Harvard University

Report on Federal Awards in Accordance with the Uniform Guidance
June 30, 2018
EIN #04-2103580

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Part I

Financial Statements and Schedule of Expenditures of Federal Awards

Report of Independent Auditors

To the Joint Committee on Inspection of the Governing Boards of Harvard University:

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, 2018, 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.

Auditors' 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 financial position of Harvard University as of June 30, 2018, 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 previously audited the consolidated balance sheet as of June 30, 2017, and the related consolidated statements of changes in net assets with general operating account detail, changes in net assets of the endowment and of cash flows for the year then ended (not presented herein), and in our report dated October 26, 2017, we expressed an unmodified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying summarized financial information as of June 30, 2017 and for the year then ended is consistent, in all material respects, with the audited consolidated 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, 2018 is presented for purposes of additional analysis as required by Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance) 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 October 25, 2018 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 solely 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 the effectiveness of 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.

PricewaterhouseCoopers LLP

October 25, 2018

BALANCE SHEETS

with summarized financial information as of June 30, 2017

In thousands of dollars	June 30 2018	2017
ASSETS:		
Cash	**$ 144,982**	$ 139,896
Receivables, net *(Note 5)*	**301,258**	261,841
Prepayments and deferred charges	**130,925**	130,701
Notes receivables, net *(Note 6)*	**381,795**	383,063
Pledges receivables, net *(Note 7)*	**1,837,792**	1,948,026
Fixed assets, net *(Note 8)*	**7,732,172**	7,125,898
Interests in trusts held by others *(Note 3)*	**408,968**	397,161
Securities pledged to counterparties, at fair value *(Notes 3 and 4)*	**162,790**	57,551
Investment portfolio, at fair value *(Notes 3 and 4)*	**45,647,599**	43,275,926
TOTAL ASSETS	**$ 56,748,281**	**$ 53,720,063**
LIABILITIES:		
Accounts payable	**$ 359,847**	$ 346,322
Deferred revenue and other liabilities	**1,327,454**	930,439
Other liabilities associated with the investment portfolio *(Notes 3, 4 and 11)*	**884,501**	920,558
Liabilities due under split interest agreements *(Note 10)*	**862,413**	840,736
Bonds and notes payable *(Note 11)*	**5,300,921**	5,431,090
Accrued retirement obligations *(Note 12)*	**983,552**	1,092,275
Government loan advances *(Note 6)*	**65,409**	72,564
TOTAL LIABILITIES	**9,784,097**	**9,633,984**
NET ASSETS	**46,964,184**	**44,086,079**
TOTAL LIABILITIES AND NET ASSETS	**$ 56,748,281**	**$ 53,720,063**

	Unrestricted	Temporarily restricted	Permanently restricted	June 30 2018	2017
NET ASSETS:					
General Operating Account (GOA) *(Note 9)*	$ 4,592,384	$ 2,480,144	$ 98,769	$ 7,171,297	$ 6,455,723
Endowment *(Note 9)*	6,757,253	24,125,090	8,351,393	39,233,736	37,096,474
Split interest agreements *(Note 10)*		54,781	504,370	559,151	533,882
TOTAL NET ASSETS	**$ 11,349,637**	**$ 26,660,015**	**$ 8,954,532**	**$ 46,964,184**	**$ 44,086,079**

