for Environmental Policy in the late 20th Century	47.075	SES-1352949		No	99,995
CAREER: Dynamic Decision Theory and Bounded Rationality	47.075	SES-1255062		No	26,681
CAREER: Flexible Resource Allocation and Efficient Coding in Human Vision	47.075	BCS-0953730		No	79,538
CAREER: New Methods for Understanding Race, Inequality, and Spatial Separation	47.075	SES-0748734		No	41,137
CAREER: The Developmental Origins of Human Cooperation	47.075	BCS-1253676		No	118,267
Catalyzing a Cross-disciplinary, Cross-university Urban Research Agenda in the Age of Digital Data	47.075	SMA-1338446		No	104,371
Cleaning, Organizing, and Uniting Linguistic Databases (the COULD project)	47.075	SMA-1429961		No	20,333
Collaborative Proposal: Designing Taxes that Improve Insurance to Earnings Uncertainty over the Life Cycle	47.075	SES-1062009		No	18,036
Collaborative Research: Center for Historical Information and Analysis (CHIA)	47.075	BCS-1244667		No	34,792
Collaborative Research: Experimental Research on Religious Scripture and Political Behavior in the Muslim World	47.075	SES-1324157		No	24,724
Collaborative Research: Improving the Accuracy of Affective Forecasting	47.075	SES-0951695		No	56,345
Collaborative research: Understanding the Economic Crisis and its Social Impacts through Postdoctoral Fellowships	47.075	SES-0957923		No	51,883
Collaborative Research: Workforce Diversity and Corporate Performance	47.075	SES-1023279		No	26,880
Cooperation and Self Control	47.075	SES-0951462		No	48,115
Cooperative Congressional Election Study, 2012 to 2016 Panel Survey	47.075	SES-1154420		No	396,632
DDR: The Causes of Divergent Banking Regulation, 1988-2006	47.075	SES-1301627		No	6,024
Doctoral Dissertation Improvement Grant: Experimental Determination of Tooth Mineralization Patterns in Ungulates for Application to Pale seasonality Reconstruction	47.075	BCS-1247426		No	4,717
Doctoral Dissertation Improvement Grant: Ritualized Animals, Understanding Human-Animal Interactions at Teotihuacan	47.075	BCS-1028851		No	2,428
Doctoral Dissertation Improvement Grant: Sociopolitical Complexity in Northern Mesopotamia	47.075	BCS-1405344		No	3,141
Doctoral Dissertation Improvement: Growth, immune function, and the energetics of childhood	47.075	BCS-1340958		No	1,830
Doctoral Dissertation Improvement: Landscapes of Pastoral Nomads in Southeastern Turkey	47.075	BCS-1203140		No	10,230
Doctoral Dissertation Research in Economics: Behavioral Responses to Wealth Shocks Evidence from Sweden	47.075	SES-1326399		No	2,161
Doctoral Dissertation Research in Economics: Informal exchange and political power	47.075	SES-1156205		No	11,420
Doctoral Dissertation Research in Economics: The Effect of the Minority Introduction to Engineering and Science (MITES) Program	47.075	SES-1260898		No	3,686
Doctoral Dissertation Research in Political Science:	47.075	SES-1226681		No	3,439
Welfare provision under Authoritarianism-Explaining Variation in Welfare Provision among Chinese Localities					
Doctoral Dissertation Research in Politician Science: Social Policy and Non-Enforcement in Latin America	47.075	SES-1263778		No	20,201
Doctoral Dissertation Research: A Legal Anthropological Analysis of Secularism and Religious Freedom	47.075	BCS-1322939		No	3,258
Doctoral Dissertation Research: Blafe Documentation and Description	47.075	BCS-1263754		No	18,773
Doctoral Dissertation Research: Economics of a Light Bulb: Experimental Evidence on CFLs and End-User Behavior	47.075	SES-1061989		No	1,139
Doctoral Dissertation Research: Establishing contexts of encounters: radiocarbon dating of archaeological assemblages with implications for Neanderthal-modern human interactions	47.075	BCS-1334615		No	16,181
Doctoral Dissertation Research: How Attitudes and Practices Shape Enduring Relationships	47.075	SES-1203166		No	5,787
Doctoral Dissertation Research: Post-public Housing Spatial Concentration	47.075	SES-1303585		No	4,267
Doctoral Dissertation Research: Racial Disparity in American Incarceration, 1868]1950	47.075	SES-1303538		No	1,219
Doctoral Dissertation Research: The Rise of Iron in the Land of the Golden Fleece: The Technology and Organization of Metal Production in Late Bronze Age and Early Iron Age Colchis	47.075	BCS-1338893		No	2,981
Dynamic Auction Markets	47.075	SES-1155518		No	55,897
Dynamic Choice in an Uncertain World	47.075	SES-1258665		No	67,052
EAGER-Profiles: Using researcher profiles to demonstrate the impact of investments in science	47.075	SMA-1238469		No	236,147
Erbil Plain Archaeological Survey	47.075	BCS-1261118		No	30,795
Evaluating the Returns to Rural Banking: Village and Household Evidence from Southern India	47.075	SES-1123899		No	135,114
Explaining Low Fertility in Postindustrial Societies	47.075	SES-1123885		No	4,761
Fertility Transition and Emerging Differences in Parental Investment and Children's Economic Roles	47.075	BCS-0964031		No	3,167

The accompanying notes are an integral part of this schedule.

# Harvard University Schedule of Expenditures of Federal Awards Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Gender Based Violence in Armed Conflict	47.075	SES-130590		No	55,133
Identifying cross-disciplinary pathways to translational science	47.075	SMA-1360042		No	3,681
INSPIRE: Executive Function and Conceptual Change	47.075	BCS-1247396		No	201,470
Leadership Decision Making	47.075	SES-0820441		No	24,603
Making National Science Policy	47.075	SES-1205222		No	167,169
Models of Dynamic Choice	47.075	SES-1123729		No	100,411
New Evidence on Tax and Transfer Policies from the Universe of U.S. Tax Records	47.075	SES-1025490		No	26,662
Resolving Pliocene and Pleistocene Hominin Ontogeny With Synchrotron Virtual Histology	47.075	BCS-1126470		No	84,585
SoCS: Enhancing Immersive Social Perspective Taking and Perceived Virtual Similarity to Enable Intelligent Social Relationships	47.075	SES-0966838		No	226,947
Standard Research Grant: Socio-Technical Aspects of Nuclear Waste and its Long Term Storage	47.075	SES-1256690		No	229,513
Standard Research Grant: The Fukushima Disaster and the Politics of Nuclear Power in the United States and Japan	47.075	SES-1257117		No	48,015
Statistical decisions and policy choice	47.075	SES-1354144		No	31,041
STS Post Doctoral Fellowship: From Morphology to DNA: Metagenomics and its Impacts on Species-Based Conservation Science and Policy	47.075	SES-1127269		No	8,762
Subject Preference and Ergativity	47.075	BCS-1144223		No	28,581
The Boston Reentry Study: Extensions and Analysis	47.075	SES-1259013		No	200,243
The Investigation of a Semasiographic Recording System: The Search for Pattern and Meaning in the Inka Khipus	47.075	BCS-1111489		No	10,443
The Retention and Promotion of Women and Minority Faculty Members: Effects of Institutional Hiring, Promotion, Diversity and Work-Life Initiatives, 1993-2008	47.075	NCSE-1247059		No	18,659
Workshop: Summer School in the History of the Life Sciences, Naples, Italy, July 2013	47.075	SES-1256646		No	23,450
<b>Subtotal of 47.075</b>	<b>47.075</b>				<b>4,034,332</b>
CAREER: Learning About Complex Causality in the Classroom	47.076	DRL-0845632		No	138,944
Collaborative Research: Mental Abacus Education and Spatial Representations	47.076	DRL-0910070		No	9,478
Collective Robotics for Life Scientists	47.076	DUE-1353236		No	33,715
Core Systems for Learning Mathematics	47.076	DRL-1348140		No	6,850
Creation and Dissemination of Upper-elementary Mathematics Assessment Modules	47.076	DUE-0831450		No	(20,429)
Developing Common Core Classrooms Through Rubric-Based Coaching	47.076	DRL-1348144		No	58,741
EAGER: ITTEST Longitudinal Study	47.076	DRL-1355323		No	122,890
EAGER: Student Outcomes in a Computer Science MOOC (SOCSMOOC)	47.076	DUE-1352696		No	32,573
EcoMOBILE: Blended real and virtual immersive experiences for learning complex causality and ecosystems science	47.076	DRL-1118530		No	518,240
Exploring Methods for Improving Teachers' Mathematical Quality of Instruction	47.076	DRL-1221693		No	168,905
Graduate Research Fellowship Program	47.076	DGE-1144152		No	12,021,030
Helping Teachers to Use and Students to Learn from Contrasting Examples: A Scale-up Study in Algebra I	47.076	DRL-0814571		No	244,522
IGERT: Multidisciplinary and Comparative Program in Inequality and Social Policy	47.076	DGE-0333403		No	118,806
IGERT: Multi-Disciplinary Program on Inequality and Social Policy	47.076	DGE-9870661		No	240
Investigating the Effect of Professional Development, Mathematical Knowledge for Teaching, and Instruction on Student Outcomes	47.076	DRL-0918383		No	816,757
ITEST Strategies	47.076	DRL-0833378		No	20,903
Life on Earth	47.076	DRL-1010889		No	363,750
MOSART HSLS: Misconceptions Oriented Standards-based Assessment Resource for Teachers of High School Life Science	47.076	DRL-1316645		No	636,814
MOSART II	47.076	DUE-0926272		No	97,944
Outcome Predictions of Students in Massive Open Online Courses (OPSMOOC)	47.076	DRL-1337166		No	19,706
Outreach Programs and Science Career Intentions (OPSCI)	47.076	DUE-1161052		No	278,492
Sources of Mathematical Thinking	47.076	DRL-0633955		No	57,627
Studying Technology-based Strategies for Enhancing Student Interest in STEM Careers through Algebra Curricula in Grades 5-9	47.076	DRL-0929575		No	106,575
Visualizing Protein Interactions and Dynamics: Evolving a visual language to support learning in undergraduate science education	47.076	DUE-1220512		No	26,739
<b>Subtotal of 47.076</b>	<b>47.076</b>				<b>15,879,812</b>
Collaborative Research: BICEP2 and SPUD - A Search for Inflation with Degree-Scale Polarimetry from the South Pole	47.078	ANT-1044978		No	16,174
Collaborative Research: Evaluating the Competing Impacts of Global Emissions Reductions and Climate Change on the Distribution and Retention of selected POPs in the Arctic Ocean	47.078	1203496		No	22,430
Collaborative Research: Imaging the Beginning of Time from the South Pole: Observations with the Full SPUD Array	47.078	PLR-1145172		No	958,508
Collaborative Research: Impacts of Recent Climate and Emissions Changes on Mercury Bioaccumulation in Arctic Marine Food-Webs	47.078	PLR-1023213		No	133,640
Collaborative Research: Multi-Regional Scale Aircraft Observations of Methane and Carbon Dioxide Isotopic Fluxes in the Arctic	47.078	ARC-1203583		No	634,835
Collaborative Research: P2C2 - Statistical estimation of past ice sheet volumes from paleo-sea level records	47.078	ARC-1203414		No	5,190
Collaborative Research: Type 1: LOI: L02170303: Arctic Climate Response to Decadal Changes in Radiative Forcing from Aerosols and Ozone	47.078	ARC-1049021		No	172,119
Long-Term Human Ecodynamics in Coastal Peru: A Case Study of Polar-Tropical Teleconnections	47.078	PLR-1152156		No	52,688
The Search for the Imprint of Inflation on the Cosmic Microwave Background from the South Pole	47.078	ANT-1103553		No	1,424
<b>Subtotal of 47.078</b>	<b>47.078</b>				<b>1,997,008</b>
BIGDATA: Mid-Scale: ESCE: DCM: Collaborative Research: DataBridge - A Sociometric System for Long-tail Science Data Collections	47.080	OCI-1247602		No	118,942
CDI Type II: Bridging the Computational Semantic Gap: A Demand-Driven Framework for Portal-Based Chemistry, Astronomy and Neurobiology	47.080	OIA-1125087		No	717,624
CDI-Type II: Collaborative Research: Preparing the Next Generation of Computational Thinkers: Transforming Learning and Education Through Cooperation in Decentralized Networks	47.080	OCI-1026473		No	54,993
Collaborative Proposal: CI-TEAM DIFFUSION: PORTAL: Pedagogical Open-access Research-based Tools for Advancing Learning in Science and Engineering	47.080	OCI-1135469		No	145,490
Collaborative Research: S12-SSI: Scalable Hierarchical Algorithms for Extreme Computing (SHARE)	47.080	ACI-1060067		No	131,317
CRCNS Data Sharing: An open data repository for cognitive neuroscience: The Open fMRI Project	47.080	OCI-1131338		No	40,630
<b>Subtotal of 47.080</b>	<b>47.080</b>				<b>1,208,996</b>
An integrated study of the biogeochemical cycling and human health implications of In, Ga, Ge, and Te, elements critical to emerging energy technologies	47.081	1215894		No	93,447
<b>Subtotal of 47.081</b>	<b>47.081</b>				<b>93,447</b>
Building the Pipeline to DASCH for Temporal Surveys	47.082	AST-0909073		Yes	6,164
CAREER: Distribution of Fitness Effects, Identity and Interaction of Beneficial Mutations Available for Adaptation	47.082	DEB-0845893		Yes	379
CAREER: Exploring Models of Quantum Gravity	47.082	PHY-0847457		Yes	41,446
CAREER: Physical Aspects of Spindle Self-Organization	47.082	PHY-0847188		Yes	101,891
Collaborative Research: New MCMC-enabled Bayesian Methods for Complex Data and Computer Models Applied in Astronomy	47.082	DMS-0907185		Yes	1,375

The accompanying notes are an integral part of this schedule.

# Harvard University Schedule of Expenditures of Federal Awards Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Collaborative Research: RoboBees: A Convergence of Body, Brain and Colony	47.082	CCF-0926148		Yes	1,981,130
FRG: Collaborative research: Generalized Geometries in String Theory	47.082	DMS-0854971		Yes	16,625
MRI-R2: Development of a System for Dynamic, Multipoint, Dual-Color Fluorescence Fluctuation Spectroscopy	47.082	DBI-0959721		Yes	4,035
Noble gas studies along ultraslow spreading Southwest Indian Ridge: Constraining magmatic degassing processes and the origin and length scale of mantle heterogeneities	47.082	OCE-0929193		Yes	4,378
Research and Education in Physical Mathematics	47.082	DMS-0907985		Yes	17,273
RI: Medium: Collaborative Research: Robotic Hands: Understanding and Implementing Adaptive Grasping	47.082	IIS-0905180		Yes	2,847
TC: Large: Collaborative Research: Combining Foundational and Lightweight Formal Methods to Build Certifiably Dependable Software	47.082	CNS-0910660		Yes	20,532
Topics in representation theory and number theory	47.082	DMS-0901102		Yes	62,503
Topology, Geometry and Physics	47.082	DMS-0903186		Yes	118,768
Trapping single small molecules in solution	47.082	CHE-0910824		Yes	(104)
Using Inuit Qaujimajatuqangit, Traditional Knowledge, to Guide the Development of Hypotheses on Narwhal Tusk Function	47.082	ARC-0756708		Yes	68,920
<b>Subtotal of 47.082</b>	<b>47.082</b>				<b>2,448,162</b>
CAREER: Quantitative principles of multi-input signaling in eukaryotic cells	47.087	MCB-1349248		No	25,740
<b>Subtotal of 47.087</b>	<b>47.087</b>				<b>25,740</b>
The Diversity of SNe Ibc and the Nature of the GRB-SN Connection (VLA 13A-370)	47.Unknown	No Award Number		No	5,214
<b>Subtotal of 47.Unknown</b>	<b>47.Unknown</b>				<b>5,214</b>
<b>Total National Science Foundation Direct Award</b>					<b>55,848,881</b>
<b>Vietnam Education Foundation</b>					
Vietnam Education Foundation Fellowship for Dao Phuong Bac	85.Unknown	No Award Number		No	6,708
<b>Subtotal of 85.Unknown</b>	<b>85.Unknown</b>				<b>6,708</b>
<b>Total Vietnam Education Foundation Direct Award</b>					<b>6,708</b>
<b>Total Research and Development Cluster Direct Award</b>					<b>503,120,265</b>
<b>Research and Development Cluster</b>					
<b>Sub awards</b>					
<b>Agency for International Development</b>					
International Medical Corps - Building a Better Response: Strengthening Non-Governmental Organization (NGO) Capacity and Engagement in the International Humanitarian Architecture	98.001		AID-OFDA-A-12-00002/2017	No	782,111
Tufts University - Feed the Future Innovation Lab for Collaborative Research on Nutrition - Africa	98.001		AID-OAA-L-10-00006	No	201,489
Tufts University - Feed the Future Innovation Lab for Collaborative Research on Nutrition - Asia	98.001		No Award Number	No	31,570
Management Sciences for Health - Systems for Improved Access to Pharmaceuticals and Services (SIAPS)	98.001		SIAPS-2011-005	No	70,621
<b>Subtotal of 98.001</b>	<b>98.001</b>				<b>1,085,791</b>
University of Washington - Evaluating antiretroviral (ARV)-based prevention In HIV-1 serodiscordant couples In Kenya and Uganda	98.Contract		Subcontract No. 752064	No	41,508
University Research Co., LLC - Health Care Improvement - Cole d'Ivoire	98.Contract		FY12-P59-8700	No	5,667
RedR UK - Safe and Effective Programs through Fully Integrated Security Management	98.Contract		AID-OFDA-G-12-00206	No	126,652
John Snow International - Sustaining Family Planning and Maternal and Child Health Services Project in Georgia	98.Contract		13144-01	No	41,063
<b>Subtotal of 98.Contract</b>	<b>98.Contract</b>				<b>214,890</b>
South Africa Partners, Inc. - South Africa Executive Leadership Program in Health	98.Unknown		AID-674-A-13-00002	No	129,615
University Research Co., LLC - Translating Research into Action (TRAction)	98.Unknown		FY10-S01-6990	No	10,322
<b>Subtotal of 98.Unknown</b>	<b>98.Unknown</b>				<b>139,937</b>
<b>Total Agency for International Development Sub Award</b>					<b>1,440,618</b>
<b>Central Intelligence Agency</b>					
University of Illinois at Urbana - Champaign - 3D Printing of Novel Devices Integrating Multiple Functional Materials	99.Unknown		2012-03669-01	No	124,654
<b>Subtotal of 99.Unknown</b>	<b>99.Unknown</b>				<b>124,654</b>
<b>Total Central Intelligence Agency Sub Award</b>					<b>124,654</b>
<b>Department of Agriculture</b>					
University of Rhode Island - A Foodweb Approach to Native Plant Protection in a Forest Ecosystem	10.310		051411/0002860	No	25,706
<b>Subtotal of 10.310</b>	<b>10.310</b>				<b>25,706</b>
Cary Institute of Ecosystem Studies - Introduced Forest Insects and Pathogens: Scientific Synthesis and Policy and Management Solutions	10.652		3232/200201702	No	2,615
<b>Subtotal of 10.652</b>	<b>10.652</b>				<b>2,615</b>
Using Emotion-Based Techniques to Implement VENA (GHM) - Phase II	10.Unknown		RESEARCHSERVEHH20000-HH:	No	(13,525)
<b>Subtotal of 10.Unknown</b>	<b>10.Unknown</b>				<b>(13,525)</b>
<b>Total Department of Agriculture Sub Award</b>					<b>14,796</b>
<b>Department of Commerce</b>					
Massachusetts Institute of Technology - High Productivity on a Coastal Bank: Physical and Biological Interactions	11.417		5710003470	No	15,029
<b>Subtotal of 11.417</b>	<b>11.417</b>				<b>15,029</b>
University of Alaska Fairbanks - Development and Deployment of In Situ Osmotic Sampling Systems for Capturing Temporal and Spatial Changes in Microbial Community Composition and Function	11.430		UAF 10-0080	No	(7,081)
<b>Subtotal of 11.430</b>	<b>11.430</b>				<b>(7,081)</b>
University of Texas - Austin - South West Academy of Nanoelectronics (SWAN) 2.0	11.Unknown		UTA13-000445	No	49,176
<b>Subtotal of 11.Unknown</b>	<b>11.Unknown</b>				<b>49,176</b>
<b>Total Department of Commerce Sub Award</b>					<b>57,124</b>
<b>Department of Defense</b>					
University of Tennessee - Assessing the Potential Consequences of Subsurface Bioremediation: Fe-Oxide Bio reductive Processes and the Propensity for Contaminant-Colloid Co-Transport and Media Structural	12.300		8500021880	No	80,525
Regents of the University of California - Santa Barbara - Dielectric Enhancements For Innovative Electronics	12.300		KK1132	No	149,195
Florida Atlantic University - Discrete Ricci Flow in Higher Dimensions	12.300		12-043	No	17,421
Massachusetts Institute of Technology - Explorations in Cyber International Relations	12.300		5710002616	No	288,258
Drexel University - Fish Fins as Multifunctional Propulsive and Sensory Systems for Autonomous Operations in the Complex Underwater Environment	12.300		N00014-Harvard	No	124,261
Massachusetts Institute of Technology - GATE: Graphene Approaches to Terahertz Electronics	12.300		5710002633	No	145,127
Columbia University - Imaging how a neuron computes	12.300		1 (G0008784)	No	168,320
University of Pennsylvania - Large Area 3D Optical Metamaterials with Turnability and Low Loss	12.300		555991	No	258,365

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Princeton University - MURI: Slippery Liquid-Infused Porous Surfaces (SLIPS) for Turbulent Drag Reduction at High Reynolds Number	12.300		2060	No	173,525
University of Pittsburgh - Nanoscale Terahertz, Infrared and Plasmonics Platform Using Graphene - Complex Oxide Heterostructures	12.300		0035700 (409185-1)	No	104,226
University of Pittsburgh - Novel Materials Approaches for Prevention of Marine Biofouling	12.300		0025570 (407408-1)	No	155,060
Massachusetts Institute of Technology - Provably-Stable Vision-Based Control of High-Speed Flight through Forest and Urban Environments	12.300		5710002910	No	149,495
Regents of the University of Minnesota - Roll-to-Roll, High Speed Printing of Multi-functional, Distributed Sensor Networks for Enhancing the Brain-Machine Interface	12.300		A002181206-DOD35CAP	No	189,260
Oregon State University - Sensors Powered by Benthic Microbial Fuel Cells at the MARS Observatory	12.300		N0271A-A	No	14,418
Boston University - Utilizing Synthetic Biology to Create Programmable Micro-Bio-Robots	12.300		4500000551	No	261,575
<b>Subtotal of 12.300</b>	<b>12.300</b>				<b>2,279,031</b>
Children's Hospital Corporation - Breast Cancer Reversal by Engineering the Tumor Microenvironment	12.420		71234	No	172,119
CFD Research Corporation - Mechanobiology of Diffuse Axonal Injury: Mechanisms and Opportunities for Early Neuroprotection	12.420		1459	No	548,599
Center for Integration of Medicine and Innovative Technology (CIMIT) - Microfluidic Blood Cleansing Device for Sepsis Therapy	12.420		218257	No	(7,092)
Florida State University - New Approach to the Measurements of Suicide-Related Cognition	12.420		R01671	No	214,255
Johns Hopkins School of Public Health - Realizing the translational potential of telomere length variation as a tissue-based prognostic marker for prostate cancer	12.420		W81XWH-12-1-10545	No	42,131
Brigham and Women's Hospital - The Role of BRCA1 in Lethal Prostate Cancer	12.420		106159	No	7,266
<b>Subtotal of 12.420</b>	<b>12.420</b>				<b>977,278</b>
University of Texas - Austin - Associating growth conditions with cellular composition in Gram-negative bacteria	12.431		UTA12-001016	No	209,356
Regents of the University of California - San Diego - Dynamic Artificial Cells Composed of Synthetic Bioorthogonal Membranes	12.431		28401353	No	159,459
Regents of the University of California - Santa Barbara - Emergent Phenomena at Mott Interfaces	12.431		KK1007	No	23,176
University of Pittsburgh - Four-dimensional Printing: Design, Assembly, and Modeling of Responsive, Temporally Programmable Materials	12.431		0036744 (409347-1)	No	57,226
University of Chicago - Fundamental Issues in Non-equilibrium Dynamics (MURI)	12.431		FP054294-B	No	10,545
Yale University - High-Resolution Quantum Control of Chemical Reactions	12.431		C13J11491(J00210)	No	292,212
Princeton University - Innovative Design and Processing for Multi-Functional Adaptive Structural Materials	12.431		1812	No	(3,297)
Massachusetts Institute of Technology - Multi-Qubit Enhanced Sensing and Metrology	12.431		5710003135	No	428,424
University of Maryland, College Park - MURI:Atomtronics: Material and Device Physics of Quantum Gases	12.431		Z841802	No	235,400
Massachusetts Institute of Technology - New Forms of Matter in Optical Lattices	12.431		5710003324	No	393,469
The University of Sydney - Precision Quantum Control and Error Suppressing Quantum Firmware for Robust Quantum Computing	12.431		W911NF-11-1-0068	No	59,227
Regents of the University of California - Santa Barbara - Quantum Biomaging with Diamond Spins (QuBIDS)	12.431		KK1201	No	147,232
Boston University - Synthetic Mammalian Gene Regulatory Circuits for In Vivo Biomedical Applications	12.431		4500000572	No	247,732
Arizona State University - Translating Biochemical Pathways to Non-Cellular Environment	12.431		13-951	No	157,811
<b>Subtotal of 12.431</b>	<b>12.431</b>				<b>2,417,972</b>
BBN Technologies Corporation - CCR1: Economic (Market-Oriented) Approach to Cross-Network Analysis	12.630		W911NF-09-2-0053	No	28,742
<b>Subtotal of 12.630</b>	<b>12.630</b>				<b>28,742</b>
Regents of the University of California - San Diego - Applications of Quantum Computing in Aerospace Science and Engineering	12.800		10323836 - SUB	No	156,390
Georgia Institute of Technology/Georgia Tech Research Corporation - Dynamic High-Pressure Behavior of Hierarchical Heterogeneous Geological Materials	12.800		RC697-G1	No	60,781
University of Pennsylvania - Geometry and Topology of Complex Networks	12.800		561009	No	118,463
Regents of the University of California - Berkeley - Hardware, Languages, and Architectures for Defense Against Hostile Operating Systems	12.800		6768	No	339,125
Stanford University - Integrated Hybrid Nanaophotonics Circuits	12.800		29017980-51649-A	No	18,547
Stanford University - Large Scale Integrated Nanaophotonics	12.800		29676680-51649-E	No	98,956
Georgia Institute of Technology/Georgia Tech Research Corporation - Multi-functional Light-Matter Interfaces based on Neutral Atoms and Solids	12.800		RC413-G4	No	224,292
Cornell University - PLANT-MIMETIC HEAT PIPES FOR OPERATION WITH LARGE INERTIAL AND GRAVITATIONAL STRESSES	12.800		67691-9880	No	42,235
University of Connecticut - Production, Manipulation and Applications of Ultracold Polar Molecules	12.800		6769	No	211,242
Regents of the University of California - Santa Barbara - Quantum Memories in Photon - Atomic - Solid - State Systems	12.800		KK1225	No	290,255
University of Illinois at Urbana - Champaign - TEMPLATE-DIRECTED DIRECTIONALLY SOLIDIFIED EUTECTIC METAMATERIALS	12.800		2012-022958-04 (A0080)	No	170,469
University of Pennsylvania - Topological and Geometric Tools for Analysis of Complex Networks	12.800		552082	No	2,948
<b>Subtotal of 12.800</b>	<b>12.800</b>				<b>1,733,703</b>
University of Virginia - A Micro-Cellular Solids Approach to Thermo-Structural Materials with Controlled Architectures	12.910		GG11379-136859	No	51,052
Massachusetts Institute of Technology - Coherent Quantum Sensors	12.910		5710002919	No	4,921
Space and Naval Warfare Systems Center Pacific - Control and Manipulation of Casimir Forces by Nanomechanical Design	12.910		N66001-09-1-2070-DOD35CAP	No	2
Diagnostics For All, Inc. - Diagnostics on Paper for Low-cost, Rugged, Versatile, Fieldable Bioassays	12.910		No Award Number	No	540
Princeton University - Harnessing Quantum Entanglement in Semiconductor Circuits	12.910		1623	No	93
University of Chicago - Room Temperature Coherent Energy Transfer: New routes to Biomimetic Devices	12.910		45634-A	No	252,913
Duke University - SPARQC: Scalable Platform for Agile extended-Reach Quantum Communications	12.910		13-DARPA-1028	No	1,208,149
Governing Council of The University of Toronto - The natural evolution of quantum-coherent light-harvesting by cryptophyte algae and its application in quantum sensors	12.910		489887	No	49,858
<b>Subtotal of 12.910</b>	<b>12.910</b>				<b>1,567,528</b>
CFD Research Corporation - An Interactive Software Tool for Design and Evaluation of Body Wearable Devices	12.Contract		20120473	No	26,903
Agiltron Inc. - Biologically Inspired Plasmonic Integrated Multi-Color Sensor	12.Contract		AF12-BT03	No	45,000
Directed Vapor Technologies International, Inc. - Damping Capacity of Coated and Uncoated Substrates	12.Contract		A17132	No	62,758
International Business Machines Corporation - DARPA-BAA-12-24, Power Efficiency Revolution For Embedded Computing Technologies (PERFECT)	12.Contract		A20314	No	237,638
Universal Technology Corporation - Determining the elastic constants of a material using micro-scale measurements	12.Contract		14-S7133-01-C1	No	5,368
MITRE Corporation - Development of Functional Nanowire-Based Nanoprocessors	12.Contract		90029	No	208,758
MITRE Corporation - Development of Functional Nanowire-Based Nanoprocessors	12.Contract		100073	No	75,000
HRL Laboratories, LLC - Eliminating Charge Noise in GaAs Spin Qubits	12.Contract		BC99-702082-BS	No	105,338
Weidlinger Associates Inc. - Fracture Evaluation and Design Tool for Welded Aluminum Ship Structures Subjected to Impulsive Dynamic Loading	12.Contract		21012014	No	(19,217)
Weidlinger Associates Inc. - Fracture Evaluation and Design Tool for Welded Aluminum Ship Structures Subjected to Impulsive Dynamic Loading	12.Contract		2112032-02	No	19,332
Electric Power Research Institute - Investigation of Sources and Composition of Particulate Exposures (SCOPE) - Atlanta	12.Contract		EP-P15913/C7935	No	2,498
Nano Terra - Lithography-free Manufacturing of Polymer Photonic Devices	12.Contract		D12PC00356	No	79,691
EOS Photonics, Inc. - Low-Cost, Robust, Monolithic Semiconductor Mid-Infrared Laser With Very Wide Tunability	12.Contract		No Award Number	No	19,998
EOS Photonics, Inc. - Low-Cost-By-Design Mid-Wave Infrared Semiconductor Surface Emitting Lasers	12.Contract		6399302	No	28,596
BAE Systems - MAST-CTA: Smart Composite-Based Rapid Prototyping of Micro-Systems	12.Contract		740369-B	No	88,517
Physical Sciences Inc. - Monolithic Integrated-Optic TDLAS Sensors and Networks	12.Contract		SC57520-1779	No	36,989

The accompanying notes are an integral part of this schedule.



# Harvard University Schedule of Expenditures of Federal Awards Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Lincoln Laboratory - Photonic Device Development at Harvard University	12.Contract		7000136946	No	35,610
UES, Inc. - Printed Flexible Electronics	12.Contract		S-875-040-017	No	4,183
University of Maryland, College Park - Processing of Interfaces in Dominant and Heritage Languages	12.Contract		Z914403	No	27,834
BAE Systems - SAFE: A Semantically Aware Foundation Environment for CRASH	12.Contract		A14071	No	213,865
Stanford University - SAGE - Software Actuated Genome Engineering on a Droplet Transport Platform	12.Contract		60034777-105980-A	No	177,288
Charles River Analytics Inc. - Statistically Defensible Comparison of Similar but Disparate Tests	12.Contract		SC1220801 EVIDENT	No	75,000
Lincoln Laboratory - Tracking the Epigenetic Landscape of a Lower Limb Musculoskeletal Injury	12.Contract		7000269288	No	14,002
<b>Subtotal of 12.Contract</b>	<b>12.Contract</b>				<b>1,570,949</b>
Dana-Farber Cancer Institute - A systems Biology Approach to Link Nuclear Factor kappa B Activation with Lethal Prostate Cancer	12.Unknown		3075903	No	14,903
Soft Robotics, Inc. - Biology-Matched Devices for Medical Applications	12.Unknown		No Award Number	No	119,839
University of Utah - CRA: Computationally-Guided Design of Energy Efficient Electronic Materials (CDE3M)	12.Unknown		10028801-HARVARD-APP	No	103,957
iRobot - Development of a Low-Cost Dexterous Robotic Hand	12.Unknown		A15365	No	13
Beth Israel Deaconess Medical Center - Development of Ultrasound to Measure In-vivo Dynamic Cervical Spine Mechanics for Injury Prevention	12.Unknown		1026018	No	11,960
Johns Hopkins University - Fusion and Inference from Multiple and Massive Disparate Distributed Dynamic Data Sets	12.Unknown		2001907410	No	164,806
Lincoln Laboratory - Lincoln Scholars Program	12.Unknown		No Award Number	No	39,652
Lincoln Laboratory - Lincoln Scholars Program	12.Unknown		No Award Number	No	42,620
University of Illinois at Urbana - Champaign - Secure Virtual Architecture: A foundation for Integrating Analysis, Confinement, and Diversification	12.Unknown		2010-02387-03	No	44,715
Kitware, Inc. - The Visualization Design Environment	12.Unknown		K000886-00-S02	No	79,142
<b>Subtotal of 12.Unknown</b>	<b>12.Unknown</b>				<b>621,607</b>
<b>Total Department of Defense Sub Award</b>					<b>11,196,810</b>
<b>Department of Education</b>					
Stanford University - Addressing Practical Problems in Achievement Gap Estimation: Nonparametric Methods for Censored Data	84.305		27788150-50132-A	No	5,744
Columbia University - Getting Ready for School: An Integrated Curriculum to Help Teachers and Parents Support Preschool Children's Early Literacy, Math and Self-Regulation Skills	84.305		4 (GG006885)	No	12,815
<b>Subtotal of 84.305</b>	<b>84.305</b>				<b>18,559</b>
Regents of the University of Minnesota - Learning of Ratio and Proportion Problem-Solving Using Schema-Based Instruction: Efficacy and Sustainability	84.324		A002020901	No	(39)
<b>Subtotal of 84.324</b>	<b>84.324</b>				<b>(39)</b>
Strategic Education Research Partnership - Catalyzing comprehension through discussion and debate	84.305F		No Award Number	No	1,219,973
<b>Subtotal of 84.305F</b>	<b>84.305F</b>				<b>1,219,973</b>
ICF International, Inc. - A Randomized Experiment Using Report Card Content to Nudge Attendance	84.Contract		14JTSK0003	No	6,500
Synergy Enterprises Inc. - APEC Promising Practices in Secondary Mathematics and Science Teacher Education	84.Contract		ED-PEP-10-C-0017	No	15,593
American Institutes for Research - Impact Evaluation of Math Professional Development	84.Contract		01040-03278	No	375,452
<b>Subtotal of 84.Contract</b>	<b>84.Contract</b>				<b>397,545</b>
Commonwealth of Massachusetts/Department of Education - College and Career Readiness Educator Effectiveness	84.Unknown		14RFQOPRCC2	Yes	187,580
<b>Subtotal of 84.Unknown</b>	<b>84.Unknown</b>				<b>187,580</b>
<b>Total Department of Education Sub Award</b>					<b>1,823,618</b>
<b>Department of Energy</b>					
Boston University - An Open Source Platform for Multi-Scale Spatial Distributed Simulations of Microbial Ecosystems	81.049		4500000285	No	27,017
Massachusetts Institute of Technology - Center for Excitons	81.049		5710002745	Yes	443,581
Northwestern University - CITFAM: Center for Integrated Training in Far-from-equilibrium and Adaptive Materials.	81.049		SP0004533-PROJ0001549	Yes	176,352
California Institute of Technology - DOE EFRC: Light-Materials Interactions in Energy Conversion	81.049		67N-1093448	No	431,615
Massachusetts Institute of Technology - Study and Control of Excitons Using Optical Nanostructures	81.049		5710003011	Yes	113,037
Board of Regents of the University of Arizona - The utility of multiple ecological data streams in constraining the Community Land Model	81.049		173307	Yes	2,439
<b>Subtotal of 81.049</b>	<b>81.049</b>				<b>1,194,041</b>
Massachusetts Institute of Technology - Next Generation Sulfide Materials; Optimizing CZTS and Developing SnS by Systematic Defect Engineering	81.087		5710003141	No	173,669
<b>Subtotal of 81.087</b>	<b>81.087</b>				<b>173,669</b>
Stanford Linear Accelerator Center - LSST Detector Test System Development Work	81.Unknown		96941	No	256,828
Los Alamos National Laboratory - Real Time Methane Isotope Observations: Attributing Sources from Arctic and Gas Fields	81.Unknown		217910-1	No	84,446
Brookhaven National Laboratory - US Atlas Muon Subsystem Research Program	81.Unknown		95589	No	322,436
<b>Subtotal of 81.Unknown</b>	<b>81.Unknown</b>				<b>663,710</b>
National Nuclear Security Administration - Discovery and Development of Processes for Deposition of Pure, Stoichiometric and Conformal Films of Magnesium Diboride	81.113		DE-NA0001743	No	44,798
<b>Subtotal of 81.113</b>	<b>81.113</b>				<b>44,798</b>
Massachusetts Institute of Technology - Bioprocess and Microbe Engineering for Total Carbon Utilization in Biofuel Production	81.135		5710002810	Yes	(50)
Massachusetts Institute of Technology - Engineering high yield pathways for methane activation and conversion to liquid fuels	81.135		5710003630	No	939
<b>Subtotal of 81.135</b>	<b>81.135</b>				<b>889</b>
North Carolina State University - Impacts of elevated temperature on ant species, communities and ecological roles at two temperate forests in eastern North America	81.502		2007-1694-01	No	167,414
<b>Subtotal of 81.502</b>	<b>81.502</b>				<b>167,414</b>
Oak Ridge National Laboratory - Development of Techniques for Superfluid-Helium Film Suppression for the SNS nEDM Experiment	81.Contract		4000115356	No	6,440
Fermi National Accelerator Laboratory - A Proposal for v Experiment and R and D Work	81.Contract		PO 565830	No	229,081
Lawrence Livermore Laboratory - Direct ink writing of multifunctional materials and sensors	81.Contract		B606991	No	31,512
Lawrence Livermore Laboratory - Direct Ink Writing of Three-Dimensional Microstructures	81.Contract		B602264	No	36,068
Pacific Northwest National Laboratory - GoAMAZON Research Campaign	81.Contract		224972	No	24,966
International Business Machines Corporation - Improving the Efficiency of Copper Zinc Tin Sulfide Solar Cells	81.Contract		4913900074	No	79,732
Vanderbilt University - Integration of Novel Technologies for Organ Development and Rapid Assessment of Medical Countermeasures	81.Contract		1999-015808	No	588,054
UChicago Argonne, LLC - Joint Center for Energy Storage Research (JCESR)	81.Contract		3F-31143	No	199,522
Lawrence Livermore Laboratory - New Diagnostic Platform for Biodefense	81.Contract		B603629	No	609,897
Lawrence Berkeley National Lab - Scalable Statistics and Machine Learning for Data-Centric Science	81.Contract		7086227	No	1,575
<b>Subtotal of 81.Contract</b>	<b>81.Contract</b>				<b>1,806,847</b>
Aerodyne Research, Inc. - An Absolute CO2 Monitor with Extremely High Accuracy	81.Unknown		ARI-10607-2	No	10,637
Stanford University - Coinage metal catalysis for efficient and sustainable chemical production	81.Unknown		111318	No	89,664
Aerodyne Research, Inc. - Compact High Precision Field Instrument for All Major Greenhouse Gases	81.Unknown		A202208	No	37,386