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

STATEMENTS OF CHANGES IN NET ASSETS WITH GENERAL OPERATING ACCOUNT DETAIL

with summarized financial information for the year ended June 30, 2017

In thousands of dollars	Unrestricted	Temporarily Restricted	Permanently Restricted	For the year ended June 30 2018	2017
OPERATING REVENUE:					
Student income:					
Undergraduate program	$ 327,171			**$ 327,171**	$ 313,224
Graduate and professional degree programs	585,797			**585,797**	559,474
Board and lodging	190,495			**190,495**	184,732
Continuing education and executive programs	458,047			**458,047**	410,664
Scholarships applied to student income *(Note 13)*	(439,445)			**(439,445)**	(413,870)
Total student income	1,122,065	0	0	**1,122,065**	**1,054,224**
Sponsored support *(Note 14)*					
Federal government – direct costs	453,084			**453,084**	452,852
Federal government – indirect costs	172,223			**172,223**	165,253
Non-federal sponsors – direct costs	85,974	$ 166,023		**251,997**	232,446
Non-federal sponsors – indirect costs	21,882	15,050		**36,932**	34,984
Total sponsored support	733,163	181,073	0	**914,236**	**885,535**
Gifts for current use *(Note 15)*	141,324	325,222		**466,546**	**449,939**
Investment income:					
Endowment returns made available for operations *(Note 9)*	318,607	1,503,038		**1,821,645**	1,787,417
GOA returns made available for operations	176,230			**176,230**	164,893
Other investment income	21,060	4,813		**25,873**	18,462
Total investment income	515,897	1,507,851	0	**2,023,748**	**1,970,772**
Other revenue *(Note 16)*	688,724			**688,724**	638,310
Net assets released from restriction	1,918,360	(1,918,360)		**0**	0
TOTAL OPERATING REVENUE	**5,119,533**	**95,786**	**0**	**5,215,319**	**4,998,780**
OPERATING EXPENSES:					
Salaries and wages	1,943,836			**1,943,836**	1,885,692
Employee benefits *(Note 12)*	569,223			**569,223**	569,030
Services purchased	617,210			**617,210**	591,135
Space and occupancy	410,441			**410,441**	371,349
Depreciation *(Note 8)*	357,965			**357,965**	348,885
Supplies and equipment	268,200			**268,200**	253,163
Interest *(Note 11)*	187,883			**187,883**	202,547
Scholarships and other student awards *(Note 13)*	152,421			**152,421**	147,555
Other expenses *(Note 17)*	511,778			**511,778**	515,229
TOTAL OPERATING EXPENSES	**5,018,957**	**0**	**0**	**5,018,957**	**4,884,585**
NET OPERATING SURPLUS	**100,576**	**95,786**	**0**	**196,362**	**114,195**
NON-OPERATING ACTIVITIES:					
Income from GOA Investments	8,751			**8,751**	14,630
GOA realized and change in unrealized appreciation, net *(Note 3)*	475,207			**475,207**	303,751
GOA returns made available for operations	(176,230)			**(176,230)**	(164,893)
Change in pledge balances *(Note 7)*		28,562		**28,562**	(136,928)
Change in interests in trusts held by others		(740)		**(740)**	(413)
Gifts for facilities and loan funds *(Note 15)*		108,698	$ 529	**109,227**	110,078
Change in retirement obligations *(Note 12)*	143,110			**143,110**	209,981
Other changes related to debt redemption				**0**	(229,357)
Other changes	1,871			**1,871**	(970)
Transfers between GOA and endowment *(Note 9)*	(84,607)	6,465	(5,065)	**(83,207)**	(23,276)
Transfers between GOA and split interest agreements *(Note 10)*		12,637	24	**12,661**	15,204
Non-operating net assets released from restrictions	198,865	(203,930)	5,065	**0**	0
TOTAL NON-OPERATING ACTIVITIES	**566,967**	**(48,308)**	**553**	**519,212**	**97,807**
GENERAL OPERATING ACCOUNT NET CHANGE DURING THE YEAR	**667,543**	**47,478**	**553**	**715,574**	**212,002**
Endowment net change during the year	609,080	1,093,046	435,136	**2,137,262**	1,430,731
Split interest agreements net change during the year *(Note 10)*		943	24,326	**25,269**	32,016
NET CHANGE DURING THE YEAR	**1,276,623**	**1,141,467**	**460,015**	**2,878,105**	**1,674,749**
Net assets, beginning of year	10,073,014	25,518,548	8,494,517	**44,086,079**	**42,411,330**
NET ASSETS, END OF YEAR	**$ 11,349,637**	**$ 26,660,015**	**$ 8,954,532**	**$ 46,964,184**	**$ 44,086,079**

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

STATEMENTS OF CHANGES IN NET ASSETS OF THE ENDOWMENT

with summarized financial information for the year ended June 30, 2017

In thousands of dollars	Unrestricted	Temporarily Restricted	Permanently Restricted	For the year ended June 30 2018	2017
Investment return *(Note 3)*:					
Income from general investments	$ 8,349	$ 39,426		**$ 47,775**	$ 85,465
Realized and change in unrealized appreciation/(depreciation), net	586,968	2,697,738		**3,284,706**	2,566,526
Total investment return	595,317	2,737,164	0	**3,332,481**	**2,651,991**
Endowment returns made available for operations	(318,607)	(1,503,038)		**(1,821,645)**	(1,787,417)
Net investment return	276,710	1,234,126	0	**1,510,836**	**864,574**
Gifts for endowment *(Note 15)*	41,627	247,357	$ 357,315	**646,299**	550,529
Transfers between endowment and the GOA *(Note 9)*	84,607	(6,465)	5,065	**83,207**	23,276
Capitalization of split interest agreements *(Note 10)*		5,229	20,478	**25,707**	29,243
Change in pledge balances *(Note 7)*		(153,808)	14,499	**(139,309)**	(48,892)
Change in interests in trusts held by others *(Note 9)*		(1,331)	13,878	**12,547**	41,739
Other changes	(3,155)	(27,576)	28,706	**(2,025)**	(29,738)
Net assets released from restrictions	209,291	(204,486)	(4,805)	**0**	0
NET CHANGE DURING THE YEAR	**609,080**	**1,093,046**	**435,136**	**2,137,262**	**1,430,731**
Net assets of the endowment, beginning of year	6,148,173	23,032,044	7,916,257	**37,096,474**	35,665,743
NET ASSETS OF THE ENDOWMENT, end of year	**$ 6,757,253**	**$ 24,125,090**	**$ 8,351,393**	**$ 39,233,736**	**$ 37,096,474**