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Marine Biological Laboratory - Effects of warming on tree species' recruitment in deciduous forests of the eastern United States	81.Unknown		35495	No	3,037
Massachusetts Institute of Technology - Hybrid Nanostructures for High Energy Density Solar Thermal Fuels	81.Unknown		5710003404	No	2,779
Lawrence Berkeley National Lab - Operation of the Harvard Forest Core Site in the AmeriFlux Network Management Project (ANMP)	81.Unknown		7086573	No	209,217
United States Department of Agriculture (USDA) Forest Service - Supporting Carbon Cycle and Earth Systems Modeling with Measurements and Analysis from the Howland AmeriFlux Site	81.Unknown		12-JV-11242306-015	No	43,560
Brookhaven National Laboratory - Upgrade Construction Project for WBS 1.2 New Small Wheel Subsystem	81.Unknown		241383	No	86,490
<b>Subtotal of 81.Unknown</b>	<b>81.Unknown</b>				<b>482,770</b>
<b>Total Department of Energy Sub Award</b>					<b>4,534,138</b>
<b>Department of Homeland Security</b>					
Commonwealth of Massachusetts/Department of Public Health - Comprehensive Assessment of the Commonwealth's Healthcare-Based Decontamination Capabilities and Capacities	97.067		RFR300522	No	1,458
<b>Subtotal of 97.067</b>	<b>97.067</b>				<b>1,458</b>
EOS Photonics, Inc. - Monolithic, electronically and widely tunable quantum cascade laser sources	97.Unknown		A18605	No	102,222
<b>Subtotal of 97.Unknown</b>	<b>97.Unknown</b>				<b>102,222</b>
<b>Total Department of Homeland Security Sub Award</b>					<b>103,680</b>
<b>Department of Housing &amp; Urban Development</b>					
University of Maryland, College Park - The Impact of Children's Housing on Their Long-Term Economic Outcomes	14.506		Z933401	No	65,879
<b>Subtotal of 14.506</b>	<b>14.506</b>				<b>65,879</b>
Boston Public Health Commission - IPM Intensity Impact Study	14.906		510301	No	46,257
Boston University - Modeling the impact of building-wide energy retrofits on environmental exposures and occupant health	14.906		4500001452	No	17,650
Silent Spring Institute - Impact of green renovations on asthma and IEQ in public housing: The role of phthalates, glycol ethers, flame retardants, perfluorinated compounds and PCBs	14.906		7504-HSPH	No	8,995
<b>Subtotal of 14.906</b>	<b>14.906</b>				<b>72,902</b>
Neighborhood Reinvestment Corporation - The Edward M. Gramlich Fellowship in Community and Economic Development Summer Fellowship Program 2013	14.Unknown		No Award Number	No	17,212
Neighborhood Reinvestment Corporation - The Edward M. Gramlich Fellowship in Community and Economic Development Summer Fellowship Program 2014	14.Unknown		No Award Number	No	16,853
<b>Subtotal of 14.Unknown</b>	<b>14.Unknown</b>				<b>34,065</b>
<b>Total Department of Housing &amp; Urban Development Sub Award</b>					<b>172,846</b>
<b>Department of State</b>					
Chapaevsk Medical Association - Influence of Organic Polluters and substances on Endocrine System and Health	19.Unknown		6598830	No	15,666
Social Science Research Council - Summer Institutes for Non-Russian Languages	19.Unknown		18911	No	22,864
<b>Subtotal of 19.Unknown</b>	<b>19.Unknown</b>				<b>38,530</b>
<b>Total Department of State Sub Award</b>					<b>38,530</b>
<b>Department of the Interior</b>					
Washington State University - Fender's Blue Butterfly Habitat Restoration	15.238		G003032	No	12,880
<b>Subtotal of 15.238</b>	<b>15.238</b>				<b>12,880</b>
<b>Total Department of the Interior Sub Award</b>					<b>12,880</b>
<b>Department of Transportation</b>					
Massachusetts Institute of Technology - Cell Phones and Vehicle Safety	20.Unknown		5710003387	No	67,446
Massachusetts Institute of Technology - Disaster Recovery for Transportation: China's Wenchuan Earthquake of 2008 and Japan's Tohoku Earthquake and Tsunami of 2011	20.Unknown		5710003386	No	42,965
Massachusetts Institute of Technology - The Politics of Transport Policy in the Greater Copenhagen Region, 1945-2013	20.Unknown		5710003618	No	3,069
Massachusetts Institute of Technology - Transportation Cases Throughout the Curriculum	20.Unknown		5710003617	No	8,971
<b>Subtotal of 20.Unknown</b>	<b>20.Unknown</b>				<b>122,451</b>
<b>Total Department of Transportation Sub Award</b>					<b>122,451</b>
<b>DHHS</b>					
Stanford University - The Effect of the Economic Downturn on the Health and Well-Being of Families: An Examination of Food Consumption Practices and Physical Health	92.239		60221692-104354-I	No	17,028
<b>Subtotal of 92.239</b>	<b>92.239</b>				<b>17,028</b>
Massachusetts General Hospital - AMNTP Pre-doctoral Training Award	93.001		No Award Number	No	3,182
<b>Subtotal of 93.001</b>	<b>93.001</b>				<b>3,182</b>
University of Botswana - A Comprehensive Mixed-Methods Evaluation of Botswana's National Antiretroviral Therapy Program to Inform Policy on Efficiency and Quality of Care	93.067		HSPH	No	284,600
Nigerian Institute of Medical Research - HIV Drug Resistance: Implications for Optimizing Antiretroviral Therapy	93.067		HSPH	No	35,839
<b>Subtotal of 93.067</b>	<b>93.067</b>				<b>320,439</b>
Health Research, Inc. - Models for Tobacco Product Evaluation	93.077		100-02	No	27,135
<b>Subtotal of 93.077</b>	<b>93.077</b>				<b>27,135</b>
Brown University - Air Pollution and Pregnancy Outcomes in New York City	93.113		5R01ES019955-03	No	132,362
Brown University - Ambient Air Pollution and Incident Stroke	93.113		545	No	159,678
Regents of the University of Michigan - Bisphenol A and Phthalate Exposure in relation to Fetal Growth and Preterm Birth	93.113		3001656278	No	11,138
Icahn School of Medicine at Mount Sinai - Childrens Health and Vulnerability to Heat and Ozone in New York City	93.113		0255-4761-4609	No	6,425
Silent Spring Institute - Data Sharing and Privacy Protection in Digital-Age Environmental Health	93.113		7511-SEAS	No	140,041
Brigham and Women's Hospital - Diet, Physical Activity, and the Relationship Between Air Pollution and CVD	93.113		104628	No	45,919
Yale University - Effect of Air Pollution and Traffic on Birth Outcomes	93.113		A07290(M09A10133)	No	491
Yale University - Effects of Fine Particle (PM2.5) Composition on Birth Outcomes	93.113		M12A11203(A08478)	No	69,732
George Washington University - Environmental Endocrine Disruptors and Human Sperm Chromosomal Abnormalities	93.113		11-M06	No	(616)
Icahn School of Medicine at Mount Sinai - Environmental, Fetal Tissue DNA Methylation and Birthweight	93.113		0255-5381-4609	No	657,871
University of North Carolina - Epigenetic Mechanisms of PM-Mediated CVD Risk	93.113		5-3297A	No	35,481
Fred Hutchinson Cancer Research Center - Epigenomic profiling of histone turnover kinetics in mammalian cells	93.113		800801	No	(26,249)
Silent Spring Institute - Ethical and Legal Challenges in Communicating Individual Bio monitoring and Personal Exposure Results to Study Participants: Guidance for Researchers and Institutional	93.113		7476-HSPH	No	102,248

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Silent Spring Institute - Ethical and Legal Challenges in Communicating Individual Bio monitoring and Personal Exposure Results to Study Participants: Guidance for Researchers and Institutional Review Boards	93.113		7476-SEAS	No	84,013
Johns Hopkins University - Extreme Heat and Human Health: Characterizing Vulnerability in a Changing Climate	93.113		2001382807	No	13,355
Northwestern University - Histone modifications and respiratory Effects of Traffic Particle Exposure	93.113		60032708HC	No	60,086
Northeastern University - Impact of Air Pollution, Weather and Lifestyle on Health in Older Americans	93.113		500323-78051	No	17,054
Brigham and Women's Hospital - Metal and Organochlorines Exposure: Impact of Adolescent Behavior and Cognition	93.113		101897	No	165,252
Children's Hospital Corporation - Metal Exposure and Children's Preschool Neurodevelopment	93.113		PO0000465780	No	(3,360)
Northwestern University - Micro-RNA Profiling and Cardiovascular Effects of Traffic Particle Exposure	93.113		60029990 HC	No	50,251
Regents of the University of California - Santa Cruz - Neurologic Function in children Exposed to Ambient Manganese	93.113		S0183200	No	59,936
The Broad Institute - Production sequencing of reference human epigenomes	93.113		7210025-6000000625	No	6,047
Brown University - Residential Air Pollution and Preeclampsia	93.113		628	No	24,275
Johns Hopkins University - Statistical Methods for Complex Environmental Health Data	93.113		2001196559	No	8,911
Icahn School of Medicine at Mount Sinai - Stress-Lead Interactions and Child Development	93.113		0255-5541-4609	No	40,891
Icahn School of Medicine at Mount Sinai - Stress-Lead Interactions and Child Development	93.113		0255-5542-4609	No	19,672
Yale University - Vulnerability to Health Effects of Wildfires under a Changing Climate in the Western U.S.	93.113		C12A11405(A08809)	No	92,938
<b>Subtotal of 93.113</b>	<b>93.113</b>				<b>1,973,842</b>
University of Texas Health Science Center at Houston - Developing a Patient Safety System for Dentistry	93.121		0009450C	No	323,153
University of Maryland, Baltimore - Injectable and Strong Nano-Apatite/Stem Cell Scaffolds for Bone Regeneration	93.121		101328-001	No	59,240
Johns Hopkins School of Medicine - Neuronal subtype-specific plasticity in the acute to chronic pain transition	93.121		2002231894	No	76,433
State University of New Jersey - Rutgers - Oral Colonization of Aggegatibacter in Primates	93.121		No Award Number	No	44,713
Children's Hospital Corporation - Oral vaccination for AIDS prevention in rhesus monkeys	93.121		83586	No	(38,514)
University of Puerto Rico - Periodontitis, Biomarkers and Cardiovascular Disease	93.121		2011-000694	No	(615)
The Forsyth Institute - T-Regulatory cells in Periodontitis	93.121		No Award Number	No	(13,505)
<b>Subtotal of 93.121</b>	<b>93.121</b>				<b>450,905</b>
Colorado School of Mines - Remediation Effectiveness for Mining Sites: Hysteresis and Metal Mixtures Effects	93.143		400354	No	201,167
<b>Subtotal of 93.143</b>	<b>93.143</b>				<b>201,167</b>
University of Botswana - Medical Education Partnership Initiative	93.145		555958	No	395,495
<b>Subtotal of 93.145</b>	<b>93.145</b>				<b>395,495</b>
Beth Israel Deaconess Medical Center - Geriatric Training Program for Physicians, Dentists and Behavioral and Mental Health Professionals	93.156		No Award Number	No	(11,584)
Beth Israel Deaconess Medical Center - Geriatric Training Program for Physicians, Dentists and Behavioral and Mental Health Professionals	93.156		No Award Number	No	75,079
<b>Subtotal of 93.156</b>	<b>93.156</b>				<b>63,495</b>
Columbia University - An Integrated System for Single Molecule Electronic Sequencing by Synthesis	93.172		1G0007874	No	241,500
The Jackson Laboratory - An Integrative Analysis of Structural Variation for the 1000 Genomes Project	93.172		202022	No	202,511
Arizona State University - Computational Analysis of Gene Expression Pattern Images	93.172		12-697	No	47,104
Brigham and Women's Hospital - High-Resolution DNA-Binding Specificity Analysis of Transcription Factors	93.172		105387	No	(2,242)
Stanford University - Production Center for Global Mapping of Regulatory Elements	93.172		26555690-49487-C	No	2,518
The Broad Institute - Reconstruction of the Protein and Non-coding RNA circuits that control and maintain ES cell chromatin	93.172		7010034-5500000585	No	140,101
<b>Subtotal of 93.172</b>	<b>93.172</b>				<b>631,492</b>
Brigham and Women's Hospital - Risk Factors for Hearing Loss	93.173		107066	No	57,417
<b>Subtotal of 93.173</b>	<b>93.173</b>				<b>57,417</b>
Beth Israel Deaconess Medical Center - Clinical and Autonomic Effects of Mind-Body Exercise in COPD	93.213		1024577	No	148,348
Beth Israel Deaconess Medical Center - Remedying Dysfunctional Angiogenesis and Tissue Ischemia with Barleria Lupulina	93.213		1025584	No	63,364
Beth Israel Deaconess Medical Center - Tai Chi after Pulmonary Rehabilitation in Patients with COPD: A Randomized Trial	93.213		1026085	No	115,765
The Queen's Medical Center - Tai Chi for Obesity: A Randomized Controlled Pilot Trial	93.213		No Award Number	No	(2,699)
<b>Subtotal of 93.213</b>	<b>93.213</b>				<b>324,778</b>
Johns Hopkins University - Assessing the effect of FDA advisories on provider, patient, and firm behavior	93.226		2001685100	No	39,828
Children's Hospital Boston - Children's Hospital Boston Center for Quality Measure	93.226		80563	No	45,024
Children's Hospital Boston - Children's Hospital Boston Center of Excellence for Quality Measurement	93.226		80563	No	40,293
University of Washington - Communication to Prevent and Respond to Medical Injuries: WA State Collaborative	93.226		700345	No	50,130
Yale University - Consumer Assessment of Healthcare Providers and Systems (CAHPS IV)	93.226		M13A11549 (A09061)	No	69,938
Brigham and Women's Hospital - Development Validation And Implementation Of Customized Checklists For Safe Surgery	93.226		105077	No	69,985
Harvard Pilgrim Health Care Foundation - Drug Cost Containment Changes and Quality of Care for Mentally Ill Dual Enrollees	93.226		No Award Number	No	29,038
Medical Technology and Practice Patterns Institute, Inc. - ESA outcomes among Anemic CKD Patients	93.226		1R01HS021229-01A1 SUB-00	No	33,716
Harvard Pilgrim Health Care, Inc. - Evaluating Sequential Strategies to Reduce Readmission in a Diverse Population	93.226		5R01HS020628-03	No	12,381
University of Chicago - Improving Nursing Home Compare for Dually Eligible Consumers	93.226		FP052256-A	No	44,522
Harvard Pilgrim Health Care, Inc. - Intended and Unintended Consequences of Nonpayment for Preventable Complications	93.226		No Award Number	No	31,136
Health Research, Inc. - New York State Medical Liability Reform and Patient Safety Demonstration Project	93.226		4075-03	No	84,759
Dartmouth College - Technology Evaluation of Emerging Spine Surgery Interventions in the Elderly	93.226		662	No	(12,326)
<b>Subtotal of 93.226</b>	<b>93.226</b>				<b>538,424</b>
Brigham and Women's Hospital - Evaluating cardiometabolic and sleep health benefits of a workplace intervention	93.233		106694	No	111,026
Beth Israel Deaconess Medical Center - Neuronal Control Mechanisms of the Ascending Sleep Arousal Pathway	93.233		1024773	No	137,942
Brigham and Women's Hospital - The Role of Circadian Periodicity in Human Cardiovascular Disease and Diabetes	93.233		106799	No	55,910
<b>Subtotal of 93.233</b>	<b>93.233</b>				<b>304,878</b>
Beth Israel Deaconess Medical Center - 3/8: Predictors and Mechanisms of Conversion to Psychosis	93.242		1027136	No	2,250
University of Illinois at Chicago - A Services Approach to Preventative Mental Health for Adolescent Refugees	93.242		2006-07177-01-03	No	(52,189)
Rand Corporation - An In-Depth Investigation of Racial and Ethnic Disparities in Schizophrenia Care	93.242		9920110012	No	152,798
Judge Baker Children's Center - Behavioral and Affective Skills in Coping (BASIC): Practice-Adapted Child Psychotherapy	93.242		145500-10555-40500	No	33,740
Butler Hospital - Behavioral and Ecological Suicide Tracking: Attention, Interpretation and Memory	93.242		9026-8331	No	8,426
Washington University - Center for Research on Mental Health in Social Services	93.242		WU-HT-09-20	No	(25,638)
Brigham and Women's Hospital - Community-based accompaniment with supervised antiretrovirals in Lima, Peru	93.242		104741	No	11,276
Judge Baker Children's Center - Consumer and Clinician Feedback in Youth Mental Health Care	93.242		50000.46666.48000	No	118,970
University of Chicago - Conte Center for Computational System Genomics of Neuropsychiatric Phenotypes (Projects 2 and 4)	93.242		FP046983-D	No	183,771
Massachusetts General Hospital - Development of a Real-Time Intervention for Adherence to HIV Antiretroviral Therapy in Uganda	93.242		5R34MH100940-02	No	38,257

The accompanying notes are an integral part of this schedule.

# Harvard University Schedule of Expenditures of Federal Awards Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Regents of the University of California - San Diego - Expanding rapid ascertainment networks of schizophrenia families in Taiwan	93.242		10294558-005	No	12,125
Massachusetts General Hospital - Genetic Determinants of Schizophrenia Intermediate Phenotypes	93.242		221522	No	37,491
Cold Spring Harbor Laboratory - Genetic Targeting of Cortical Pyramidal Neuron Subtypes	93.242		55310112	No	259,707
New England Research Institutes, Inc. - Health Effects of Dental Composites in Children	93.242		No Award Number	No	5,179
Fordham University - Health Risk Behavior in Late Childhood: Impact of Longitudinal Randomized Trial	93.242		No Award Number	No	34,949
Johns Hopkins University - Implementation of Federal Mental Health Parity	93.242		2001584345	No	35,891
Regents of the University of Michigan - Implementing Chronic Care Management for Bipolar Disorder	93.242		3001086768	No	5,363
Johns Hopkins University - International Maternal Pediatric Adolescent AIDS Clinical Trials Group Leadership - NIMH	93.242		NET-1001-03	No	445,147
Regents of the University of California - San Francisco - Long-term CNS consequences of treatment during acute HIV infection	93.242		6878sc	No	37,150
Massachusetts General Hospital - Medicare Drug Benefits and High Cost Medications: Antipsychotics under Part D	93.242		223505	No	30,153
Regents of the University of California - San Diego - Memory Functioning in children and Adolescents with Perinatal HIV Infection	93.242		10306765-004	No	71,072
Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. - Modifiable Risk and Protective Factors for Suicidal Behaviors in the US Army	93.242		2192	No	2,013,443
National Bureau of Economic Research - Neighborhood Poverty and Mental Health of Low-Income Mothers- An Experimental Study	93.242		40-4108-HMS	No	1,117
Children's Hospital Corporation - Network Science Methodology for Assessing PTSD Risk	93.242		79795	No	9,089
Boston University School of Medicine - Neuroimaging-genetics of PTSD	93.242		4500001511	No	7,171
Columbia University - Novel Statistical Methods for DNA Sequencing Data, and Applications to Autism	93.242		5R01MH095797-02	No	21,046
Northern California Institute for Research and Education - Optimizing Cognitive Remediation Outcome in Schizophrenia	93.242		VIN1399	No	12,948
Miriam Hospital - Post-Disaster Sexual Violence in Haiti	93.242		710-9665-8925	No	19,996
Beth Israel Deaconess Medical Center - Predictors and Mechanisms of Conversion to Psychosis	93.242		1024853	No	20,645
Massachusetts General Hospital - Real-World Adherence to HIV PrEP In Serodiscordant African Couples	93.242		222572	No	36,771
Rehabilitation Institute of Chicago - Recording Neural Activities onto DNA	93.242		3024	No	548,558
University of Georgia - Reducing Violence and HIV Risk Among War-Exposed Liberian Youth	93.242		RR766-059/4944966	No	55,718
Kitware, Inc. - Scalable computational tools for reverse engineering neural circuits from histology	93.242		A18705	No	190,180
Johns Hopkins School of Medicine - Semaphorin-neuropilin regulation of neuronal connectivity	93.242		2002188459	No	26,145
Johns Hopkins University - Social Consequences of Mental Disorders: A Ten-Year Follow-up Study	93.242		No Award Number	No	89,108
Brigham and Women's Hospital - Statistical methods for studies of rare variants	93.242		109313	No	9,113
Brigham and Women's Hospital - Statistical Methods for the Design and Interpretation of Deep Resequencing Studies	93.242		107498	No	2,620
Columbia University - The Cross-National Epidemiology of Trauma Exposure and PTSD	93.242		1 (GG004051)	No	242,964
Beth Israel Deaconess Medical Center - Validating Biomarkers for the Prodrome and Transition to Psychosis in Shanghai	93.242		1026851	No	15,089
Beth Israel Deaconess Medical Center - Vulnerability to Progression Schizophrenia (Project 3)	93.242		Subaward 01025227	No	(22)
<b>Subtotal of 93.242</b>	<b>93.242</b>				<b>4,767,587</b>
Children's Hospital Boston - Advancing Treatment and Services for Refugee Children Adolescents: Boston Children's Hospital Center for Refugee Trauma and Resilience	93.243		80966	No	42,323
<b>Subtotal of 93.243</b>	<b>93.243</b>				<b>42,323</b>
Northeastern University - Effectiveness of employee safety incentive programs in construction	93.262		599468	No	9,315
Brigham and Women's Hospital - Minimizing Cancer Risk in Shift Workers	93.262		106102	No	32,358
New York Center for Agricultural and Medical Health - Northeast Fisheries Winch Safety Improvement Project	93.262		No Award Number	No	254,114
Board of Trustees of the University of Illinois - Translocations in Dioxin Exposed Workers from Ufa	93.262		2007-04528-09-00 (489986)	No	11,008
<b>Subtotal of 93.262</b>	<b>93.262</b>				<b>306,795</b>
The Center to Protect Workers' Rights (CPWR) - Adoption of Innovations to Minimize (AIM) Exposure to Dust and Fumes in Construction	93.269		3004-005-01	No	21,469
<b>Subtotal of 93.269</b>	<b>93.269</b>				<b>21,469</b>
San Diego State University Research Foundation - Administrative Core of the CIFASD (U24)	93.273		53253L P1660 7802 211	No	16,416
Regents of the University of California - San Francisco - Changes in Alcohol Consumption in HIV Positives in Uganda	93.273		6243SC	No	27,331
Beth Israel Deaconess Medical Center - Planning Grant for a Multi-Center RCT of Moderate Alcohol Use on Chronic Disease	93.273		1027175	No	6,255
<b>Subtotal of 93.273</b>	<b>93.273</b>				<b>50,002</b>
McLean Hospital - Alpha Adrenergic Pharmacotherapy for Polydrug (Stimulant/Opiate) Abuse	93.279		400658	No	243,816
McLean Hospital - Pharmacologic Approaches to Prescription Opioid Addiction and Relapse Prevention	93.279		400960	No	24,804
Weill Medical College of Cornell University - Quality of life outcomes in prescription and injection opioid dependence	93.279		11111987-3	No	93,641
Boston Medical Center - Simulation Modeling to Improve HIV/HCV Screening, Treatment and Care	93.279		2764	No	52,167
Johns Hopkins University - Statistical Designs and Methods for Partially Controlled HIV/AIDS Studies	93.279		2000246062	No	(4,606)
<b>Subtotal of 93.279</b>	<b>93.279</b>				<b>409,822</b>
Judge Baker Children's Center - Clinical Research Training Program	93.282		10032	No	(415)
<b>Subtotal of 93.282</b>	<b>93.282</b>				<b>(415)</b>
Partners in Health - Building Capacity to Provide Cervical Cancer Screening and Treatment in Haiti	93.283		1006	No	6,952
National Association of County and City Health Officials - Health Departments Barriers to the Administration of Emergency Preparedness Federals Funds	93.283		2012-010903	No	(8)
<b>Subtotal of 93.283</b>	<b>93.283</b>				<b>6,944</b>
Johns Hopkins University - CRCNS: Data Sharing: The EM Open Connectome Project	93.286		2001668272	No	83,450
University of Maryland, College Park - Depth-Resolved Quantitative Multi-Model Imaging for GI Cancer Detection	93.286		2032801	No	11,633
Columbia University - Integrated heart-liver-vascular systems for drug testing in human health and disease	93.286		2 (GG00773-02)	No	128,998
Massachusetts General Hospital - Quantitative Methods for Clinical Whole Body Dynamic PET	93.286		220050	No	55,506
Sunnybrook Health Sciences Centre - Ultrasound therapy delivery through intact skull	93.286		724180668	No	29,709
<b>Subtotal of 93.286</b>	<b>93.286</b>				<b>309,296</b>
Northeastern University - Culturing Uncultivable Gut Microorganisms	93.301		50017178050	No	(7,592)
<b>Subtotal of 93.301</b>	<b>93.301</b>				<b>(7,592)</b>
New York University - Effectiveness and Improvement of Rural, School-Based, Caries Prevention Programs	93.307		F7447-02	No	13,931
The Forsyth Institute - EFFECTIVENESS AND IMPROVEMENT OF RURAL, SCHOOL-BASED, CARIES PREVENTION PROGRAMS	93.307		006964-HSPH2390	No	(1,551)
Regents of the University of Minnesota - Effects of a housing policy experiment on youth behavioral problems	93.307		500181	No	(584)
Regents of the University of Minnesota - Effects of a housing policy experiment on youth behavioral problems	93.307		H003876603	No	58,956
University of Pittsburgh - Healthy Learning, Healthy Living, Healthy Lives	93.307		0032560-122927-1	No	18,575
<b>Subtotal of 93.307</b>	<b>93.307</b>				<b>89,327</b>

The accompanying notes are an integral part of this schedule.

# Harvard University Schedule of Expenditures of Federal Awards Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
University of Southern California - Consumer Directed Health Plans and Use of Preventive Services	93.310		45498427	No	38,964
Regents of the University of California - Los Angeles - Engineering of computational receptors and gene circuits for T-cell immunotherapy	93.310		0130 G QA835	No	173
University of Cape Town - H3ABioNet: a sustainable African Bioinformatics Network for H3Africa	93.310		15719	No	72,087
The Broad Institute - Isogenic human pluripotent stem cell-based models of human disease mutations	93.310		5210841-5500000509	No	1,289,600
Duke University - Maternal immune protection against congenital CMV infection	93.310		2032511	No	432,987
Massachusetts General Hospital - Molecular prostheses for mitochondrial disorders	93.310		219702	No	136,593
Dana-Farber Cancer Institute - NMR Structure Determination of Membrane Proteins Enabled by DNA Nanotubes	93.310		1149305	No	(1,257)
Regents of the University of California - San Diego - Single-cell sequencing and in situ mapping of transcriptional activities in human brains	93.310		33972980	No	180,698
<b>Subtotal of 93.310</b>	<b>93.310</b>				<b>2,149,845</b>
University of Maryland, Baltimore - Influence of modifiable factors on the vaginal microbiota in preterm birth	93.361		9086	No	61,857
University of Miami - Mitochondrial Determinants of Metabolic Disease in HIV-Infected Children	93.361		66749P	No	53,851
<b>Subtotal of 93.361</b>	<b>93.361</b>				<b>115,708</b>
University of Texas Health Science Center at San Antonio - Development of a barrier colony of common marmosets	93.389		130447/130446	No	7,837
Dana-Farber Cancer Institute - Small Molecule Screening and Cell-Based Assay Core	93.389		4474805	No	152,948
<b>Subtotal of 93.389</b>	<b>93.389</b>				<b>160,785</b>
Columbia University - National Center: Multi-Scale Study of Cellular Networks	93.390		2 (GG006413)	No	(1,680)
<b>Subtotal of 93.390</b>	<b>93.390</b>				<b>(1,680)</b>
University of Texas - A Genomewide Association of Study of Lung Cancer in Never Smokers	93.393		12052705/98510704	No	1,237
University of Southern California - A Genome-wide Association Study of Prostate Cancer in African Americans	93.393		H48688	No	(7,209)
Dartmouth College - A GENOMEWIDE STUDY OF LUNG CANCER IN NEVER SMOKERS	93.393		1428	No	262
Brigham and Women's Hospital - A prospective analysis of peripheral blood cytokines and nonHodgkin lymphoma	93.393		107288	No	71,524
Dana-Farber/Partners Cancer Care, Inc. - Analysis of the role of the SWI/SNF complex in tumor suppression	93.393		1218502	No	79,206
Dana-Farber Cancer Institute - Analytical Investigation of Breast Cancer Progression; DCIS, Overdiagnosis	93.393		1214402	No	48,725
Dana-Farber Cancer Institute - Automated interviews to validate distress measures in cancer survivors	93.393		1199302	No	9,975
Dana-Farber Cancer Institute - CanCORS: Cancer Statistical Coordinating Research Center	93.393		1156208	No	22,778
Dana-Farber Cancer Institute - CanCORS: Statistical Coordinating Research Center	93.393		1156308	No	(15,824)
Brigham and Women's Hospital - Characterizing Genetic Susceptibility to Breast and Prostate Cancer; the BPC3	93.393		103467	No	21,938
Brigham and Women's Hospital - Circulating Fatty Acids and Breast Cancer Risk: A Prospective Study	93.393		108049	No	63,968
Brigham and Women's Hospital - Cohort Study of Genetic Susceptibility to Cutaneous Malignant Melanoma	93.393		103920	No	27
Dana-Farber Cancer Institute - Comparative Modeling: Informing Breast Cancer Control Practice and Policy	93.393		4481404	No	18,575
Brigham and Women's Hospital - Dietary and Hormonal Determinants of Cancer in Women (Core C)	93.393		105845	No	247,528
University of Southern California - Elucidating Loci involved in Prostate cancer Susceptibility	93.393		42619211	No	102,629
Dana-Farber Cancer Institute - Epigenetic Events and Colorectal Cancer	93.393		1186705	No	21,092
Columbia University - Estimating State specific Potential Annual Healthcare Cost Savings from Reducing Obesity	93.393		1-GG008335	No	17,094
University of Southern California - Genome wide Sequencing of Prostate Cancer in Men of African Ancestry	93.393		49455294	No	714,487
Brigham and Women's Hospital - Growth Factor's and Lethal Prostate Cancer Signature	93.393		105765	No	175,353
Boston University - Health Advocates as a Vehicle to Improve Treatment for Smokers in Public Housing	93.393		3840-5	No	26,574
Brigham and Women's Hospital - Integrating Genetics of Gene Expression into Pathway Analysis for Melanoma GWAS	93.393		108351	No	13,292
Regents of the University of Michigan - Linking State Registry and All Payer Claims Data to Study Cancer Care	93.393		3002831917	No	19,962
Brigham and Women's Hospital - Mammographic Density and Texture features in relation to breast cancer risk	93.393		109709	No	14,694
Dana-Farber Cancer Institute - Papillomavirus E2 Growth Suppression Mechanisms	93.393		1037924	No	270,505
Brigham and Women's Hospital - Psychological stress, associated biologic mediators, and ovarian cancer risk	93.393		108667	No	104,375
Dana-Farber Cancer Institute - Quality of Life and Quality-Adjusted Life Years for Stage IV Lung Cancer and Colorectal Cancer	93.393		No Award Number	No	2,962
University of Massachusetts - Worcester - RCT for Smoking Cessation in 10 Medical Schools	93.393		6114207/RFS900193	No	21,521
Massachusetts General Hospital - Screening for Free: A Value-Based Insurance Design Natural Experiment	93.393		220715	No	116,740
Dana-Farber Cancer Institute - Selection and Timing of Genetic Testing and Impact on Treatment Recommendations for Colon Cancer	93.393		1008408	No	13,864
Vanderbilt Medical Center - Southern Community Cohort Study	93.393		VUMC-40615	No	296,355
Brown University - The Epidemiology of Molecular Alterations in Mesothelioma	93.393		180	No	14,342
Dana-Farber Cancer Institute - The Function of Snf5, an Epigenetic Tumor Suppressor	93.393		1110010	No	24,550
Dana-Farber Cancer Institute - Tools for genomic analysis of tumor and stromal pathways in cancer	93.393		1217102	No	31,704
Harvard Pilgrim Health Care Foundation - Unified Approaches for Missing Data in Observational Studies	93.393		AH000434	No	1,951
Brigham and Women's Hospital - Whole Genome Association Study of Mammographic Density	93.393		104369	No	53,849
<b>Subtotal of 93.393</b>	<b>93.393</b>				<b>2,620,605</b>
Brigham and Women's Hospital - Harvard Genome Characterization Center (U24)	93.394		105236	No	64,043
Beth Israel Deaconess Medical Center - Harvard/Michigan/Cornell Prostate Cancer Biomarker Clinical Validation Center	93.394		1024500	No	19,530
Dana-Farber Cancer Institute - Molecular and Genetic Analysis of Neuroendocrine Tumor Risk and Survival	93.394		1194201	No	97,026
Dana-Farber Cancer Institute - Molecular and Genetic Analysis of Neuroendocrine Tumor Risk and Survival	93.394		1194203	No	15,437
Massachusetts General Hospital - Quantitative Analysis of Pharmacological Mechanism by Intravital Imaging	93.394		219649	No	476,187
Brigham and Women's Hospital - Technology for controlling ultrasound targeted drug delivery in brain (project 1)	93.394		109296	No	18,752
The Broad Institute - The Cancer Genome Atlas Data Analysis Center	93.394		5420135-5500000596	No	209,901
Brigham and Women's Hospital - Ultrasound Contrast Agent Enhanced Focused Ultrasound Ablation of Brain Tumors (project 3)	93.394		109305	No	37,529
Brigham and Women's Hospital - Ultrasound-induced blood-brain/tumor barrier disruption in brain metastases (project 2)	93.394		109295	No	37,529
<b>Subtotal of 93.394</b>	<b>93.394</b>				<b>975,934</b>
Dana-Farber Cancer Institute - Black-White Differences in Advanced Cancer Communication, Acceptance and Care	93.395		1106508	No	7,461
Weill Medical College of Cornell University - Black-White Differences in Advanced Cancer Communication, Acceptance and Care	93.395		14111544-01	No	4,280
Massachusetts Institute of Technology - Optical Biopsy Using Optical Coherence Tomography	93.395		5710002573	No	13,892
Massachusetts General Hospital - Probing the Tumor Microenvironment Using Nanotechnology	93.395		207607	No	8,327
<b>Subtotal of 93.395</b>	<b>93.395</b>				<b>33,960</b>
Dana-Farber Cancer Institute - Cyclin-dependent kinases in oncogenesis	93.396		1032613	No	54,126
Regents of the University of California - San Francisco - Genetic Models of exRNA Communication	93.396		7798sc	No	116,868
The Methodist Hospital Research Institute - High-content Image Analysis and Modeling for RNAi genome-wide Screening	93.396		009-8515	No	(235)
Sanford Burnham Medical Research Institute - Intravital Microscopy Core	93.396		54337-12377-HMS-05	No	56,198
Whitehead Institute for Biomedical Research - Mechanism of Breast Development and Carcinogenesis (Project 4)	93.396		11-1600-1504 (Project 4)	No	175,972

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Brigham and Women's Hospital - Molecular Pathogenesis of the Hamartoma Syndromes	93.396		108649	No	190,034
Brigham and Women's Hospital - Molecular Pathogenesis of the Hamartoma Syndromes P01 Project 1: Tuberos Sclerosis-Pathway and Pathogenesis	93.396		102695	No	(101)
Brigham and Women's Hospital - Molecular Pathogenesis of the Hamartoma Syndromes P01 Project 1: Molecular wiring and therapeutic targeting of the TSC-Rheb signaling network	93.396		5P01CA120964-07	No	409,888
Brigham and Women's Hospital - Oncogenic NOTCH Signaling - Project 3	93.396		108472	No	288,070
Brigham and Women's Hospital - Oncogenic NOTCH Signaling - Project 3 - Supplement	93.396		109065	No	54,407
University of Pittsburgh - Pathogenesis of Cancer - Role of EGF Receptor Endocytosis	93.396		21626	No	51,999
Brigham and Women's Hospital - Sex Hormones and the TMRSS2:ERG Fusion in Prostate Cancer Progression	93.396		104372	No	97,639
<b>Subtotal of 93.396</b>	<b>93.396</b>				<b>1,494,865</b>
Dana-Farber Cancer Institute - A national Faith Community atlas on end-of-life spiritual care: informing a religious community education intervention to address end-of-life cancer disparities	93.397		1221004	No	10,057
Brigham and Women's Hospital - Behavioral and Biologic Factors Associated with Tanning Bed Use and Cessation	93.397		104003	No	3,497
Dana-Farber Cancer Institute - Biguanides for the treatment of Prostate Cancer	93.397		1060110	No	(74)
Dana-Farber Cancer Institute - Cancer Center Support Grant	93.397		HSPH-49	No	305,071
Dana-Farber Cancer Institute - Comprehensive Partnerships to Reduce Cancer Health Disparities	93.397		1190603	No	32,739
Dana-Farber Cancer Institute - Dana-Farber/Harvard Cancer Center SPORE in Lung Cancer	93.397		p1082609	No	4,742
Dana-Farber Cancer Institute - Dana-Farber/Harvard Cancer Center Support Grant	93.397		HMS-49	No	720,615
Dana-Farber Cancer Institute - Developing novel models for revealing spatial and temporal variation in racial/ethnic and socioeconomic cancer mortality: a pilot study.	93.397		2013-LCD-002	No	24,553
Dana-Farber Cancer Institute - DF-HCC SPORE in Prostate Cancer - Project 1	93.397		1225411	No	130,817
Dana-Farber Cancer Institute - In vivo analysis of signaling dynamics in the Notch interaction network	93.397		1190703	No	7,151
Massachusetts Institute of Technology - MIT Center for Single-Cell Dynamics in Cancer (SCDC)	93.397		5710003445	No	150,959
Regents of the University of New Mexico - Population-based Research Optimizing Screening	93.397		3RF82	No	260,239
Massachusetts Institute of Technology - Regulatory Networks in Cancer Initiation and Progression	93.397		5710002752	No	(15)
Massachusetts Institute of Technology - Regulatory Networks in Cancer Initiation and Progression	93.397		5710003648	No	89,719
University of TX M.D. Anderson Cancer Center - Regulatory T Cell Compartment (Project 2)	93.397		1275	No	150,479
Dana-Farber Cancer Institute - SPORE in Lung Cancer (Project 1)	93.397		P1082010	No	61,177
Dana-Farber Cancer Institute - Spore in Lung Cancer Project 1	93.397		No Award Number	No	7,308
Dana-Farber Cancer Institute - SPORE: Dana-Farber/Harvard SPORE in Breast Cancer	93.397		1230001	No	15,483
<b>Subtotal of 93.397</b>	<b>93.397</b>				<b>1,974,517</b>
Dana-Farber Cancer Institute - Determining the function of AP1 transcription factors at neuronal-activity regulated enhancers	93.398		1033932	No	27,842
Dana-Farber Cancer Institute - Tumor Cell Biology Training Program	93.398		No Award Number	No	28,315
<b>Subtotal of 93.398</b>	<b>93.398</b>				<b>56,157</b>
Commonwealth of Massachusetts/Department of Public Health - Massachusetts Community Transformation Grant Category B Large County Middlesex	93.531		INTF4120HH2706811024	No	23,601
<b>Subtotal of 93.531</b>	<b>93.531</b>				<b>23,601</b>
Commonwealth of Massachusetts/Department of Public Health - Mass in Motion: Community-Clinical Partnerships to Reduce Childhood Obesity	93.535		INTF4123HH2W11815031	No	312,253
<b>Subtotal of 93.535</b>	<b>93.535</b>				<b>312,253</b>
New York University - Mechanisms, Moderators, Methods, and Measurement in the Head Start Impact Study: Informing Head Start for the Future	93.600		F7009-02	No	57,348
<b>Subtotal of 93.600</b>	<b>93.600</b>				<b>57,348</b>
Brigham and Women's Hospital - Automated Integration of Biomedical Knowledge	93.701		105135	Yes	10,946
Duke University - CARRA: Accelerating Toward an Evidence-based Culture in Pediatric Rheumatology	93.701		203-9012	Yes	82,178
Hospital for Special Surgery - Defining Common Molecular Parameters for Onset and Progression of Osteoarthritis	93.701		No Award Number	Yes	12,395
University of Wisconsin - Discovery of natural product-based drugs from symbionts of insects	93.701		271K961	Yes	16,949
Beth Israel Deaconess Medical Center - Endothelial Dysfunction, Oxidative Stress, and Risk of Peripheral Arterial Disease	93.701		1023686	Yes	(2,315)
Massachusetts General Hospital - Genetic Model for Bladder Dysfunction in Type 2 Diabetes	93.701		215574	Yes	(9,829)
Brigham and Women's Hospital - Inflammation/Oxidation, Omega-3's, and Post-Op AFib and Cognitive Decline	93.701		105129	Yes	(10,039)
Johns Hopkins University - North American AIDS Cohorts Collaboration on Research and Design	93.701		2000784426	Yes	36
Brown University - Nudging Doctors to Collaborate with Pharmacists to Improve Medication Adherence	93.701		419	Yes	2,532
Brigham and Women's Hospital - Physical Activity and Diet in the Prevention of Obesity in Men and Women	93.701		104748	Yes	(1,108)
University of Pennsylvania - Reducing Cardiovascular Risk Using Novel Incentive Approaches	93.701		555707	Yes	100,157
Brigham and Women's Hospital - Targeted Blood-Brain Disruption using Focused Ultrasound in a Large Animal Model	93.701		105127	Yes	11,352
National Bureau of Economic Research - The Effect of Health Insurance on Utilization and Outcomes: The Oregon Experiment	93.701		ARRA-HU-33-6702	Yes	156
<b>Subtotal of 93.701</b>	<b>93.701</b>				<b>213,410</b>
Brigham and Women's Hospital - Informatics for Integrating Biology and the Bedside	93.704		106458	No	276,840
Brigham and Women's Hospital - Informatics for Integrating Biology and the Bedside	93.704		106463	No	114,156
<b>Subtotal of 93.704</b>	<b>93.704</b>				<b>390,996</b>
University of Southern California - Live-attenuated KSHV as vaccine candidate	93.710		H48669	Yes	352
<b>Subtotal of 93.710</b>	<b>93.710</b>				<b>352</b>
Boston Public Health Commission - Boston Reach Obesity And Hypertension Demonstration Project (Boston REACH)	93.743		FY14013097A	No	264,287
<b>Subtotal of 93.743</b>	<b>93.743</b>				<b>264,287</b>
Brigham and Women's Hospital - Perinatal Stress and Programming of Childhood Wheeze and Lung Function	93.834		106613	No	(2,240)
<b>Subtotal of 93.834</b>	<b>93.834</b>				<b>(2,240)</b>
Brigham and Women's Hospital - A Planning Study: Sleep Apnea Intervention for Cardiovascular Disease Reduction	93.837		106313	No	12,843
Brigham and Women's Hospital - Adult Tissue Morphogenesis: Functional Regulation of Intussusceptive Angiogenesis	93.837		109389	No	81,442
Brigham and Women's Hospital - Billing Agreement for Peter Sage (Sharpe Lab)	93.837		108059	No	42,535
University of Maryland, Baltimore - Bioinformatics Core Proposal for the NHBLI Progenitor Cell Biology Consortium	93.837		101330A	No	53,330
Brigham and Women's Hospital - Boston Biomedical Innovation Center	93.837		No Award Number	No	57,659
New England Research Institutes, Inc. - Candidate Gene Evaluation Core Facility for the PCGC	93.837		No Award Number	No	118,361
Massachusetts General Hospital - Determination of the role of endothelial and mesenchymal cells in regulating lung	93.837		218050	No	(2,980)
Regents of the University of California - San Francisco - Effect of low dose methotrexate on endothelial function and inflammation on HIV	93.837		7455sc	No	15,776
DRVision Technologies LLC - Efficient Patient-Specific Cell Generation by Image-Guidance	93.837		A15268	No	561,141
Beth Israel Deaconess Medical Center - EPVent 2 - A Phase II Trial of Esophageal Pressure Guided Ventilation	93.837		1026696	No	65,037