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

STATEMENTS OF CASH FLOWS

with summarized financial information for the year ended June 30, 2017

In thousands of dollars	For the year ended June 30 2018	2017
CASH FLOWS FROM OPERATING ACTIVITIES:		
Change in net assets	**$ 2,878,105**	$ 1,674,749
Adjustments to reconcile change in net assets to net cash (used in) operating activities:		
Depreciation	**357,965**	348,885
Amortization of premium and discount related to bonds and notes payable	**(27,265)**	(55,748)
Realized and change in unrealized (appreciation)/depreciation, net	**(3,829,446)**	(2,956,361)
Change in fair value of interest rate exchange agreements	**(6,463)**	(14,212)
Change in interests in trusts held by others	**(11,807)**	(41,326)
Change in liabilities due under split interest agreements	**46,753**	58,696
Gifts of donated securities	**(179,131)**	(149,964)
Proceeds from the sales of gifts of unrestricted securities	**14,422**	47,615
Gifts for restricted purposes	**(528,138)**	(570,583)
Loss on redemption of debt		50,797
Loss on disposal of assets	**8,281**	32,274
Loss/(gain) on sale of property	**1,644**	(3,003)
Change in accrued retirement obligations	**(108,723)**	(151,571)
Changes in operating assets and liabilities:		
Receivables,net	**(39,417)**	(13,637)
Prepayments and deferred charges	**(224)**	20,352
Pledges receivable, net	**110,234**	186,194
Accounts payable	**(30,544)**	13,198
Deferred revenue and other liabilities	**397,015**	106,195
NET CASH (USED IN) OPERATING ACTIVITIES	**(946,739)**	**(1,417,450)**
CASH FLOWS FROM INVESTING ACTIVITIES:		
Loans made to students, faculty, and staff	**(48,451)**	(50,122)
Payments received on student, faculty, and staff loans	**47,521**	46,210
Change in other notes receivable	**2,198**	2,040
Proceeds from the sales and maturities of investments	**15,309,908**	70,540,252
Purchase of investments	**(14,671,506)**	(59,712,601)
Change associated with repurchase agreements	**700,881**	828,320
Additions to fixed assets	**(937,744)**	(979,169)
Proceeds from sale of property	**1,293**	3,649
NET CASH PROVIDED BY INVESTING ACTIVITIES	**404,100**	**10,678,579**
CASH FLOWS FROM FINANCING ACTIVITIES:		
Change in overdrafts included in accounts payable	**6,356**	(9,159)
Change in split interest liability from new contributions, income and payments to annuitants	**(25,076)**	(9,162)
Proceeds from issuance of debt	**453,767**	3,331,926
Debt repayments	**(556,671)**	(3,072,587)
Proceeds from the sales of gifts of restricted securities	**164,709**	102,349
Gifts restricted for capital purposes	**528,138**	570,583
Affiliated entity contributions and distributions, net	**(16,343)**	(15,411)
Change in repurchase and reverse repurchase agreements		(10,135,778)
Change in government loan advances	**(7,155)**	2,268
NET CASH PROVIDED BY/(USED IN) FINANCING ACTIVITIES	**547,725**	**(9,234,971)**
NET CHANGE IN CASH	**5,086**	**26,158**
Cash, beginning of year	**139,896**	**113,738**
CASH, end of year	**$ 144,982**	**$ 139,896**
Supplemental disclosure of cash flow information:		
Accounts payable related to fixed asset additions	$ 109,181	$ 71,468
Cash paid for interest	$ 215,166	$ 203,778

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

1. UNIVERSITY ORGANIZATION

Harvard University (the "University") is a private, not-for-profit institution of higher education with approximately 6,699 undergraduate and 13,331 graduate students. Established in 1636, the University includes the Faculty of Arts and Sciences, the John A. Paulson 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 accompanying consolidated financial statements have been prepared on the accrual basis of accounting and include the accounts of the University and affiliated organizations controlled by the University. Significant inter-affiliate accounts and transactions have been eliminated.

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 to 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, 2017, from which the summarized information is derived. Certain prior year amounts have been reclassified to conform to current year presentation.

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 99% of the University's unrestricted net assets as of June 30, 2018. 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 appropriated or 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

Revenues earned, expenses incurred, and returns made available for operations for the purpose of teaching, conducting research, and the other programs and services of the University are the components of "Net operating surplus" in the *Statement of Changes in Net Assets with General Operating Account Detail*.

Collections

The University's vast array of museums and libraries contains 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, has formed a captive insurance company, Controlled Risk Insurance Company (CRICO), to provide limited professional liability, general liability, and medical malpractice insurance for its shareholders. The University self-insures a portion of its professional liability and general liability programs and maintains a reserve for incurred claims, including those related to Harvard Medical School activities not occurring in the affiliated teaching hospitals. 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 T.H. Chan 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 limit. 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 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.

On December 22, 2017, the Tax Cuts and Jobs Act (the "Act") was enacted. The Act impacts the University in several ways, including the addition of excise taxes on executive compensation and net investment income, as well as new rules for calculating unrelated business taxable income. The overall impact of the Act remains uncertain until further regulatory guidance is issued. The University continues to evaluate the impact of the Act.

Use of estimates

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

New accounting pronouncements

In January 2016, the Financial Accounting Standards Board (FASB) issued ASU 2016-01, *Recognition and Measurement of Financial Assets and Financial Liabilities,* which address certain aspects of recognition, measurement, presentation and disclosure of financial instruments. This guidance allows an entity to choose, investment-by-investment, to report an equity investment that neither has a readily determinable fair value, nor qualifies for the practical expedient for fair value estimation using net asset value (NAV), at its cost minus impairment (if any), plus or minus changes resulting from observable price changes in orderly transactions for the identical or similar investment of the same issue. Impairment of such investments must be assessed qualitatively at each reporting period. Entities must disclose their financial assets and liabilities by measurement category and form of asset either on the face of the statement of financial position or in the accompanying notes. The ASU is effective for fiscal year 2020 for the University. The provision to eliminate the requirement to disclose the fair value of financial instruments measured at cost (such as the fair value of debt) has been early adopted by the University for fiscal year 2016. The University is currently evaluating the impact of the remaining new guidance on the consolidated financial statements.

In August 2016, the FASB issued ASU 2016-14, *Presentation of Financial Statements for Not-for-Profit Entities,* which makes targeted changes to the not-for-profit financial reporting model. Under the new ASU, net asset reporting will be streamlined and clarified. The ASU is effective for fiscal year 2019 for the University. The University is evaluating the impact of the new guidance on the consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers* at the conclusion of a joint effort with the International Accounting Standards Board to create common revenue recognition guidance for U.S. GAAP and international accounting standards. This framework ensures that entities appropriately reflect the consideration to which they expect to be entitled in exchange for goods and services, by allocating transaction price to identified performance obligations, and recognizing that revenue as performance obligations are satisfied. Qualitative and quantitative disclosures will be required to enable users of financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. The ASU is effective for fiscal year 2019 for the University. The University is evaluating the impact this will have on the consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases,* which, requires a lessee to recognize a right-of-use asset and a lease liability, initially measured at the present value of the lease payments, in its balance sheet. The guidance also expands the required quantitative and qualitative disclosures surrounding leases. The ASU is effective for fiscal year 2020 for the University. The University is evaluating the impact of the new guidance on the consolidated financial statements.

In March 2017, the FASB issued final guidance on ASU 2017-07, *Compensation – Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost*. Presently, net benefit cost is reported as an employee cost within operating income (or capitalized into assets where appropriate). The amendment requires the bifurcation of net benefit cost. The service cost component will be presented with other employee costs in operating income (or capitalized in assets). The other components will be reported separately outside of operations, and will not be eligible for capitalization. The ASU is effective for fiscal year 2020 for the University. The University is evaluating the impact of the new guidance on the consolidated financial statements.

In June 2018, the FASB issued ASU 2018-08, *Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made*. The new guidance clarifies the definition of an exchange transaction and the criteria for evaluation whether contributions are unconditional or conditional. The ASU is effective for fiscal year 2019 for the University and any changes will be implemented simultaneously with adoption of the new revenue standard. The University is evaluating the impact of the new guidance on the consolidated financial statements.

3. INVESTMENTS

Investments are presented at fair value in accordance with GAAP 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.

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, 2018 and 2017 are summarized in the following table (in thousands of dollars):

	2018	2017
Investment portfolio, at fair value:		
Pooled general investment account assets	**$ 44,113,615**	$ 41,738,915
Other investments	**1,533,984**	1,537,011
Securities pledged to counterparties	**162,790**	57,551
INVESTMENT ASSETS	**45,810,389**	**43,333,477**
Pooled general investment account liabilties	**869,020**	898,614
Interest rate exchange agreement	**15,481**	21,944
INVESTMENT LIABILITIES	**884,501**	**920,558**
TOTAL INVESTMENTS, NET	**$ 44,925,888**	**$ 42,412,919**

As of June 30, 2018 and 2017, University's net investments were comprised of the following components (in thousands of dollars):