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Brigham and Women's Hospital - Genetic Features of Gender Differences in COPD	93.837		103576	No	(1,473)
Regents of the University of Michigan - Genetic Modification of Triggers of Acute Myocardial Infarction	93.837		3001679109	No	(1,549)
Joslin Diabetes Center - Genetic modifiers of the effect of intensive glycemic control on CVD risk	93.837		Sub2-HL110400-Kraft	No	5,594
Joslin Diabetes Center - Genetics of Coronary Artery Disease in Type 2 Diabetics	93.837		No Award Number	No	28,122
Brigham and Women's Hospital - Genetics of gene expression in human left ventricular myocardium	93.837		109489	No	17,702
Massachusetts General Hospital - Human Pluripotent Stem Cell and Progenitor Models of Cardiac and Blood Diseases	93.837		215420	No	925,902
Massachusetts General Hospital - Human Pluripotent Stem Cells and Progenitor Models of Cardiac and Blood Diseases- Research Component	93.837		215420	No	(1,091)
Brigham and Women's Hospital - Identification of Molecular and Genetic Mechanisms of Atrial Fibrillation	93.837		105801	No	254,117
Children's Hospital Corporation - Image-guided Intracardiac Beating-Heart Surgery	93.837		PO No. 0000472602	No	(3,506)
Massachusetts General Hospital - Integrating Lipid Genotypes and Phenotypes in iPS-derived Hepatocytes / Adipocytes	93.837		1U04HL107440-01	No	1,115,322
Massachusetts General Hospital - Microenvironmental Control of Progenitors in Organ Dysfunction and Repair	93.837		215520	No	169,844
Brigham and Women's Hospital - Modifiable Effectors of Renin System Activation: Treatment Evaluation	93.837		106589	No	27,856
Duke University - Novel Mechanisms and Therapies in Heart Failure	93.837		203-1048	No	49,108
Brigham and Women's Hospital - Optimizing Revascularization of Coronary Artery Disease in Chronic Kidney Disease	93.837		110015	No	12,421
New England Research Institutes, Inc. - PCGC Steering Committee Chair Support	93.837		U01-HL098188	No	16,630
University of Pennsylvania - Personalization of Therapeutics Efficacy and Risk	93.837		561458	No	84,878
Stanford University - Predicting patients outcomes with bio/genetic markers via empirical models	93.837		24730170-44738-A	No	19,140
Brigham and Women's Hospital - Protection of the heart by PD-1 and PD-L1	93.837		110259	No	7,675
Dartmouth College - Proximity to Food Establishments and BMI in the Framingham Heart Study	93.837		1396	No	35,877
Massachusetts General Hospital - Reducing Environmental Tobacco Smoke Exposure in Public Housing	93.837		220402	No	92,425
Brigham and Women's Hospital - Risk Factors for CVD in Women	93.837		103587	No	6
New England Research Institutes, Inc. - RNA Expression Core Facility for the B2B CvDC	93.837		No Award Number	No	94,659
Carnegie Mellon University - Robotic Crawler for Epidcardial Interventions	93.837		1090228-258136	No	10,359
Brigham and Women's Hospital - Role of Fatty Acid Metabolism for the Prevention of Sudden Cardiac Death	93.837		109048	No	18,624
University of Hawaii - Statins and the Effect of HIV Induces Inflammation on Cardiovascular Complications	93.837		Z10016797	No	15,354
Stanford University - Statistical Methods for Optimizing Personalized Treatment Selection	93.837		60552401-44738	No	5,365
New England Research Institutes, Inc. - Steering Committee Chair for the Cardiovascular Development Consortium (CvDC)	93.837		No Award Number	No	(317)
University of Pittsburgh - The Role of Physician Networks in the Adoption of New Prescription Drugs	93.837		0034064 (123594-3)	No	8,930
Brigham and Women's Hospital - Training in Sleep, Circadian and Respiratory Neurobiology	93.837		109278	No	49,194
University of Hawaii - HIV and Global Drug therapies: Peripheral Neuropathy Complications and Mechanisms	93.837		109278	No	43,914
Brigham and Women's Hospital - Vascular,Pumonary and Renal Injury	93.837		108059	No	42,251
<b>Subtotal of 93.837</b>	<b>93.837</b>				<b>4,148,477</b>
Brigham and Women's Hospital - COPD Clinical Research Network: STATCOPE protocol	93.838		108228	No	(4,548)
Brigham and Women's Hospital - Early Life DNA Methylation and Childhood Allergic Disease	93.838		108940	No	61,798
Brigham and Women's Hospital - Genetic Epidemiology of COPD: Genome-Wide Analysis	93.838		103118	No	(4,315)
Brigham and Women's Hospital - Genetic Epidemiology of COPD: Genome-Wide Analysis	93.838		5R01HL089856-07	No	344,300
Brigham and Women's Hospital - Genetics and Gene Expression Profiling in Asthma	93.838		107599	No	14,623
University of Chicago - HLA-G-LILRB-SHP2 Axis in Airway Smooth Muscle	93.838		41418-B	No	42,538
Brigham and Women's Hospital - Identifying Genetic Determinants of Severe Early Onset COPD	93.838		107872	No	127,894
Brigham and Women's Hospital - Intrauterine smoke exposure and asthma: Genomic Origins	93.838		104893	No	11,635
Brigham and Women's Hospital - Leveraging Family Data to Identify Genetic Variants for Sleep Apnea	93.838		108605	No	77,426
Brigham and Women's Hospital - Lung Vitamin D and Omega-3 Trial	93.838		105859	No	130,810
Brigham and Women's Hospital - Mechanobiology of Vascular Remodeling in Pulmonary Arterial Hypertension	93.838		108451	No	(32)
Regents of the University of Michigan - Mesenchymal Cell Fate Determination by Extracellular Matrix Stiffness	93.838		3001967823	No	1,796
Icahn School of Medicine at Mount Sinai - Perinatal Stress and Programming of Childhood Wheeze and Lung Function	93.838		0255-5572-4609	No	145,356
Brigham and Women's Hospital - Pharmacogenetics of Asthma Treatment	93.838		106219	No	83,946
Icahn School of Medicine at Mount Sinai - Prenatal Stress and Epigenetic Programming of the HPA Axis and Autonomic Balance	93.838		0255-5253-4609	No	210,617
Brigham and Women's Hospital - Project 1: Genetics of COPD	93.838		107263	No	66,303
Brigham and Women's Hospital - The Genetic Epidemiology of Asthma in Costa Rica	93.838		106790	No	21,052
University of Chicago - Therapeutic Potentiation of Bronchial Dilatation	93.838		45908	No	45,729
Brigham and Women's Hospital - Weiss T32HL007427-31 CLINICAL EPIDEMIOLOGY OF LUNG DISEASES	93.838		108859	No	31,841
Brigham and Women's Hospital - Weiss T32HL007427-31 CLINICAL EPIDEMIOLOGY OF LUNG DISEASES	93.838		No Award Number	No	3,672
<b>Subtotal of 93.838</b>	<b>93.838</b>				<b>1,412,441</b>
Children's Hospital Boston - David Alvarez Billing Agreement	93.839		No Award Number	No	22,575
Massachusetts General Hospital - Direct Visualization and Characterization of Hypoxia in the Bone Marrow	93.839		215186	No	(4,181)
Brigham and Women's Hospital - Genetic and Environmental Risk Factors for Venous Thromboembolism	93.839		108937	No	68,822
Children's Hospital Boston - Immune Receptor Recognition and Signaling in Cell Membrane	93.839		519026	No	439,980
Immune Disease Institute, Inc - Immune Receptor Recognition and Signaling in Cell Membrane	93.839		5P01HL103526-02	No	1,123
Beth Israel Deaconess Medical Center - In Situ Regeneration of Bioactive Surfaces: Rechargeable Anti-thrombogenic Films	93.839		1026762	No	129,369
Children's Hospital Boston - T32 at Children's: David Williams Program Director	93.839		503564	No	(345)
<b>Subtotal of 93.839</b>	<b>93.839</b>				<b>657,343</b>
Brigham and Women's Hospital - Clinical Orthopedic and Musculoskeletal Education and Training Program	93.846		109304	No	18,360
Spaulding Rehabilitation Hospital - Adiposity and Bone Loss in Spinal Cord Injury	93.846		500210	No	105,059
Brigham and Women's Hospital - Clinical Orthopedic and Musculoskeletal Education and Training	93.846		109304	No	40,230
Memorial Sloan Kettering - The Framingham School Study of Nevi in Children: Sonic II	93.846		No Award Number	No	61,021
<b>Subtotal of 93.846</b>	<b>93.846</b>				<b>224,670</b>
The Broad Institute - Autophagy genes and the microbiome in Crohn's Disease	93.847		5230111-5500000510	No	46,224
Brigham and Women's Hospital - Biochemical and Genetic Markers of Type 2 Diabetes	93.847		105640	No	66,224
Brigham and Women's Hospital - Biomarkers of Histopathology in Chronic Kidney Disease	93.847		108463	No	23,013
Boston Medical Center - Boston Obesity Nutrition Research Center	93.847		186908	No	137,303
Children's Hospital Boston - CAREER DEVELOPMENT IN DIABETES RESEARCH FOR PEDIATRIC ENDOCRINOLOGISTS	93.847		PO-0000563397	No	35,205
Massachusetts General Hospital - Common Genetic Variation and Quantitative Diabetes Traits	93.847		218446	No	12,834
Dana-Farber Cancer Institute - Control of Adipocyte Gene Expression and Physiology	93.847		1032932	No	28,986

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Children's Hospital Boston - Customized stem cells for clinical application in blood disorders	93.847		456983	No	588,199
Brigham and Women's Hospital - Engineering a Cell-Based Glucose Monitor	93.847		109687	No	80,527
Children's Hospital Boston - Food and Beverage Patterns that Predict Weight Gain Among Adolescents	93.847		524475	No	15,084
Brigham and Women's Hospital - Identifying Risk Factors and Improving Risk Assessment	93.847		109482	No	28,838
Group Health Cooperative/Center for Health Studies - Impact of Bariatric Surgery on Long-term Diabetes Remission and Complications	93.847		2014139201	No	22,511
Tufts University School of Dental Medicine - iPSC-derived Repair-Responsive Fibroblasts to Heal Diabetic Foot Ulcers	93.847		HS2691	No	61,892
Joslin Diabetes Center - Joslin Diabetes NIH T32 Training Grant	93.847		2-20-877-36	No	28,591
Brigham and Women's Hospital - Mechanism of Myostatin Action	93.847		109330	No	56,938
Children's Hospital Boston - Molecular mechanisms underlying gastrointestinal autoimmune disease	93.847		No Award Number	No	12,062
Beth Israel Deaconess Medical Center - Novel Therapeutic Approaches for the Management of Diabetic Foot Ulceration	93.847		1025613	No	67,170
Beth Israel Deaconess Medical Center - Novel Therapeutic Approaches for the Management of Diabetic Foot Ulceration	93.847		1025613	No	71,414
Brigham and Women's Hospital - Physiology of Thyroid Hormone-Dependent Gene Expression	93.847		107227	No	27,711
Vanderbilt University - Rational maturation of beta cells based on in-depth profiling (RatMat)	93.847		VUMC 38572	No	137,872
Brigham and Women's Hospital - Risk Factors for and Tissue Biomarker Expression in Primary Hyperparathyroidism	93.847		110397	No	3,932
Boston Medical Center - Risk Factors for Barrett's Esophagus	93.847		2284	No	54,186
<b>Subtotal of 93.847</b>	<b>93.847</b>				<b>1,606,716</b>
Brigham and Women's Hospital - The Pathobiology of Nephrolithiasis (Core A)	93.849		103275	No	(24)
<b>Subtotal of 93.849</b>	<b>93.849</b>				<b>(24)</b>
Brain Plasticity, Inc - Amplified attention training (AAT) for the treatment of hemispatial neglect	93.853		PSC-1004-13	No	55,609
Johns Hopkins University - Generation and Characterization of Amyotrophic Lateral Sclerosis IPS cells	93.853		2001586467	No	164,226
University of Hawaii - HIV and Global Drug therapies: Peripheral Neuropathy Complications and Mechanisms	93.853		Z10016797	No	17,924
Regents of the University of California - San Diego - Host Genetic Factors Associated with CNS Disease of HIV-Infected Children	93.853		10322215	No	9,943
University of Florida - Infection and monitoring of Rhesus macaques with SIV	93.853		UF13167	No	72,437
Dana-Farber Cancer Institute - Metabolic control of neuronal activity by fuel substrate switching	93.853		1218802	No	137,625
Dana-Farber Cancer Institute - Molecular Mechanisms of Fate Choice in Neural Stem Cells Project 3	93.853		11002010	No	277,906
Dana-Farber Cancer Institute - Molecular Mechanisms of Fate Choice in Neural Stem Cells: Core B- Transcriptional Control of Inhibitory Synapse Development	93.853		1100410	No	85,287
Boston College - Monocyte Traffic and Neuropathogenesis of AIDS	93.853		5001810-1	No	1,697
Boston College - Monocyte Trafficking in Neuropathogenesis of AIDS	93.853		5001810-2	No	76,547
Boston College - Monocyte/macrophage traffic and peripheral nerve pathogenesis	93.853		5001853-1	No	20,672
Washington State University - Optogenetic resource for studying cerebral cortex network function	93.853		119566-G003219	No	20,817
Regents of the University of California - San Francisco - Peripheral Reservoir of HIV DNA In Monocytes Pivotal to Cognition in HIV	93.853		5728sc	No	11,794
Brigham and Women's Hospital - Role of B7 Costimulation in induction and regulation of EAE	93.853		103501	No	31,938
Children's Hospital Boston - TRP channels as drug portals to block calcium channels and synaptic transmission	93.853		535515	No	228,553
Boston College - Viral Evolution in Peripheral Macrophages and Brain during Progression to AIDS	93.853		5001749-1	No	267
<b>Subtotal of 93.853</b>	<b>93.853</b>				<b>1,213,242</b>
Health Research, Inc. - A Community Mycobacterial Systems Resource	93.855		4468-01	No	46,860
Brigham and Women's Hospital - ACTG Leadership and Operations Center	93.855		108121	No	148,034
Brigham and Women's Hospital - ACTG Leadership and Operations Center	93.855		110298	No	694,065
Massachusetts General Hospital - Acute HIV Infection: Implications for vaccine design	93.855		208779	No	11,399
Chapman University - Adaptive Aging: Psychological Well-Being and Favorable Cardiovascular Health	93.855		2014-001	No	59,114
Brigham and Women's Hospital - Allergens in Inner-City Schools and Childhood Asthma	93.855		103304	No	462
Duke University - Antibacterial Resistance Leadership Group (ARLG)	93.855		203-9670	No	356,172
Board of Regents of the University of Wisconsin - Madison - Antimicrobial Drug Discovery from Coevolved Symbiotic Communities	93.855		538K145	No	83,370
Brigham and Women's Hospital - Antiretroviral Drug Resistance in KwaZulu Natal	93.855		109461	No	2,128
The State University of New York - Apicomplexan Drug Target Discovery	93.855		R882538	No	14,336
Beth Israel Deaconess Medical Center - CAVR Administrative Core (A2): NEPRC	93.855		1025090	No	118,603
New York University Langone Medical Center - Characterization of Pupylation in Mycobacterium Tuberculosis	93.855		10-01259	No	51,565
Massachusetts Eye and Ear Infirmary - Compounds and Strategies for Treating MRSA and VRE	93.855		5P01AI083214-06	No	451,542
Harvard Pilgrim Health Care, Inc - Conjugate vaccine impact of pneumococcal carriage, disease, and population (SPARC2)	93.855		PH000391A	No	86,467
Massachusetts General Hospital - Cost Effectiveness of Preventing HIV Complications	93.855		216621	No	114,699
Massachusetts General Hospital - Cost Effectiveness of Preventing HIV Complications	93.855		204537	No	(15,267)
Yale University - Costimulatory Mechanisms of Autoimmunity (Composite)	93.855		A08022 (M11A10892)	No	657,840
Michigan State University - Determinants of Malaria Disease in Malawi	93.855		RC060860HSPH	No	32,437
Massachusetts Eye and Ear Infirmary - Development of anti-biofilm agents that target staphylococcal biofilms	93.855		5P01AI083214-06	No	373,870
University of Pittsburgh - Eat-me signaling cascade in the apoptotic cells during cell engulfment	93.855		0028480 (123330-1)	No	5,193
Dana-Farber Cancer Institute - Eliciting B Cells to Produce Anti-HIV gp41 MPER-specific Neutralizing Antibodies	93.855		1188404	No	167,483
Northeastern University - Functional and molecular analysis of scout cell awakening	93.855		500309-78050	No	115,344
University of Hawaii - Global HIV Drug Therapies and Mitochondrial Complications and Mechanisms	93.855		Z10022586	No	16,510
Mayo Clinic - High-Throughput immunophenotypic analyses of humoral responses to West Nile virus	93.855		5U01AI089859-03	No	51,399
Baylor Research Institute - High-throughput transcriptional analysis of antigen-specific T lymphocytes	93.855		41000411227	No	27,424
Massachusetts General Hospital - Immune responses to Vibrio Cholerae Infection and vaccination in Haiti	93.855		221574	No	20,275
Massachusetts General Hospital - Immunoregulatory Function of Myelomonocytic Receptors in HIV-1 Infection	93.855		207904	No	1,768
Massachusetts General Hospital - Improving diagnostic capabilities for typhoid fever and systemic salmonellosis	93.855		220737	No	10,111
Massachusetts General Hospital - Inflammation and the Vaginal Microbiome in HIV Acquisition	93.855		224082	No	5,857
Microbiotix, Inc. - Inhibitors of wall teichoic acid biosynthesis in Staphylococcus aureus	93.855		No Award Number	No	91,506
Massachusetts General Hospital - Innate and Early B Cell Responses to Vibrio cholera	93.855		223544	No	16,557
University of Washington - Interventions to Decrease HIV Infectiousness in Uganda	93.855		755451	No	41,502
Beth Israel Deaconess Medical Center - Live Attenuated SIV-Mediated Protection Against Mucosal SIV Infection - Project 3	93.855		1025087	No	599,171
Florida State University - M Tuberculosis Membrane Protein Pharmaceutical Targets	93.855		R01638-Supplement	No	208,188
Beth Israel Deaconess Medical Center - Mechanisms of SIV persistence	93.855		1025211	No	404
Massachusetts General Hospital - Multidisciplinary AIDS Training Grant	93.855		219427	No	5,266
Johns Hopkins University - North American AIDS Cohorts Collaboration on Research and Design	93.855		2001317193	No	79,513

The accompanying notes are an integral part of this schedule.



# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Massachusetts General Hospital - Novel Methods to inform HIV/TB clinical trial development	93.855		219762	No	22,464
Massachusetts General Hospital - Novel Methods to Inform HIV/TB Clinical Trial Development	93.855		219762	No	16,036
Microbiotix, Inc. - Novel Methylene-cyclopropane Analogues as Anti-Human Herpesvirus 6 and 8 Agents	93.855		A17998	No	130,053
Dana-Farber Cancer Institute - Novel vaginal microbicides based on stable AAV-neutralizing antibody gene transfer	93.855		1149603	No	1,771
Massachusetts General Hospital - Optimizing HIV Care in Less Developed Countries	93.855		208049	No	96,999
University of Pittsburgh - Pathogenesis of New SIVsm Lineages in Rhesus Macaques	93.855		117144-1	No	179
Emory University - PD-1 Reagent Core, Core B	93.855		S369228	No	32,374
Boston University School of Medicine - Phase 2 Pharmacodynamic Study of High-Dose Levofloxacin In MDR-TB Treatment	93.855		4500001648	No	41,175
Tulane University - Population-based Approach to malaria Research and Control	93.855		TUL-HSC-550-14/15	No	127,076
Brigham and Women's Hospital - Project 1: Host and Microbial Risk Factors for Drug-Sensitive and Resistant Tuberculosis	93.855		103086	No	64,624
Scripps Research Institute - Project 1: Therapeutic effector functions of AAV-expressed transgenes	93.855		5-20463	No	4,046
Massachusetts General Hospital - Project 3 - Induced tolerogenic dendritic cell therapy of allergic diseases	93.855		219483	No	373,620
Scripps Research Institute - Project 3 Primate studies for AAV-suppression of HIV-1	93.855		5-20601	No	303,087
Brigham and Women's Hospital - Same-Day HIV Testing and Treatment Initiation to Improve Retention In Care	93.855		108973	No	23,085
Beth Israel Deaconess Medical Center - SLAM gene family controlled pathways to SLE	93.855		1025977	No	449,033
Fred Hutchinson Cancer Research Center - Standardizing the isolation and characterization of intestinal cells from NHP	93.855		750293	No	66,001
Johns Hopkins University - Statistical designs and methods for double-sampling for HIV/AIDS Studies	93.855		No Award Number	No	87,758
Dana-Farber Cancer Institute - Structural Approaches to HIV-1 Immunogen Design for BNAbs Generation	93.855		1158005	No	119,071
Dana-Farber Cancer Institute - Structural Determinants of TCR Assembly and Signaling	93.855		1072809	No	19,998
University of North Carolina - Chapel Hill - Structural models for Treatment and exposure effects in Clinical HIV Cohorts	93.855		UNC-CH 5-33372	No	17,025
Texas A&M Research Foundation - Structure-based Discovery of Critical Vulnerabilities of Mycobacteria	93.855		99-S130608	No	159,005
Barcelona Center for International Health Research - Studies toward understanding RTS,S malaria vaccine induced protection	93.855		No Award Number	No	11,844
Brigham and Women's Hospital - T. Vaginalis Viruses as Mucosal Immunity Modifiers with Impact on Women's Health	93.855		108177	No	94,473
Dana-Farber Cancer Institute - T32 Billing Agreement	93.855		2T32A1007386-21A1	No	10,248
The Broad Institute - Targeting the Mitochondrion of P. falciparum	93.855		6220092-5500000502	No	317,119
The Broad Institute - Targeting the Mitochondrion of P. falciparum	93.855		6220092-5500000505	No	13,757
Massachusetts General Hospital - The Ethics of Electronic Adherence Monitoring for HIV Research and Care in Uganda	93.855		222582	No	61,151
Brigham and Women's Hospital - The Fetal and Childhood Environment, Oxidative Balance, Inflammation and Asthma	93.855		109320	No	31,063
Brigham and Women's Hospital - TIM Family of Genes: Role in T Cell Immunity and Tolerance (Core C)	93.855		104286	No	93,839
Microbiotix, Inc. - Type III secretion inhibitor for Anti-Infective Therapy	93.855		No Award Number	No	36,080
Regents of the University of Minnesota - Vaccine design to concentrate protective at the mucosal border	93.855		N002877301	No	369,918
Beth Israel Deaconess Medical Center - Veterinary and Animal Resources Core F3-NEPRC	93.855		1026557	No	279,749
<b>Subtotal of 93.855</b>	<b>93.855</b>				<b>8,224,888</b>
Massachusetts General Hospital - Optimizing HIV Care in Less Developed Countries	93.856		212914	No	(34,116)
<b>Subtotal of 93.856</b>	<b>93.856</b>				<b>(34,116)</b>
Memorial Sloan Kettering - Accelerated determination of 3D structures of large proteins and protein complexes	93.859		BD516057	No	271,482
The Broad Institute - An Integrated Approach to Diversity-Oriented Synthesis	93.859		5615434-5500000525	No	27,422
The Broad Institute - An Integrated Approach to Diversity-Oriented Synthesis	93.859		5615424-5500000524	No	70,172
Albert Einstein College of Medicine - Atoms-to-Animals: Structural Genomics of Immunity	93.859		31524j	No	24,829
Regents of the University of Michigan - CHARMM Modernization, Performance and Continued development	93.859		3002430433	No	48,532
Rhode Island Hospital - COBRE for Skeletal Health and Repair	93.859		701-5480-8985	No	19,316
New York University - Collaborative Research: Understanding mitotic spindle positioning through integrated mathematical modeling and biophysical experiment	93.859		F7087-01	No	144,495
Regents of the University of California - Santa Cruz - Control of cell growth and size by a novel cell cycle checkpoint mechanism	93.859		S0184248	No	13,863
Brandeis University - Core Account : Genetic and Physiological Mechanisms of Temperature Detection and Compensation	93.859		402185	No	162,148
Massachusetts General Hospital - Core C: Protein Chemistry	93.859		215349	No	231,962
Brandeis University - Genetic and Physiological Mechanisms of Temperature Detection and Compensation	93.859		402183	No	306,894
Brandeis University - Genetic and Physiological Mechanisms of Temperature Detection and Compensation (Project 3)	93.859		402184	No	397,333
Brigham and Women's Hospital - Genetic Predictors of Response to Anti-TNF Therapy in Rheumatoid Arthritis	93.859		106085	No	62,142
Iowa State University - Highly simplified model of a mammalian intestinal community	93.859		430-23-08	No	49,727
Columbia University - Influenza Outbreak Prediction: Applying Data Assimilation Methodologies to Make Skillful Forecasts of an Inherently Chaotic, Nonlinear System	93.859		1-GG006277	No	18,763
Case Western Reserve University - Investigating the Structural Assembly of RNR Multimers	93.859		RESS07181	No	36,086
University of Texas Southwestern Medical Center - Mechanisms Regulating Clathrin-Mediated Endocytosis	93.859		GMO 130907	No	135,216
Regents of the University of California - Berkeley - Molecular Regulation of Choanoflagellate-Bacteria Signaling Interactions	93.859		7893	No	197,216
University of Southern California - Multi-scale modeling of genetic variation in a developmental network	93.859		44905882	No	128,764
Brigham and Women's Hospital - Optical Microresonator Biosensors for High-Throughput, Real-Time Analysis of Cell	93.859		107337	No	248,632
Massachusetts General Hospital - Project 1: Locating General Anesthetic Binding Sites in GABAa and Acetylcholine Receptors	93.859		215351	No	238,251
Northwestern University - Regulation and Function of Intermediate Filaments in Cell Mechanics	93.859		60029185 HC	No	320,769
Northwestern University - Regulation and Function of Intermediate Filaments in Cell Mechanics	93.859		60029184HC	No	276,838
Massachusetts Institute of Technology - Single-molecule imaging with super-resolution: probe development, cellular targeting, optics, and application to neuroscience	93.859		5710002578	No	(14,744)
Fred Hutchinson Cancer Research Center - Statistical Methods for Prospective Evaluation of Biomarkers	93.859		754723	No	(1,534)
Texas A&M Research Foundation - Structures of M. tuberculosis proteins conferring susceptibility to known M. tuberculosis inhibitors	93.859		99-S110011	No	260,360
Massachusetts Institute of Technology - Systems Biology of Cell Decision Processes	93.859		5710003278	No	941,071
New York Structural Biology Center - Transcontinental EM Initiative for Membrane Protein Structure	93.859		NYSBCG01909-1	No	395,637
Regents of the University of Michigan - Translation frameshift and regulation	93.859		3002505532	No	173,281
Sanford Burnham Medical Research Institute - Ultrastructural Basis of Mechanotransduction In Matrix Adhesions	93.859		56344-11736-PFHC-03 R01	No	198,522
University of Texas Health Science Center at Houston - Unified Methods for Sequence-based Association Studies	93.859		0009574A	No	4,017
<b>Subtotal of 93.859</b>	<b>93.859</b>				<b>5,387,462</b>

The accompanying notes are an integral part of this schedule.

# Harvard University Schedule of Expenditures of Federal Awards Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Boston University - A Comparative Approach to Social Inequalities in Health	93.865		4500000284	No	4,145
Institute de Recherché pour le Development-Program for HIV Prevention and Treatment - Antiviral prophylaxis to prevent perinatal transmission of HBV in Thailand	93.865		303223	No	51,879
Brigham and Women's Hospital - Causes and Impact of Minority Stress on Health and Development in Youth	93.865		105009	No	33,112
Tulane University - Coordinating Center for the Pediatrics HIV/AIDS Cohort Study II	93.865		TUL-HSC-382-12-13	No	2,695
Massachusetts Institute of Technology - Economic and Health Impacts of Hospitalization and Maternity Insurance in India	93.865		5710003475	No	32,676
Brigham and Women's Hospital - Endogenous Hormones and Risk of Endometriosis	93.865		101479	No	(4,219)
Regents of the University of California - Berkeley - Health and Human Capital Investments - Long-term impact: Randomized Experiments Kenya	93.865		8363	No	26,950
Dana-Farber Cancer Institute - Mechanism of Chromatin and Dynamics in Development	93.865		1196801	No	50,025
Massachusetts General Hospital - Natural Experiment of Value-Based Incentives for Preventative Services	93.865		221478	No	154,752
Children's Hospital Boston - Patient-oriented Research in Pediatric Diarrheal Diseases	93.865		469739	No	14,453
University of Puerto Rico - Pregnancy and Early Lifestyle improvement Study (PEARLS)	93.865		No Award Number	No	17,703
University of Massachusetts at Amherst - Properties of HIV-1 DNA/RNA assays for detecting HIV infection in infants	93.865		12-006886 B 02	No	21,686
University of Southern California - Racial Discrimination in Online Contexts: The Impact on Adolescent Adjustment Over Time	93.865		Y88628	No	15,621
Temple University - Snacking in young children: parental definitions, goals, and approaches to feeding	93.865		252272	No	71,760
San Diego State University Research Foundation - Systems-Oriented Analysis of Two Multilevel, Multisector Childhood Obesity Prevention and Control Projects	93.865		SA0000242	No	10,174
Boston University - Teratogenicity of Drugs Most Commonly Used in Pregnancy	93.865		3546-5	No	(50)
New York University - Testing CSRP's impact on low-income children's outcomes in 3rd-5th Grade: A 5-Year follow-up	93.865		F6077-08	No	58,389
Brigham and Women's Hospital - The Role of Development Assistance for Health in Reducing Child Mortality	93.865		107879	No	11,894
Children's Hospital Corporation - The Ventral Medulla and the Sudden Infant Death Syndrome	93.865		RSTFD0000582462	No	452,341
Swedish Medical Center - Triggers of Abruptio Placentae - A Case Crossover Study of an Ischemic Placental Disorder	93.865		803033-D	No	247,112
Children's Hospital Corporation - Using Geocoded Socioeconomic Data to Enhance Pediatric Risk Adjustment Methods	93.865		88117	No	33,099
Children's Hospital Corporation - Ventral Medulla and Sudden Infant Death Syndrome: PROJECT 5	93.865		458673	No	7,536
<b>Subtotal of 93.865</b>	<b>93.865</b>				<b>1,313,733</b>
Emory University - A Metabolomic Model of Aging in the Common Marmoset	93.866		T059251	No	112,440
Dartmouth College - Causes and Consequences of Health Care Efficiency	93.866		1402	No	30,228
Brown University - Changing Long-Term Care in America	93.866		669	No	9,941
University of Alabama - Childhood SES Factors: Impact on Age-related Cognitive and Vascular Health	93.866		000410331-002	No	2,634
Yale University - Developing a method for estimating the overall impact of behavioral interventions in a social network using egocentric network samples	93.866		C14A11852 (A09416)	No	26,559
National Bureau of Economic Research - Economics of Health, Wealth and Well-being	93.866		33-4135-03-6-HMS	No	252,901
National Bureau of Economic Research - Evaluating Changes in Pharmaceutical Therapies for Medicare and Other Payers	93.866		HMS-33-4149	No	73,042
Hebrew Rehabilitation Center for Aged - Health care expenditures for nursing home residents with advanced dementia	93.866		10.10.90051	No	10,102
Kaiser Foundation Research Institute - Impact of Medicare Part D on Cancer and Diabetes Disparities among Dual Enrollees	93.866		115-9834-05	No	1,088
University of Wisconsin - Integrative Pathways to Health and Illness Project 1 - Psychosocial Contributors	93.866		552K742	No	60,134
Northwestern University - LITCOG II: Health Literacy and cognitive Function among Older Adults	93.866		60028515	No	12,311
Yale University - Networks and Neighborhoods	93.866		C14A11710-A09232	No	19,788
Brigham and Women's Hospital - One Year Trajectories of Care and Resource Utilization in Elderly Patients After Cervical Spine Fracture	93.866		108342	No	37,161
National Bureau of Economic Research - What Does Health Insurance Do Evidence from the Oregon Health Insurance Lottery	93.866		HSPH-33-4126A	No	226,945
National Bureau of Economic Research - What Does Health Insurance Do: Evidence From the Oregon Health Insurance Lottery	93.866		HMS-33-4126	No	56,223
<b>Subtotal of 93.866</b>	<b>93.866</b>				<b>931,497</b>
Duke University - MicroRNA-directed modulation of intraocular pressure	93.867		203-2851	No	1,795
Massachusetts Eye and Ear Infirmary - Multi-ethnic GWAS of diabetic retinopathy: enhanced power using new statistical methods	93.867		1R01EY022322-01	No	133,214
California Institute of Technology - Neural Computation From Retina to Visual Cortex	93.867		21B-1093356	No	247,149
Northwestern University - The Mechanical basis of Primary Open Angle Glaucoma	93.867		SP0004560/PROJ0001557	No	197,813
Massachusetts Eye and Ear Infirmary - The NEIGHBORHOOD: POAG Heritable Overall Operational Database	93.867		5R01EY022305-02	No	44,024
Schepens Eye Research Institute - Training Program in the Molecular Bases of Eye Diseases	93.867		2T32EY007145-15-SUB1	No	2,010
<b>Subtotal of 93.867</b>	<b>93.867</b>				<b>626,005</b>
Brigham and Women's Hospital - Analyzing Complex Healthcare Data to Determine Causality of Observed Drug Effects	93.879		105139	No	32,956
Brigham and Women's Hospital - Informatics for Integrating Biology and the Bedside	93.879		155082	No	122
Brigham and Women's Hospital - Informatics for Integrating Biology and the Bedside Core 5	93.879		106464	No	185,094
<b>Subtotal of 93.879</b>	<b>93.879</b>				<b>218,172</b>
Brigham and Women's Hospital - Laboratory Response Network - Level B (LRNB)	93.889		108671	No	3,992
<b>Subtotal of 93.889</b>	<b>93.889</b>				<b>3,992</b>
Regents of the University of Michigan - Discovery of Natural Product-Based Drugs from Costa Rican Biota	93.989		3001330903	No	197,798
Northwestern University - Fogarty HIV Research Training Program for Low and Middle Income Country Institution	93.989		60035474	No	5,810
Brigham and Women's Hospital - Innovative Interdisciplinary Approaches to Sustainable Airborne Infection Control	93.989		108388	No	116,878
Institute for Clinical Effectiveness and Health Policy - Promoting Capacity Building in Chronic Diseases Research in South America	93.989		E0047	No	15,461
<b>Subtotal of 93.989</b>	<b>93.989</b>				<b>335,947</b>
The Broad Institute - Center for Cell Circuits	93.172, 93.242		7010034-5500000586	No	356,499
<b>Subtotal of 93.172, 93.242</b>	<b>93.172, 93.242</b>				<b>356,499</b>
Massachusetts General Hospital - Advanced Multimodal Neuroimaging Training Program	93.Contract		219423	No	31,293
Social + Scientific Systems, Inc. - Anti-Viral and Immune Plasma Infrastructure Development	93.Contract		CRB-DCR01-S-09-00242	Yes	39,290
Social + Scientific Systems, Inc. - Anti-Viral and Immune Plasma Infrastructure Development IRC003/IRC004	93.Contract		CRB-SSS-S-13-3169	No	141,738
Regents of the University of Michigan - Asymptomatic Gametocytemia and Malaria: Implications for Plasmodium Transmission	93.Contract		3002992953	No	6,533
Rand Corporation - CAHPS Survey for the Medicare Shared Savings Program and Other Physician Quality Programs	93.Contract		9920120022	No	281,513
Institute of Nutrition of Central America and Panama - Center of Excellence for Strengthening Research Capacity on Prevention and Control of Cardiovascular Diseases (CVD) for Central America, Dominican Republic, and Mexico: 2009-2014	93.Contract		No Award Number	No	7,323
Commonwealth of Massachusetts/Department of Public Health - Commonwealth of Massachusetts Department of Public Health Hospital Preparedness Program 2010 Exercise Series	93.Contract		8214	No	21,031
Brigham and Women's Hospital - Community-based accompaniment with supervised antiretroviral in Lima, Peru	93.Contract		104741	No	56,796
Health Research and Educational Trust - Development and Demonstration of a Surgical Unit-based Safety Program in Ambulatory Surgery (SUSP-AS)	93.Contract		80801	No	349,300

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
L and M Policy Research, LLC - Evaluation of the Nursing Home Value Based Purchasing Demonstration	93.Contract		NHVBPD-2008-02	No	22,981
National Opinion Research Center - Evaluation of State Health Information Exchange Cooperative Agreements Program	93.Contract		No Award Number	Yes	89,207
National Academy of Sciences - Geographic Variation in Value for Privately Insured Population	93.Contract		IOM-2000000528	No	2,351
Rand Corporation - Hospice Experience of Care Survey	93.Contract		9920130020	No	26,683
The Broad Institute - Host Genetic Factors in Resistance to Lassa Hemorrhagic Fever	93.Contract		6220073-5500000542	No	225,782
Rand Corporation - Implementation of the PDP and MA Plan Disenrollment Reasons Survey	93.Contract		9920130037	No	52,811
Altarum Institute - Inter-professional Case-based Pain Medicine Curriculum for Students of Dentistry, Medicine, Pharmacy and Nursing in Boston, MA	93.Contract		SC-12-026	No	96,686
New England Research Institutes, Inc. - IPS Cell Core: Mapping Transcriptional Networks in Cardiac Development	93.Contract		No Award Number	No	19,340
Science Applications International Corporation Frederick - Just-in-time Accession of Clinically Annotated Pathology Specimens for Molecular Marker Research	93.Contract		28XS155	No	757
Seattle Children's Research Institute - Measuring Protective Immune Responses to CMV during immunosuppression in rhesus macaques	93.Contract		10882SUB	No	13,158
Avram Corporation - Modeling Maternal and Child Health Policy in Ethiopia	93.Contract		20120229	No	51,239
University of Massachusetts - Worcester - National Children's Study: Worcester Center	93.Contract		6089703/RFS800114	No	(739)
Rand Corporation - National Implementation of Medicare Advantage and Prescription Drug Plan CAHPS Survey	93.Contract		9920120015	No	523,544
ECRI - NGC and NQMC	93.Contract		HHSA29020071005	No	2,478
ECRI - NGC-NQMC	93.Contract		HHSA290201300006C	No	44,323
The Wistar Institute - Protective Immunity in Special Populations	93.Contract		29902-06-307	No	360,436
Health Research and Educational Trust - RFTO 30: Comprehensive Patient Safety and Medical Liability Communication and Resolution Program Educational Toolkit	93.Contract		80322	No	29,099
Tulane University - Roles of Protective or Pathogenic B Cell Epitopes in Human Lassa Fever	93.Contract		TUL-HSC-508-13/14	No	105,062
The Broad Institute - Targeting the Mitochondrion of P. Falciparum	93.Contract		2014-Harvard-1	No	5,808
SciMetrika LLC - The Green Housing Study Environmental Health Impacts on Women and Children in Low-Income Family Housing	93.Contract		No Award Number	No	17,415
Brigham and Women's Hospital - The Long-term Oxygen Treatment Trial	93.Contract		101949	No	105,245
Chickasaw Nation Industries, Inc - The Medical Device Epidemiology Network [MDEpiNET] Methodology Center	93.Contract		717-00368-000-2	No	392,615
University of Notre Dame - VectorBase	93.Contract		208000	No	113,352
<b>Subtotal of 93.Contract</b>	<b>93.Contract</b>				<b>3,234,450</b>
Social + Scientific Systems, Inc. - A5260: Cardiovascular, Anthropometric, and Skeletal Effects of ART Initiation with FTC/TDF plus ATV/r, DRV/r or RAL Metabolic Study of A5257	93.Unknown		CRB-SSS-S-11-001863	No	171,679
Scripta Research Institute - Anti-body Clustering Project	93.Unknown		UAH100663A	No	30,000
Commonwealth of Massachusetts/Department of Public Health - Commonwealth of Massachusetts Department of Public Health Hospital Preparedness Program 2013 Exercise Series	93.Unknown		MDPH-FY14	No	440,692
Brigham and Women's Hospital - Comparing the long-term and real-world effectiveness of initial management strategies for DCIS	93.Unknown		106114-HSPH	Yes	(9,986)
Brigham and Women's Hospital - Electronic records for comparative effectiveness: emulating a randomized trial	93.Unknown		106073	Yes	8,150
Massachusetts Eye and Ear Infirmary - Immunobiology of Corneal Antigen Presenting Cells	93.Unknown		No Award Number	No	172
ICF International, Inc - Mapping Executive Function: Translating Research Evidence for Application	93.Unknown		13ASPO0525	No	19,963
University of Ibadan - Medical Education Partnership Initiative in Nigeria	93.Unknown		7/225/7/HSPH-04	No	354,651
Brigham and Women's Hospital - Prevalence, Risk Factors and Consequences of Complex M. Tuberculosis Infections	93.Unknown		105405	No	69,805
Brigham and Women's Hospital - Testing Novel Interventions to Protect Workers from Airborne Infections	93.Unknown		108333	No	85,214
<b>Subtotal of 93.Unknown</b>	<b>93.Unknown</b>				<b>1,170,340</b>
<b>Total DHHS Sub Award</b>					<b>53,177,672</b>
<b>Director of National Intelligence</b>					
University of Copenhagen - Multi-Qubit Systems Bases on Electron Spins in Coupled Quantum	99.Unknown		No Award Number	No	604,469
<b>Subtotal of 99.Unknown</b>	<b>99.Unknown</b>				<b>604,469</b>
<b>Total Director of National Intelligence Sub Award</b>					<b>604,469</b>
<b>EPA</b>					
Health Effects Institute - Causal Inference Methods for Estimating Long Term Health Effects of Air Quality Regulations	66.500		4909-RFA11-1/12-3	No	240,133
<b>Subtotal of 66.500</b>	<b>66.500</b>				<b>240,133</b>
University of Pittsburgh - Community Stressors and Susceptibility to Air Pollution in Urban Asthma	66.509		0023157-40713-2	No	48,521
<b>Subtotal of 66.509</b>	<b>66.509</b>				<b>48,521</b>
<b>Total EPA Sub Award</b>					<b>288,654</b>
<b>Institute of Museum and Library Services</b>					
California Academy of Sciences - Connecting Content: A Collaboration to Link Field Notes to Specimens and Published Literature: Archives and Specimens from the Birds of the Cambridge Region	45.Unknown		No Award Number	No	5,276
California Academy of Sciences - Flora of the Metropolitan Park	45.Unknown		No Award Number	No	34,899
<b>Subtotal of 45.Unknown</b>	<b>45.Unknown</b>				<b>40,175</b>
<b>Total Institute of Museum and Library Services Sub Award</b>					<b>40,175</b>
<b>NASA</b>					
Massachusetts Institute of Technology - Evolution of Complex Life: Environmental Transitions, Preservation, and Detection on Earth and Beyond	43.001		5710003359	No	413,895
Boston University - 4-D Modeling of the Regional Carbon Cycle in and Around Urban Environments: An Interdisciplinary Study to Advance Observational and Modeling Foundations	43.001		4500001065	No	132,229
Smithsonian Astrophysical Observatory - A Chandra HETGS Study of 4U1323-619: Binary Wind Properties, X-ray Burst, Distance and Studies of Interstellar Medium	43.001		G02-13055X	No	10,934
California Institute of Technology - A Search for Exomoons	43.001		2-1090928	No	130,280
Jet Propulsion Laboratory - Assessing OCO-2 Predicted Sensitivity and Errors	43.001		1448707	No	66,992
Smithsonian Astrophysical Observatory - ChaMPPlane-III: Maximizing Chandra's Legacy in the Galactic Plane	43.001		AR9-0013X	No	2,960
California Institute of Technology - Constraining Fluxes of Carbon with Total Column Measurements of CO2 and CH4	43.001		65P-1090638	No	135,574
Columbia University - Development of a Self-Consistent Model for Spatial and Temporal Sea-Level Variations that Integrates Data on Cryospheric Mass Change, Ocean Dynamics, and Solid-Earth Loading	43.001		2 (GG001723)	No	53,731
Monterey Bay Aquarium Research Institute - Exploration of deep-sea and hydrothermal vent microbial communities using the Environmental Sample Processor (ESP): Integration of geochemical sensing, autonomous sample acquisition and processing.	43.001		PO 0910170	No	30,142
Regents of the University of California - San Diego - Gravitational Tests via Lunar Laser Ranging: APOLLO Analysis and Acquisition	43.001		10323360	No	52,413
Smithsonian Astrophysical Observatory - Late-time X-rays to Extract the True Energy of Nearby GRBs	43.001		G03-14061X	No	24,377
Smithsonian Astrophysical Observatory - Nonthermal Particle Acceleration in Pulsar Wind Nebulae and Trans-Relativistic Shocks	43.001		PFI-120090	No	97,306