	2018	2017
POOLED GENERAL INVESTMENT ACCOUNT		
Endowment[1]	**$ 37,731,389**	$ 35,399,801
General operating account	**4,154,494**	4,066,488
Split interest agreements	**820,725**	789,972
Other internally designated funds	**700,777**	641,591
TOTAL POOLED GENERAL INVESTMENT ACCOUNT NET ASSETS	**$ 43,407,385**	**$40,897,852**
OTHER INVESTMENTS OUTSIDE THE GENERAL INVESTMENT ACCOUNT		
General operating and other investments[2]	**917,664**	930,421
Split interest agreements	**600,839**	584,646
TOTAL OTHER INVESTMENTS OUTSIDE THE GENERAL INVESTMENT ACCOUNT	**$ 1,518,503**	**$ 1,515,067**
TOTAL INVESTMENTS, NET	**$ 44,925,888**	**$ 42,412,919**

[1] *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 interest and dividends net of all internal and external management fees and expenses.*
[2] *Consists primarily of repurchase agreements and US government securities of $679,623 and $630,488 as of June 30, 2018 and 2017, respectively.*

Investment return

A summary of the University's total return on investments for fiscal years 2018 and 2017 is presented below (in thousands of dollars):

	2018	2017
Return on pooled general investment account:		
Realized and change in unrealized appreciation, net	**$ 3,833,460**	$ 2,923,828
Net investment income	**55,199**	98,912
Total return on pooled general investment account[1]	**3,888,659**	**3,022,740**
Return on other investments:		
Realized and change in unrealized (depreciation)/appreciation, net	**(4,014)**	32,533
Net investment income	**38,585**	32,944
Total return on other investments	**34,571**	**65,477**
Realized and change in unrealized appreciation on interest rate exchange agreement, net	**4,010**	11,234
TOTAL RETURN ON INVESTMENTS	**$ 3,927,240**	**$ 3,099,451**

[1] *Net of all internal and external management fees and expenses.*

Fair value hierarchy

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.

Investments measured at net asset value (as reported by external managers) as a practical expedient for the fair value are excluded from the fair value hierarchy.

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 University endeavors to utilize all relevant and available information in measuring fair value.

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, 2018 and 2017 (in thousands of dollars):

	2018					2017
	Level 1	Level 2	Level 3	NAV as Practical Expedient	Total	Total
ASSETS:[1]						
Cash and short-term investments	$ 1,407,841				**$ 1,407,841**	**$ 3,422,154**
Repurchase agreements		$ 1,149,363			**1,149,363**	**1,850,245**
Domestic equity	490,134			$ 4,500,353	**4,990,487**	**4,674,449**
Foreign equity	857,401			1,544,369	**2,401,770**	**1,552,165**
Global equity				2,008,253	**2,008,253**	**1,239,346**
Domestic fixed income	1,505,967				**1,505,967**	**2,067,679**
Foreign fixed income	25,141				**25,141**	**28,378**
Emerging market equity and debt	419,100			2,142,935	**2,562,035**	**1,310,664**
High yield	12,105		$ 119,249		**131,354**	**875,295**
Hedge funds			81,520	12,814,216	**12,895,736**	**7,964,081**
Private equity			90,328	8,369,851	**8,460,179**	**7,629,888**
Natural resources	11,569		2,183,270	59,970	**2,254,809**	**2,869,953**
Real estate			230,214	3,774,842	**4,005,056**	**5,392,029**
Inflation-indexed bonds	847,163				**847,163**	**825,719**
Due from brokers		1,184	4,640		**5,824**	**67,608**
Other investments	6,815	3,545	1,662		**12,022**	**19,488**
INVESTMENT ASSETS SUBJECT TO FAIR VALUE LEVELING	**$ 5,583,236**	**$ 1,154,092**	**$ 2,710,883**	**$ 35,214,789**	**$ 44,663,000**	**$ 41,789,141**
Other investment assets not subject to fair value[2]					**1,147,389**	**1,544,336**
TOTAL INVESTMENT ASSETS					**$ 45,810,389**	**$ 43,333,477**
Interests in trusts held by others[3]			408,968		**408,968**	**397,161**
NON-INVESTMENT ASSETS SUBJECT TO FAIR VALUE LEVELING			**$ 408,968**		**$ 408,968**	**$ 397,161**
TOTAL ASSETS					**$ 46,219,357**	**$ 43,730,638**
LIABILITIES:[1]						
Due to brokers[4]	$ 6,727	$ 108,659			**$ 115,386**	**$ 34,847**
Other liabilities subject to fair value			$ 223,601		**223,601**	**177,993**
INVESTMENT LIABILITIES SUBJECT TO FAIR VALUE LEVELING	**$ 6,727**	**$ 108,659**	**$ 223,601**		**$ 338,987**	**$ 212,840**
Other investment liabilities not subject to fair value[5]					**545,514**	**707,718**
TOTAL INVESTMENT LIABILITIES					**$ 884,501**	**$ 920,558**
Liabilities due under split interest agreements[3]		862,413			**862,413**	**840,736**
NON-INVESTMENT LIABILITIES SUBJECT TO FAIR VALUE LEVELING		**$ 862,413**			**$ 862,413**	**$ 840,736**
TOTAL LIABILITIES					**$ 1,746,914**	**$ 1,761,294**

[1] *Certain prior year amounts have been reclassified to conform to current year presentation.*

[2] *As of June 30, 2018, other assets not subject to fair value consists primarily of receivables for transactions that settled subsequent to the balance sheet date of $922,438, before eliminating inter-company balances, and consolidated assets of $162,922. As of June 30, 2017, other assets not subject to fair value consist primarily of receivables for transactions that settled subsequent to the balance sheet date of $1,390,858, before eliminating inter-company balances, and consolidated assets of $116,361.*

[3] *Amounts excluded from investments and included separately on the University's* Balance Sheets.

[4] *Includes fair value of an interest rate exchange agreement on the University's debt portfolio of $15,481 and $21,944 as of June 30, 2018 and 2017, respectively.*

[5] *As of June 30, 2018, other liabilities not subject to fair value include consolidated liabilities of $200,631. As of June 30, 2017, other liabilities not subject to fair value consist primarily of payables for the purchase of securities of $102,479, before eliminating inter-company balances, and consolidated liabilities of $225,059.*

The following is a rollforward of Level 3 investments for the year ended June 30, 2018 and the net June 30, 2017 rollforward of Level 3 investments (in thousands of dollars):

	Beginning balance as of July 1, 2017	Net realized gains/(losses)	Net change in unrealized appreciation (depreciation)[1]	Purchases/ contributions	Sales/ distributions	Transfers into Level 3	Transfers out of Level 3	Ending balance as of June 30, 2018
INVESTMENT ASSETS:								
High yield	$ 425		$ 376	$ 118,448				**$ 119,249**
Hedge funds	89,471	$ (41,667)	36,799		$ (3,083)			**81,520**
Private equity	880,530	(517,582)	475,822	59,690	(808,132)			**90,328**
Natural resources	2,778,134	2,800	(126,951)	131,681	(602,394)			**2,183,270**
Real estate	4,292,544	(388,678)	388,284	168,611	(1,021,717)		$ (3,208,830)	**230,214**
Due from brokers	4,640							**4,640**
Other investments	2,559		(897)					**1,662**
INVESTMENT ASSETS SUBJECT TO FAIR VALUE LEVELING	**$ 8,048,303**	**$ (945,127)**	**$ 773,433**	**$ 478,430**	**$ (2,435,326)**	**$ 0**	**$ (3,208,830)**	**$ 2,710,883**
Interests in trusts held by others	397,161		11,807					**408,968**
NON-INVESTMENT ASSETS SUBJECT TO FAIR VALUE LEVELING	**$ 397,161**		**$ 11,807**					**$ 408,968**
TOTAL ASSETS SUBJECT TO FAIR VALUE LEVELING	**$ 8,445,464**	**$ (945,127)**	**$ 785,240**	**$ 478,430**	**$ (2,435,326)**	**$ 0**	**$ (3,208,830)**	**$ 3,119,851**
INVESTMENT LIABILITIES:								
Other liabilities subject to fair value	$ 177,993		$ (4,061)	$ (34,990)	$ 84,659			**$ 223,601**
TOTAL LIABILITIES SUBJECT TO FAIR VALUE LEVELING	**$ 177,993**	**$ 0**	**$ (4,061)**	**$ (34,990)**	**$ 84,659**	**$ 0**	**$ 0**	**$ 223,601**
NET ASSETS SUBJECT TO FAIR VALUE LEVELING	**$ 8,267,471**	**$ (945,127)**	**$ 789,301**	**$ 513,420**	**$ (2,519,985)**	**$ 0**	**$ (3,208,830)**	**$ 2,896,250**

[1] *Total change in unrealized appreciation/(depreciation) relating to Level 3 investment assets and investment liabilities still held by the University at June 30, 2018 is $(183,672) and is reflected in "Realized and change in unrealized appreciation/(depreciation), net" in the* Statements of Changes in Net Assets.

	Beginning balance as of July 1, 2016	Net realized gains/(losses)	Net change in unrealized appreciation (depreciation)[1]	Purchases/ contributions	Sales/ distributions	Transfers into Level 3	Transfers out of Level 3	Ending balance as of June 30, 2017
PRIOR YEAR NET ASSETS SUBJECT TO FAIR VALUE LEVELING	**$ 7,552,993**	**$ 259,327**	**$ (1,379,908)**	**$ 1,447,770**	**$ (2,975,319)**	**$ 3,362,608**	**$ 0**	**$ 8,267,471**

[1] *Total change in unrealized appreciation/(depreciation) relating to Level 3 investment assets and investment liabilities still held by the University at June 30, 2017 is $(1,117,334) and is reflected in "Realized and change in unrealized appreciation/(depreciation), net" in the* Statements of Changes in Net Assets.