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Smithsonian Astrophysical Observatory - Participation in the Investigation of the Global Distribution of Tropospheric Ozone measured by the OMI and GOME-2 instruments using GM1 chemistry transport model	43.001		SV3-83005	No	36,997
Jet Propulsion Laboratory - Probing the z 2 Mass-Metallicity Relationship with Gamma-Ray Bursts	43.001		1465573	No	11,336
Smithsonian Astrophysical Observatory - Stellar Homicide - The Forensics of Tidal Disruption	43.001		PF3-140108	No	96,368
Smithsonian Astrophysical Observatory - The Thermodynamics of X-ray binary winds mapped to accretion states	43.001		TM3-14004X	No	50,075
<b>Subtotal of 43.001</b>	<b>43.001</b>				<b>1,345,609</b>
University of Colorado at Boulder - Inverse Modeling and Attainment Analysis for Improved Decision Support of PM2.5 Air Quality	43.002		1547390	No	28,404
<b>Subtotal of 43.002</b>	<b>43.002</b>				<b>28,404</b>
Jet Propulsion Laboratory - Carbon in Arctic Reservoirs Vulnerability Experiment	43.006		1444889	No	415,493
<b>Subtotal of 43.006</b>	<b>43.006</b>				<b>415,493</b>
California Institute of Technology - High-Resolution Mars Polar Stratigraphy and Paleoclimate Proxies	43.AAA		65P-1089456	No	(411)
<b>Subtotal of 43.AAA</b>	<b>43.AAA</b>				<b>(411)</b>
Jet Propulsion Laboratory - Consortium for Ultracold Atoms in Space	43.Contract		1505737	No	146
Jet Propulsion Laboratory - Constraining Dark Energy and Modified Gravity with Euclid	43.Contract		1477595	No	5,000
Jet Propulsion Laboratory - Herschel Spectroscopy of Spitzer's Extended Green Objects: Tracing the Earliest Stages of Massive Star Formation	43.Contract		1485735	No	12,029
Cornell University - Mars Exploration Rover (MER) Athena Payload and Science Investigation	43.Contract		39361-6448	No	28,126
Smithsonian Astrophysical Observatory - Participation in Tropospheric Emissions: Monitoring of Pollution (TEMPO) Program	43.Contract		SV3-83020	No	1,511
Atmospheric & Environmental Research, Inc - Prototype Monitoring, Reporting, and Verification System for the Boston-D.C. Corridor	43.Contract		P1864-04	No	2,907
Jet Propulsion Laboratory - Spitzer Observations of GRB Hosts: A Legacy Approach	43.Contract		1477489	No	42,000
<b>Subtotal of 43.Contract</b>	<b>43.Contract</b>				<b>91,719</b>
University of Southern California - Development of the AIRMOSS Level 4 Net Ecosystem Exchange (NEE) products using the ED2 terrestrial biosphere model	43.Unknown		Y88242	No	129,605
Regents of the University of California - Los Angeles - Estimation and Attribution of Global CO2 Surface Fluxes Using Satellite Observation of CO2 and CO from TES, GOSAT, and MOPITT	43.Unknown		2095 G NA056	No	58,838
Jet Propulsion Laboratory - Euclid-relevant data products from cosmological N-body simulations	43.Unknown		1493906	No	16,568
Southwest Research Institute - Juno Project	43.Unknown		699042X	No	5,139
California Institute of Technology - Measuring the Frequency of Massive Planets around M Dwarfs with Microlensing	43.Unknown		2-1094132	No	95,718
Jet Propulsion Laboratory - RAISIN: Tracers of cosmic expansion with SN IA in the IR	43.Unknown		1474640	No	1,540
Massachusetts Institute of Technology - Requirements for the Development and Maintenance of Multicellular Life	43.Unknown		5710002514	No	19,909
Massachusetts Institute of Technology - The Requirements for Development and Maintenance of Multicellular Life	43.Unknown		5710002311	No	35,507
Jet Propulsion Laboratory - Tracers of cosmic expansion with SN IA in the IR	43.Unknown		No Award Number	No	7,123
Space Telescope Science Institute - Understanding the Progenitor Systems, Explosion Mechanism, and Cosmological Utility of Type Ia Supernovae	43.Unknown		HST-GO-12592.03-A	No	12,444
Space Telescope Science Institute - UV Studies of a Core Collapse Supernova	43.Unknown		HST-GO-12242.01-A	No	32,426
Jet Propulsion Laboratory - Validating the First Habitable-Zone Planet Candidates Identified by the NASA Kepler Mission	43.Unknown		1439255	No	76,098
<b>Subtotal of 43.Unknown</b>	<b>43.Unknown</b>				<b>490,915</b>
Smithsonian Institution - Burch Fellowship for Joanna Christodoulou	85.Unknown		13-STIP-190-0000284141	No	24,696
<b>Subtotal of 85.Unknown</b>	<b>85.Unknown</b>				<b>24,696</b>
<b>Total NASA Sub Award</b>					<b>2,396,425</b>
<b>National Endowment for the Humanities</b>					
The Getty - Getty Research Institute Fellowship	45.Unknown		No Award Number	No	21,000
<b>Subtotal of 45.Unknown</b>	<b>45.Unknown</b>				<b>21,000</b>
<b>Total National Endowment for the Humanities Sub Award</b>					<b>21,000</b>
<b>National Science Foundation</b>					
University of Colorado - A New Approach for Directed Genome Engineering	47.041		1547883	No	4,589
Boise State University - Atomically Precise, Defect Free, DNA Masks with Embedded Metrology	47.041		5923-A	No	16,016
Northwestern University - Cyber-Enabled Discovery in Neuromechanical Systems	47.041		SP0007393-PROJ0002372	No	5,189
Massachusetts Institute of Technology - DMREF: Computational Design Principles for Functional DNA-Based Materials	47.041		5710003576	No	32,416
Pennsylvania State University - EFRI: Creating Opportunities for Adaptation Based on PULSE	47.041		4232-HSPH-NSF-8264	No	80,330
Massachusetts Institute of Technology - EFRI-ODISSEI: Programmable Origami for Integration of Self-assembling Systems in Engineered Structures	47.041		5710003264	No	109,701
Ginkgo Bio works - ERC-Small Business: Development of a phage-resistant bacterial chassis	47.041		No Award Number	No	21,454
Virginia Polytechnic Institute and State University - Multifunctional Materials Exhibiting Distributed Actuation, Sensing, and Control: Uncovering the Hierarchical Control of Fish for Developing Smarter Materials	47.041		478175-19838	No	65,056
Massachusetts Institute of Technology - Scalable Nanomanufacturing: Digital Optofluidic Self Assembly of Heterogeneous Metamaterials	47.041		5710003007	No	67,732
Regents of the University of California - Berkeley - SynBERC: Synthetic Biology Engineering Research Center	47.041		SA5283-11210	No	482,192
Georgia Institute of Technology/Georgia Tech Research Corpor - Uncertainties in HVAC System Operations	47.041		RB061-G3	No	94,006
<b>Subtotal of 47.041</b>	<b>47.041</b>				<b>978,681</b>
Yale University - ACME: Advanced Cold Molecule Electron Electric Dipole Moment Search	47.049		C10D10472	No	838,963
Massachusetts Institute of Technology - Center for Ultracold Atoms	47.049		5710003095	No	1,252,805
Northwestern University - Chirality in Aerosol Chemistry	47.049		SP0013325-PROJ0003568	No	118,472
Board of Regents of the University of Arizona - Galaxies at Redshifts z~2: The Apex of the Galaxy Formation	47.049		22914	No	61,195
Institute for Advanced Studies - Galois Representations and Modular Forms	47.049		IAS 7412-3132	No	19,470
University of Vermont - Particle Hysteresis And Solidification Experiment Optical and Nucleation Effects (PHASE-ONE)	47.049		SUB1289/26666	No	78,533
California Institute of Technology - Powering the Planet: A Chemical Bonding Center in the Direct Conversion of Sunlight into Chemical Fuel	47.049		68D-1093737	No	66,173
Purdue University - Quantum Information for Quantum Chemistry: Phase I	47.049		4101-38947	No	33,638
<b>Subtotal of 47.049</b>	<b>47.049</b>				<b>2,469,249</b>
University of Washington - Algorithm Development for Data Products, Calibration, and QC for MASSP Instruments	47.050		749906	No	35,576
University of Southern California - Biogeography and diversity of methane and sulfur-cycling ecotypes in deep subsurface sediments	47.050		41939116	No	29,333
University of Southern California - Constraining activity in the deep biosphere via metabolomics	47.050		43130568	No	49,679
University of Southern California - Geoinformatics: Community Computational Platforms for Developing Three-Dimensional Models of Earth Structure	47.050		33760796	No	51,895
Woods Hole Oceanographic Institution - INSPIRE Track 1: Transforming Remotely-conducted Research through Ethnography, Education and Rapidly-Evolving Technologies	47.050		A101073	No	119,677
University of Southern California - Key Variables for modeling rates of microbially mediated sulfate reduction	47.050		32967577	No	16,000

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Board of Regents of the University of Arizona - Long-Term Vulnerability of natural and Human Ecosystem to Climate and Fire Regime Changes in Southwestern Forests	47.050		11759	No	70,335
University of Southern California - Microbial sulfate reduction at a low-temperature ridge flank, the Dorado Outcrop	47.050		41940192	No	25,666
University of Southern California - Microbial transformations of recalcitrant organic carbon in the deep biosphere	47.050		32966990	No	14,525
Columbia University - Pliocene MAXimum sealevel (PLIOMAX): Dynamic ice sheet-Earth response in a warmer world	47.050		1 (GG006124)	No	48,442
University of Southern California - SCEC4	47.050		Y86595	No	125,744
<b>Subtotal of 47.050</b>	<b>47.050</b>				<b>586,872</b>
Massachusetts Institute of Technology - A Center for Brains, Minds, and Machines: The Science and the Technology of Intelligence	47.070		5710003525	No	387,249
Arizona State University - A Toolkit to Evaluate the Effect of Multitouch Interaction of Musculoskeletal System and Design Safe Multitouch Systems	47.070		10-401	No	20,742
Clemson University - Advanced Cyberinfrastructure - Research and Educational Facilitation: Campus-Based Computational Research Support	47.070		1716-206-2009949	No	41,384
Worcester Polytechnic Institute - BPC-DP: Deploying a Vertically-Integrated Computing Curriculum to At-Risk Students	47.070		11-202610-02	No	1,670
Massachusetts Institute of Technology - Printable Robots: An Expedition in Computing for Compiling Functional Physical Machines	47.070		5710003169	No	212,395
<b>Subtotal of 47.070</b>	<b>47.070</b>				<b>663,440</b>
University of Utah - ABI Innovation: Building and sharing molecular visualizations with Molecular ViewBook	47.074		10031426-00	No	1,132
University of Utah - ABI Innovation: Building and Sharing Molecular Visualizations with Molecular ViewBook	47.074		10031426-01	No	2,636
Regents of the University of California - Berkeley - Collaborative Proposal: Harnessing the Power of Herbaria to Understand the Changing Flora of California: A Biodiversity Hotspot in Peril	47.074		7364	No	18,786
Oregon State University - Collaborative Research: AVATOL-Next Generation Phenomics for the Tree of Life	47.074		S1451A-A	No	21,747
University of New Hampshire - Collaborative Research: Digitization TCN: The Macro algal Herbarium Consortium: Accessing 150 Years of Specimen Data to Understand Changes in the Marine/Aquatic Environment	47.074		14-014	No	2,111
Arizona State University - Collaborative Research: Southwest Collections of Arthropod Network (SCAN): A Model for Reciprocally Enhancing Heterogeneous Collections to Promote Taxonomic, Ecological, and Evolution	47.074		12-902	No	42,008
Cornell University - Long-term Ecological Research at the Hubbard Brook Experimental Forest	47.074		61468-9774	No	35,371
Regents of the University of California - Berkeley - Synthetic biology for yeast	47.074		8319	No	122,061
University of Colorado at Boulder - Task Force for Envisioning the Next Generation Office of the Long-Term Ecological Research Program	47.074		1550954	No	13,383
<b>Subtotal of 47.074</b>	<b>47.074</b>				<b>259,235</b>
Boston University - CNH-Ex: Shifting Land Use and Forest Conservation: Understanding the Coupling of Social and Ecological Processes along Urban-to-Rural Gradients	47.075		4500001107	No	10,859
Regents of the University of Minnesota - IPUM International - Preservation of Census Microdata	47.075		H000546701	No	(1,683)
New York University - IRADS: Transitions, Culture and Development	47.075		F6070-01	No	(2,023)
Boston University - NSF-CELEST: Fluid Allocation of Attentional Resources	47.075		4500000283	No	93,224
Pennsylvania State University - Opposition, Rhetoric, and Democratic-Styled Institutions in the Middle East and North Africa	47.075		4110-HU-NSF-4260	No	32,162
<b>Subtotal of 47.075</b>	<b>47.075</b>				<b>132,539</b>
Museum of Science - Creating Communities of Learners for Informal Cognitive Science Education	47.076		4552-HU-01	No	16,305
Smithsonian Astrophysical Observatory - Investigating a Framework for STEM-Reading to Support Secondary School Students with Reading Disabilities	47.076		SV2-82008	No	13,554
Duke University - Preparing Graduate Students to Teach Undergraduate Mathematics: A Working Conference	47.076		13-NSF-1037	No	156
Massachusetts Institute of Technology - Scratched: Working with Teachers to Develop Design-based Approaches to the Cultivation of Computational Thinking	47.076		5710003318	No	307,882
University of Massachusetts - Boston - Supporting Large Scale Science Education Change: Understanding Online Professional Development and Adoption Variation Related to the Revised Advanced Placement Curriculum	47.076		S2013 20541	No	94,482
Massachusetts Institute of Technology - Understanding the edX MOOC: How can 'Circuits and Electronics' (6.002x) help us understand the MOOC learning experience	47.076		5710003314	No	55,815
<b>Subtotal of 47.076</b>	<b>47.076</b>				<b>488,194</b>
Board of Regents of the University of Arizona - PIRE: Carbon, Water and Vegetation Dynamics of Amazon Forests Under Climatic Variability and Change	47.079		Y482857	No	47,918
<b>Subtotal of 47.079</b>	<b>47.079</b>				<b>47,918</b>
Board of Regents of the University of Arizona - Collaborative Research: Tracking Galaxy Growth with 200,000 Spectroscopic Redshifts	47.082		22011	Yes	5,392
University of Colorado at Boulder - Did the First Angiosperms Lack an Embryo-Nourishing Endosperm	47.082		1549093	Yes	42,043
Stanford University - MRI-MR2:Development of POLAR-1, an Expandable 5,000-detector CMB Polarimeter	47.082		25319680-46990-B	Yes	119,131
Cornell University - NNIN: National Nanotechnology Infrastructure Network	47.082		44771-7479	No	718,291
<b>Subtotal of 47.082</b>	<b>47.082</b>				<b>884,857</b>
LSST Corporation - Development of flat fielding calibration optics	47.Contract		C44073L	No	12,628
California Institute of Technology - Powering the Planet: A CCI Center for the Direct Conversion of Sunlight into Chemical Fuel	47.Contract		68D-1094592	No	95,952
<b>Subtotal of 47.Contract</b>	<b>47.Contract</b>				<b>108,580</b>
Children's Hospital Boston - Programmable Second Skin to Re-educate Injured Nervous Systems	47.Unknown		80295	No	43,306
National Bureau of Economic Research - Regulating Industrial Pollution: Experimental Evidence from India	47.Unknown		40-3544-00-0-79-299-7700	No	42,473
<b>Subtotal of 47.Unknown</b>	<b>47.Unknown</b>				<b>85,779</b>
<b>Total National Science Foundation Sub Award</b>					<b>6,705,344</b>
<b>U.S. Institute of Peace</b>					
Consortium of Humanitarian Agencies - Post-War Resettlement of Women IDPs in Northern Sri Lanka	91.002		USIP-191-12F CHA-HSPH	No	10,695
<b>Subtotal of 91.002</b>	<b>91.002</b>				<b>10,695</b>
<b>Total U.S. Institute of Peace Sub Award</b>					<b>10,695</b>
<b>Total Research and Development Cluster Sub Award</b>					<b>82,886,579</b>
<b>Total Research and Development Cluster</b>					<b>\$ 586,006,844</b>

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
<b>Student Financial Assistance Cluster</b>					
<b>Direct award</b>					
<b>Department of Education</b>					
Federal SEOG 2013 - 2014	84.007	P007A1061874		No	2,209,859
<b>Subtotal of 84.007</b>	<b>84.007</b>				<b>2,209,859</b>
Federal Pell Grant 2012-2013	84.063	P063P120187		No	(4,242)
Federal Pell Grant 2013-2014	84.063	P063P120187		No	5,532,455
<b>Subtotal of 84.063</b>	<b>84.063</b>				<b>5,528,213</b>
Federal Work Study	84.033	No Award Number		No	1,797,560
<b>Subtotal of 84.033</b>	<b>84.033</b>				<b>1,797,560</b>
Teacher Education Assistance for College and Higher Education Grant (TEACH)	84.379	P379T130187		No	15,856
<b>Subtotal of 84.379</b>	<b>84.379</b>				<b>15,856</b>
<b>Total Department of Education Direct Award</b>					<b>9,551,488</b>
<b>DHHS</b>					
HPSL - Dentistry	93.342	1E11HP26052-01-00		No	22,693
<b>Subtotal of 93.342</b>	<b>93.342</b>				<b>22,693</b>
<b>Total DHHS Direct Award</b>					<b>22,693</b>
<b>Total Student Financial Assistance Cluster Direct Award</b>					<b>9,574,181</b>
<b>Total Student Financial Assistance Cluster</b>					<b>9,574,181</b>
<b>Other Programs</b>					
<b>Direct awards</b>					
<b>Agency for International Development</b>					
Inter-University Partnerships for Strengthening Health Systems in Indonesia: Building New Capacity for Mental Health Care	98.001	AID-497-A-11-00017		No	333,125
<b>Subtotal of 98.001</b>	<b>98.001</b>				<b>333,125</b>
IPA for Assignment as the Scientific Director for the Development Innovation Ventures Team	98.Unknown	No Award Number		No	66,953
The Lower Mekong Public Policy Initiative	98.Unknown	AID-OAA-A-13-00033		No	329,868
<b>Subtotal of 98.Unknown</b>	<b>98.Unknown</b>				<b>396,821</b>
<b>Total Agency for International Development Direct Award</b>					<b>729,946</b>
<b>Department of Commerce</b>					
U.S. International Trade Commission Founding Member	11.Unknown	ITC-CN-13-0006		No	49,159
<b>Subtotal of 11.Unknown</b>	<b>11.Unknown</b>				<b>49,159</b>
<b>Total Department of Commerce Direct Award</b>					<b>49,159</b>
<b>Department of Defense</b>					
Curriculum Development for the National Guard Homeland Security Institute	12.Contract	W912SV-12-C-0002		No	(297)
Curriculum Development for the National Guard Homeland Security Institute, Phase III	12.Contract	W912SV-13-P-0201		No	71,548
General and Flag Officer Homeland Security Executive Officer Training	12.Contract	W912SV-13-P-0187		No	127,656
Leadership and Homeland Security	12.Contract	W912SV-13-C-0005		No	127,090
<b>Subtotal of 12.Contract</b>	<b>12.Contract</b>				<b>325,997</b>
General and Flag Officer Homeland Security Executive Seminar	12.Unknown	W912SV-14-P-0079		No	122,355
<b>Subtotal of 12.Unknown</b>	<b>12.Unknown</b>				<b>122,355</b>
<b>Total Department of Defense Direct Award</b>					<b>448,352</b>
<b>Department of Education</b>					
National Resource Centers and Foreign Language Area Studies	84.015A	P015A060104-09		No	15
National Resource Centers for Davis Center for Russian and Eurasian Studies	84.015A	P015A100139-13		No	176,441
National Resource Centers for Center for Middle Eastern Studies	84.015A	P015A100113-13		No	171,906
National Resource Centers for Committee on African Studies	84.015A	P015A100004-13		No	195,292
National Resource Centers for East Asian Studies	84.015A	P015A100032-13		No	148,708
NRC Portion- Comprehensive National Resource Center	84.015A	P015A060130-09		No	(18)
<b>Subtotal of 84.015A</b>	<b>84.015A</b>				<b>692,344</b>
Foreign Language and Area Studies Fellowships for Center for Middle Eastern Studies	84.015B	P015B100113-13		No	228,166
Foreign Language and Area Studies Fellowships for Committee on African Studies	84.015B	P015B100004-13		No	277,650
Foreign Language and Area Studies Fellowships for East Asia Center	84.015B	P015B100032-13		No	157,085
Foreign Language and Area Studies for Davis Center for Russian and Eurasian Studies	84.015B	P015B100139-13		No	370,917
<b>Subtotal of 84.015B</b>	<b>84.015B</b>				<b>1,033,818</b>
Enhanced Language Instruction for African Studies (ELIAS)	84.017A	P017A090329		No	135,088
<b>Subtotal of 84.017A</b>	<b>84.017A</b>				<b>135,088</b>
Jacob Javits Fellowship	84.170B	P170B080009-12		No	5,000
Jacob Javits Fellowship	84.170B	P170B090005-10A		No	86,444
Jacob K. Javits Fellowship	84.170B	P17B100010-13		No	228,620
<b>Subtotal of 84.170B</b>	<b>84.170B</b>				<b>320,064</b>
<b>Total Department of Education Direct Award</b>					<b>2,181,314</b>
<b>Department of Homeland Security</b>					
State and Local Homeland Security National Training Program	97.005	EMW-2013-CA-K00067		No	120,591
<b>Subtotal of 97.005</b>	<b>97.005</b>				<b>120,591</b>
<b>Total Department of Homeland Security Direct Award</b>					<b>120,591</b>
<b>Department of State</b>					
Disability Civil Society, Human Rights and Law in China	19.345	S-LMAQM-14-GR-1031		No	32,556
Internet Freedom Monitor	19.345	S-LMAQM-12-GR-1025		No	671,711
<b>Subtotal of 19.345</b>	<b>19.345</b>				<b>704,267</b>
FY2013 Vietnam Fulbright Economics Teaching Program	19.401	S-ECAGD-13-GR-0006		No	502,668
FY2014 Vietnam Fulbright Economics Teaching Program	19.401	S-ECAGD-14-GR-1012		No	1,377,060
<b>Subtotal of 19.401</b>	<b>19.401</b>				<b>1,879,728</b>
<b>Total Department of State Direct Award</b>					<b>2,583,995</b>