During fiscal year 2018, the University sold a portion of a direct real estate investment vehicle to a third-party and engaged an external investment manager to manage the vehicle. As a result of this transaction, $3.2 billion of direct real estate investment assets were transferred out of Level 3. As of June 30, 2018, the fair value of these investments is measured at NAV as reported by the external manager and is included in investment assets measured at NAV as the practical expedient. In fiscal year 2017 certain securities, included in private equity, natural resources and real estate, were valued using a secondary sale price and were transferred into Level 3.

Investment strategy and risk

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 and intercompany accounts and transactions have been eliminated during consolidation.

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. 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 investments within diverse markets involve various risks such as price, interest rate, market, sovereign, currency, liquidity, and credit risks. Additionally, the GIA's direct investments in natural resources expose the

University to a unique set of risks such as operational, environmental and geopolitical risks. Uncertain national policies and social, political and economic instability increase the potential for expropriation of assets and imposition of governmental restrictions. The University also considers manager concentration risk. As of June 30, 2018, 26% of the GIA NAV was made up of five diversified fund managers. 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.

Liquidity

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 original 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*. Cash and short-term investments classified as Investments were $1.4 billion and $3.4 billion at June 30, 2018 and 2017, respectively.

The University has various sources of liquidity at its disposal within its investment pools, including approximately $2.6 billion in cash and short-term investments (including repurchase agreements of $1.1 billion) at June 30, 2018 in the GIA and the GOA. In addition, the University estimates that as of June 30, 2018, it could liquidate additional unencumbered US government securities of $2.1 billion within one business day (assuming typical settlement terms) to meet any immediate short-term needs of the University (unaudited).

Repurchase agreements

The University *Balance Sheets* display both the assets and corresponding liabilities generated by repurchase transactions. The University enters into 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. At June 30, 2018 and 2017, the University had gross asset repurchase agreements of $1.1 billion and $1.9 billion, respectively, which were fully collateralized.

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 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 University does not offset repurchase agreements that are subject to master netting arrangements or similar arrangements on the University's *Balance Sheets*. Refer to *Note 4* for information related to offsetting of derivatives.

Dividend and interest income

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.

Traded securities

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 derivatives

Over the counter (OTC) derivative products classified as due to/from brokers may 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.

External advisors

Investments managed by external advisors include investments in private equity, real estate, natural resources, hedge funds and other externally managed funds. The majority of these investments are not readily marketable and are reported at NAV 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.

The fair value of the investments in these asset classes has generally been estimated using the University's capital account balance for each fund, unless the University has deemed the NAV to be an inappropriate representation of fair value. To evaluate the fair value of the University's externally managed investments, 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 existence of transactions at NAV at the measurement date, and the existence or absence of certain restrictions at the measurement date.

Distributions are received through the liquidation of the underlying assets of the fund over its remaining life. 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.

The University, as an investor, has commitments to make periodic contributions in future periods to the investments managed by external advisors. The amounts of these expected disbursements as of June 30, 2018 and 2017 are disclosed below (in thousands of dollars):

	As of June 30, 2018			As of June 30, 2017		
	Fair value[1]	Remaining unfunded commitments	Estimated remaining life[2]	Fair value[1]	Remaining unfunded commitments	Estimated remaining life[2]
Private equity funds	$ 6,848,285	$ 6,475,884	4 – 10	$ 5,845,459	$ 4,635,090	4 – 10
Real estate funds	3,900,327	1,542,336	4 – 10	1,552,640	926,382	4 – 10
Other externally managed funds[3]	2,421,899	2,868,214	2 – 8	2,352,402	1,924,219	2 – 8
TOTAL	**$ 13,170,511**	**$ 10,886,434**		**$ 9,750,501**	**$ 7,485,691**	

[1] *Represents the fair value of the funded portion of investments with remaining unfunded commitments.*
[2] *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.*
[3] *Investments in externally managed funds primarily include exposures to hedge funds and natural resources.*

Direct investments

Direct investments in real estate, natural resources and private equity are primarily valued using a combination of independent appraisals and/or one or more industry standard valuation approaches (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, forward pricing assumptions 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 HMC Board of Directors discusses the valuation process and results with HMC management, and makes determinations on significant matters impacting valuation that may arise from time to time.

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. The table below presents the ranges of significant

unobservable inputs used to value the University's Level 3 assets. These ranges represent the significant unobservable inputs that were used in the valuation of each type of Level 3 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.