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
<b>Department of the Interior</b>					
NAGPRA Consultation/Documentation Grant for Eastern Massachusetts Collections at the Peabody Museum of Archaeology and Ethnology at Harvard University	15.922	25-11-GP-550		No	2,565
NAGPRA Consultation/Documentation Grant for Maricopa County, Arizona Collections at the Peabody Museum of Archaeology and Ethnology at Harvard University	15.922	25-12-GP-573		No	12,958
<b>Subtotal of 15.922</b>	<b>15.922</b>				<b>15,523</b>
<b>Total Department of the Interior Direct Award</b>					<b>15,523</b>
<b>Department of Transportation</b>					
Sleep and Health Education Program: A Web-Based Sleep Disorders Screening Survey and Education Module on Sleep Health and Safety in the Railroad Industry	20.Contract	DTRT57-10-C-10030		No	11,228
<b>Subtotal of 20.Contract</b>	<b>20.Contract</b>				<b>11,228</b>
<b>Total Department of Transportation Direct Award</b>					<b>11,228</b>
<b>DHHS</b>					
MFDP Cooperative Agreement for Minority Workforce Development	93.004	5MPCMP121073-03-00		No	205,865
<b>Subtotal of 93.004</b>	<b>93.004</b>				<b>205,865</b>
Linking Assessment and Measurement to Performance in PHEP Systems (LAMPS)	93.061	5P01TP000307-05REVISED		No	729,855
<b>Subtotal of 93.061</b>	<b>93.061</b>				<b>729,855</b>
Implementation of Programs for the Prevention, Care and Treatment of HIV/AIDS in the United Republic of Tanzania under the President's Emergency Plan for AIDS Relief (PEPFAR)	93.067	3U2GPS001966-04S1 REVISED		No	869,933
Implementation of Programs for the Prevention, Care and Treatment of HIV/AIDS in the United Republic of Tanzania under the President's Emergency Plan for AIDS Relief (PEPFAR)	93.067	5U2GPS001966-05		No	934,526
<b>Subtotal of 93.067</b>	<b>93.067</b>				<b>1,804,459</b>
Preparedness and Emergency Response Learning Centers (PERLC)	93.069	5U90TP000417-04rev		No	360,762
<b>Subtotal of 93.069</b>	<b>93.069</b>				<b>360,762</b>
Mechanics of Hearing Workshop	93.173	1R13DC013514-01		No	18,371
<b>Subtotal of 93.173</b>	<b>93.173</b>				<b>18,371</b>
Rapid Expansion of Antiretroviral Therapy Programs	93.266	6U51HA02522-08-12		No	(2,280)
<b>Subtotal of 93.266</b>	<b>93.266</b>				<b>(2,280)</b>
Harvard Clinical and Translational Science Center	93.350	1UL1TR001102-01 REVISED		No	12,460,461
Harvard Clinical and Translational Science Center (UL1)	93.350	3UL1TR000170-05S1 REVISED		No	8,680,925
<b>Subtotal of 93.350</b>	<b>93.350</b>				<b>21,141,386</b>
Modern Public Health data storage for High volume using the Powervault MD300	93.389	1S10RR031865-01		No	(14,462)
Nonhuman Primate Housing Infrastructure and Caging	93.389	1G20RR032445-01 REVISED		No	242,253
Phase II: Opening the Pipeline for Native High Schools	93.389	5R25RR020406-05 REVISED		No	(1,939)
<b>Subtotal of 93.389</b>	<b>93.389</b>				<b>225,852</b>
Conferences on Emerging Statistical Issues in Biomedical Research	93.393	5R13CA124365-08		No	31,478
<b>Subtotal of 93.393</b>	<b>93.393</b>				<b>31,478</b>
Boston Bacterial Meeting	93.855	1R13AI102383-01		No	5,486
<b>Subtotal of 93.855</b>	<b>93.855</b>				<b>5,486</b>
2012 Dental Reimbursement Program	93.924	1 T22HA24912-01-00		No	(9,646)
2012 Dental Reimbursement Program	93.924	1 T22HA24912-01-00		No	9,646
Ryan White HIV/AIDS Program 2013	93.924	1 T22HA26458-01-00		No	6,219
<b>Subtotal of 93.924</b>	<b>93.924</b>				<b>6,219</b>
West Indies HIV/AIDS Flagship Course	93.Contract	No Award Number		No	17,662
<b>Subtotal of 93.Contract</b>	<b>93.Contract</b>				<b>17,662</b>
China AIDS Medical Training Program	98.Unknown	No Award Number		No	33
<b>Subtotal of 98.Unknown</b>	<b>98.Unknown</b>				<b>33</b>
<b>Total DHHS Direct Award</b>					<b>24,545,148</b>
<b>Institute of Museum and Library Services</b>					
Peabody at Harvard University Historic Alaska Native Kayaks and Related Collections	15.904	ST-03-10-0013-10		No	5,540
<b>Subtotal of 15.904</b>	<b>15.904</b>				<b>5,540</b>
Digital Public Library of America, Digital Hubs Pilot	45.312	LG-00-12-0759-12		No	193,893
<b>Subtotal of 45.312</b>	<b>45.312</b>				<b>193,893</b>
Testing the National Digital Stewardship Residency (NDSR) Model in Boston, MA	45.313	RE-06-13-0055-13		No	40,647
<b>Subtotal of 45.313</b>	<b>45.313</b>				<b>40,647</b>
<b>Total Institute of Museum and Library Services Direct Award</b>					<b>240,080</b>
<b>NASA</b>					
The 6th International GEOS-Chem Meeting (IGC6)	43.001	NNX13AH37G		No	12,468
<b>Subtotal of 43.001</b>	<b>43.001</b>				<b>12,468</b>
John Gee NASA Scholarship	43.Unknown	NNX14AE95H		No	7,500
<b>Subtotal of 43.001</b>	<b>43.Unknown</b>				<b>7,500</b>
<b>Total NASA Direct Award</b>					<b>19,968</b>
<b>National Endowment for the Arts</b>					
Reinstallation of the Renovated and Expanded Asian Art Galleries in the Arthur M. Sackler Museum, Harvard Art Museums	45.024	14-4400-7103		No	5,135
<b>Subtotal of 45.024</b>	<b>45.024</b>				<b>5,135</b>
<b>Total National Endowment for the Arts Direct Award</b>					<b>5,135</b>
<b>National Endowment for the Humanities</b>					
A Digital Archive of Massachusetts Anti-Slavery and Anti-Segregation Petitions	45.149	PW-51056-12		No	83,367
The Giza Project: Consolidated Archaeological Reference Database	45.149	PW-51569-14		No	9,571
Women's Worlds in Qajar Iran: A Digital Archive and Website	45.149	PW-51027-12		No	24,734
<b>Subtotal of 45.149</b>	<b>45.149</b>				<b>117,672</b>
African-American Struggles for Freedom and Civil Rights	45.163	EH-50321-12		No	71,687
<b>Subtotal of 45.163</b>	<b>45.163</b>				<b>71,687</b>

The accompanying notes are an integral part of this schedule.

# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
Pages from the Past: Illuminated Medieval and Renaissance Manuscripts in Boston Area Collections	45.164	GE-50864-14		No	5,872
<b>Subtotal of 45.164</b>	<b>45.164</b>				<u>5,872</u>
<b>Total National Endowment for the Humanities Direct Award</b>					<u>195,231</u>
<b>National Historical Publications and Records Grants</b>					
Those Extraordinary Blackwell's: Leaders of Social Reform in 18th and 19th Century America	89.003	NAR13-RD-10126-13		No	68,947
<b>Subtotal of 89.003</b>	<b>89.003</b>				<u>68,947</u>
<b>Total National Historical Publications and Records Grants Direct Award</b>					<u>68,947</u>
<b>U.S. Institute of Peace</b>					
The International Rule of Law Movement - A Crisis of Legitimacy and the Way forward	91.Contract	IOP-13-284		No	9,000
<b>Subtotal of 91.Contract</b>	<b>91.Contract</b>				<u>9,000</u>
<b>Total U.S. Institute of Peace Direct Award</b>					<u>9,000</u>
<b>Total Other Programs Direct Award</b>					<u>31,223,617</u>
<b>Other Programs</b>					
<b>Sub awards Received</b>					
<b>Department of Agriculture</b>					
Delta Regional Authority - Leadership for the 21st Century: Delta Leadership Institute	10.Contract		No Award Number	No	129,270
<b>Subtotal of 10.Contract</b>	<b>10.Contract</b>				<u>129,270</u>
<b>Total Department of Agriculture Sub Awards</b>					<u>129,270</u>
<b>Department of Education</b>					
The Achievement Network - Increasing Student Achievement Through the Use of Interim Assessment Data: Expanding the Achievement Network Model	84.396C		No Award Number	Yes	315,571
<b>Subtotal of 84.396C</b>	<b>84.396C</b>				<u>315,571</u>
Boston Plan for Excellence - Boston Teacher Residency - Preparing and Supporting Effective Teachers in and for Boston's Turnaround Schools	84.Unknown		No Award Number	Yes	47,055
<b>Subtotal of 84.Unknown</b>	<b>84.Unknown</b>				<u>47,055</u>
<b>Total Department of Education Sub Awards</b>					<u>362,626</u>
<b>Department of Energy</b>					
Battelle Memorial Institute - Battelle Contract No. 98441	81.Contract		98441	No	(17,024)
<b>Subtotal of 81.Contract</b>	<b>81.Contract</b>				<u>(17,024)</u>
<b>Total Department of Energy Sub Awards</b>					<u>(17,024)</u>
<b>Department of Housing &amp; Urban Development</b>					
Neighborhood Reinvestment Corporation - Achieving Excellence in Community Development	14.Unknown		No Award Number	No	167,597
<b>Subtotal of 14.Unknown</b>	<b>14.Unknown</b>				<u>167,597</u>
<b>Total Department of Housing &amp; Urban Development Sub Awards</b>					<u>167,597</u>
<b>Department of State</b>					
Institute of International Education, Inc. - Leila Asadi Fellowship	19.Unknown		No Award Number	No	25,000
<b>Subtotal of 19.Unknown</b>	<b>19.Unknown</b>				<u>25,000</u>
<b>Total Department of State Sub Awards</b>					<u>25,000</u>
<b>Department of Transportation</b>					
Massachusetts Institute of Technology - University Graduate Fellowships - Addressing Safety and Livable Communities	20.701		5710003187	No	50,000
<b>Subtotal of 20.701</b>	<b>20.701</b>				<u>50,000</u>
<b>Total Department of Transportation Sub Award</b>					<u>50,000</u>
<b>DHHS</b>					
National Hispanic Medical Association - Explorations/Reflection in Action	93.004		No Award Number	No	25,614
National Hispanic Medical Association - Leader, Faculty and Career Development Program	93.004		No Award Number	No	56,772
<b>Subtotal of 93.004</b>	<b>93.004</b>				<u>82,386</u>
AIDS Prevention Initiative in Nigeria, Ltd/Gte. - Capacity Building and Technical Assistance Activities	93.067		5U2GPS001058-05	No	228,353
AIDS Prevention Initiative in Nigeria, Ltd/Gte. - Engaging Indigenous Organizations to Sustain and Enhance Comprehensive Clinical Services for the Prevention, Care and Treatment of HIV/AIDS in Nigeria under PEPFAR	93.067		HSPH-01	No	625,613
<b>Subtotal of 93.067</b>	<b>93.067</b>				<u>853,966</u>
Silent Spring Institute - Ethical and Legal Challenges in Communicating Individual Bio monitoring and Personal Exposure Results to Study Participants: Guidance for Researchers and Institutional Review Boards	93.113		7475-Harvard Law	No	31,603
<b>Subtotal of 93.113</b>	<b>93.113</b>				<u>31,603</u>
National Public Health Information Coalition - Planning and Management of a Public Health Community and Community Engagement Project	93.283		1349-01	No	117,610
Association of American Medical Colleges - Public Health Quality Assessment for Mobile Clinics	93.283		No Award Number	No	29,045
<b>Subtotal of 93.283</b>	<b>93.283</b>				<u>146,655</u>
Children's Hospital Boston - National Center on Parent, Family, and Community Engagement	93.600		85058	No	511,706
<b>Subtotal of 93.600</b>	<b>93.600</b>				<u>511,706</u>
Memorial Healthcare System - Memorial Healthcare System Natural Disaster Hurricane Impact Functional Exercise	93.889		No Award Number	No	34,371
<b>Subtotal of 93.889</b>	<b>93.889</b>				<u>34,371</u>
Booz Allen Hamilton - Open-i	93.Contract		101180SB23	No	379,844
Management and Development for Health - Provision of HIV/AIDS Treatment Services by Local Indigenous in the United Republic of Tanzania under the President's Emergency Plan for AIDS Relief	93.Contract		No Award Number	No	107,303
Oregon Health and Science University - Semantic integration of research persons and their resources	93.Contract		9007356 HAR/BAH 100928SB23	No	9,175
<b>Subtotal of 93.Contract</b>	<b>93.Contract</b>				<u>496,322</u>
National Public Health Information Coalition - Developing Science-Based Communication Plans and Activities for Use in Public Health Crises	93.Unknown		No Award Number	No	2,043
Courtesy Associates - GTF.CCC Travel Fund	93.Unknown		No Award Number	No	2,210
<b>Subtotal of 93.Unknown</b>	<b>93.Unknown</b>				<u>4,253</u>
<b>Total DHHS Sub Awards</b>					<u>2,161,262</u>

The accompanying notes are an integral part of this schedule.



# Harvard University

## Schedule of Expenditures of Federal Awards

### Year Ended June 30, 2014

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	ARRA	Federal Expenditures
<b>Institute of Museum and Library Services</b>					
Missouri Botanical Garden - Purposeful Gaming and BHL: engaging the public in improving and enhancing access to digital texts	45.312		No Award Number	No	<u>789</u>
<b>Subtotal of 45.312</b>	<b>45.312</b>				<u>789</u>
<b>Total Institute of Museum and Library Services Sub Awards</b>					<u>789</u>
<b>Total Other Programs Sub Awards</b>					<u>2,879,520</u>
<b>Total Other Programs</b>					<u>34,103,137</u>
<b>Total Expenditures of Federal Awards</b>					<u>629,684,162</u>

The accompanying notes are an integral part of this schedule.

# Harvard University

## Notes to Schedule of Expenditures of Federal Awards

### June 30, 2014

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#### 1. Basis of Presentation

The accompanying Schedule of Expenditures of Federal Awards (the "Schedule") includes the expenditures of Harvard University (the "University") under programs of the federal government for the year ended June 30, 2014. The information in this schedule is presented in accordance with the requirements of U.S. Office of Management and Budget (OMB) Circular A-133, *Audits of States, Local Governments and Nonprofit Organizations*. Therefore, some amounts presented in this schedule may differ from amounts presented in, or used in the preparation of, the basic financial statements of the University. Negative amounts represent adjustments or credits to amounts reported as expenditures in prior years. CFDA numbers and pass-through numbers are provided when available.

For purposes of the Schedule, Federal awards include all grants, contracts and similar agreements entered into directly between the University with agencies and departments of the Federal government and all subawards to the University by nonfederal organizations pursuant to Federal grants, contracts and similar agreements.

The term "Revised" accompanying the award numbers on the Schedule represents a revised Notice of Grant Award (NGA).

#### 2. Summary of Significant Accounting Policies

Expenditures reported in the Schedule are reported on the accrual basis of accounting. Such expenditures are recognized following the cost principles contained in OMB Circular A-21, *Cost Principles for Educational Institutions*, wherein certain types of expenditures are not allowable or are limited to reimbursement.

#### 3. Facilities and Administrative Costs

The University recovers facilities and administrative costs associated with sponsored agreements pursuant to separate arrangements negotiated with the University's Federal cognizant agency by each of the Medical School, School of Public Health, and the University Area. Predetermined facilities and administrative rates have been established for the University Area and Medical School (including the School of Dental Medicine) through June 30, 2015. The School of Public Health has had provisional indirect cost rates since the beginning of fiscal year 2014.

Facilities and administrative cost recoveries associated with training programs generally represent the maximum administrative overhead allowance allowed by the sponsors. The University also recovers administrative cost allowances from certain campus-based student financial assistance programs.

**Harvard University**  
**Notes to Schedule of Expenditures of Federal Awards**  
**June 30, 2014**

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**4. Awards to Subrecipients**

Certain Federal funds are provided to subrecipient organizations by the University. The following expenditures incurred by these subrecipients are reimbursed by the University and included on the Schedule for the year ended June 30, 2014.

Program/Cluster/Title of Grant	CFDA #	Amount
Research and Development Cluster	Various	\$ 113,829,002
Harvard Clinical and Translational Science Center	93.350	13,180,977
Implementation of Programs for the Prevention, Care and Treatment of HIV/AIDS in the United Republic of Tanzania under the President's Emergency Plan for AIDS Relief (PEPFAR)	93.067	524,908
Linking Assessment and Measurement to Performance in PHEP Systems (LAMPS)	93.061	288,849
Booz Allen Hamilton - Open-i	93.Contract	221,218
Inter-University Partnerships for Strengthening Health Systems in Indonesia: Building New Capacity for Mental Health Care	98.001	196,270
Internet Freedom Monitor	19.345	150,000
Engaging Indigenous Organizations to Sustain and Enhance Comprehensive Clinical Services for the Prevention, Care and Treatment of HIV/AIDS in Nigeria under PEPFAR	93.067	82,145
Capacity Building and Technical Assistance Activities	93.067	48,092
MFDP Cooperative Agreement for Minority Workforce Development	93.004	42,073
Boston Plan for Excellence - Boston Teacher Residency - Preparing and Supporting Effective Teachers in and for Boston's Turnaround Schools	84.Unknown	42,026
National Resource Centers for East Asian Studies	84.015A	23,000
National Resource Centers for Committee on African Studies	84.015A	15,000
Preparedness and Emergency Response Learning Centers (PERLC)	93.069	14,202
Sleep and Health Education Program: A Web-Based Sleep Disorders Screening Survey and Education Module on Sleep Health and Safety in the Railroad Industry	20.Contract	11,228
Rapid Expansion of Antiretroviral Therapy Programs	93.266	(2,279)
	<b>Total</b>	<b>\$ 128,666,711</b>

**5. Federal Student Loan Programs**

The Federal student loan programs listed below are administered directly by the University and balances and transactions relating to these programs are included in the University's consolidated financial statements. The balance of loans outstanding at June 30, 2014 consists of:

	CFDA #	Amount
Perkins	84.038	\$ 66,457,901
FFEL (Includes FISL Sub Stafford, Unsub Stafford, PLUS and SLS)	84.268	572,174
HPSL/LDS/PCL	93.342	10,203,013
Total Federal Student Loans		<b>\$ 77,233,088</b>

The University recovered an administrative cost allowance from the Perkins Loan Program (CFDA #84.038) of \$559,276 for the year ended June 30, 2014. This CFDA # has been closed by the Department of Education because there will be no further Federal Capital Contributions to the Perkins Loan Program. A new CFDA # (CFDA # 84.037) has been created by the Department of Education for Perkins Loans Cancellations. The Perkins Loan Program principal cancelled for the year ended June 30, 2014 is \$338,577.

**Harvard University**  
**Notes to Schedule of Expenditures of Federal Awards**  
**June 30, 2014**

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Loans made by the University to eligible students under the Federal student loan programs and Federally guaranteed loans issued to students during the year ended June 30, 2014 are summarized as follows:

	<b>CFDA#</b>	<b>Amount</b>
Perkins	84.038	\$ 8,875,491
Direct Subsidized Stafford	84.268	1,145,106
Direct Unsubsidized Stafford	84.268	69,457,483
Direct PLUS	84.268	3,641,506
Direct Grad PLUS	84.268	46,738,057
HPSL/PCL	93.342	67,500
		<u><b>\$ 129,925,143</b></u>