	As of June 30, 2018		As of June 30, 2017	
Significant unobservable input by asset class[1,3]	Level 3 investments subject to fair value (in thousands of dollars)[2]	Range of inputs utilized in valuation model[3]	Level 3 investments subject to fair value (in thousands of dollars)[2]	Range of inputs utilized in valuation model[3]
Natural resources:	$ 2,183,270		$ 2,695,739	
Income approach discount rate		5.0% – 16.0%		5.0% – 20.0%
Price per planted hectare		$1,386 – $158,900		$2,394 – $168,932
Price per gross hectare		$118 – $51,559		$448 – $48,560
High yield:	106,481			
Income approach discount rate		8.6%		
Shadow rating discount rate		8.4% – 9.9%		
Weighted average cost of capital		7.1% – 10.9%		
Collateral coverage market risk factor		100%		
Real estate:	40,669		3,373,294	
Income approach discount rate		13.0% – 13.5%		5.3% – 17.8%
Income approach growth rate		3.0%		
Discount for lack of marketability		15.0%		
Capitalization rate				2.3% – 8.5%
Recent financing – discount				22.5%
Loan to value				12.8% – 83.9.%
Market interest rate				2.6% – 8.3%
Private equity:	19,494		46,005	
Income approach discount rate		6.0% – 8.0%		6.0% – 8.0%
EBITDA multiple				10x
Net income multiple		5.0x		7.0x
Comparable transaction price per unit				$25 – $30
Hedge funds:	67,742		72,717	
Book value multiplier		0.8x		0.7x
Other liabilities subject to fair value	(158,008)		(177,993)	
Loan to value		8.5% – 44.0%		3.8% – 42.9%
Market interest rate		2.5% – 15.0%		2.5% – 15.0%
NET AMOUNT	**$ 2,259,648**		**$ 6,009,762**	

[1] *The fair value of investments may be determined using multiple valuation techniques.*
[2] *Included within Level 3 investments is $636,602 and $2,257,709 as of June 30, 2018 and 2017, respectively, which were valued using other inputs including, but not limited to, single source broker quotations, third party pricing and prior transactions.*
[3] *The range of inputs encompasses a variety of investment types within each asset class.*

4. 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 particular 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 offset 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, 2018 and 2017 (in thousands of dollars):

	As of June 30, 2018		For the year ended June 30, 2018	As of June 30, 2017		For the year ended June 30, 2017
Primary risk exposure	Gross derivative assets	Gross derivative liabilities	Net profit/ (loss)[4]	Gross derivative assets	Gross derivative liabilities	Net profit/ (loss)[4]
Equity instruments	$ 37,826	$ 123,157	$ 351,485	$ 94,460	$ 34,949	$ 514,977
Fixed income instruments[1]		15,481	4,010		21,944	157,210
Commodity instruments						(3,251)
Currency instruments	112,975	126,495	(91,194)	1,713,930	1,723,578	(18,609)
Credit instruments	4,770		(9)	4,842		56,111
SUBTOTAL	**155,571**	**265,133**	**$ 264,292**	**1,813,232**	**1,780,471**	**$ 706,438**
Counterparty netting[2]						
Bilateral OTC	(149,747)	(149,747)		(1,745,624)	(1,745,624)	
TOTAL COUNTERPARTY NETTING	**(149,747)**	**(149,747)**		**(1,745,624)**	**(1,745,624)**	
NET AMOUNTS INCLUDED IN THE BALANCE SHEETS[3]	**5,824**	**115,386**		**67,608**	**34,847**	
Collateral						
Cash collateral received/posted	871				6,009	
Securities collateral received/posted[5]	4,032	135,934		114,290	34,818	
TOTAL COLLATERAL	**4,903**	**135,934**		**114,290**	**40,827**	
NET AMOUNT	**921**	**(20,548)**		**(46,682)**	**(5,980)**	
NET AMOUNT IN ACCORDANCE WITH ASC 210[6]	**$ 921**	**$ 0**		**$ 0**	**$ 0**	

[1] *For the year ended June 30, 2018, balances include a gross derivative liability of $15,481 and a net gain of $4,010, related to an interest rate exchange agreement on the University's debt portfolio. For the year ended June 30, 2017, balances include a gross derivative liability of $21,944 and a net loss of $11,234 related to an interest rate exchange agreement on the University's debt portfolio. These positions are further discussed in* Note 11.

[2] *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.*

[3] *Included within the "Investment portfolio, at fair value" and "Other liabilities associated with the investment portfolio" line items of the* Balance Sheets.

[4] *Included within "Realized and change in unrealized appreciation/(depreciation), net" within the* Statements of Changes in Net Assets.

[5] *Includes securities posted to meet initial margin requirements on exchange traded futures.*

[6] *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 2018 and 2017, the University transacted approximately 10 and 600 equity and fixed income option trades with an average transaction size of approximately 664,000 and 78,600 contracts, respectively. During fiscal year 2018 the University did not enter into currency option contracts nor commodity option trades. During the fiscal year 2017 the University transacted approximately 100 currency option contracts with average USD equivalent notional amounts of approximately $90.4 million per contract and transacted approximately 70 commodity option trades, with an average transaction size of approximately 300 contracts.

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.

The University generally 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. The buyer of a credit default swap 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. During fiscal year 2018 the University did not enter into credit default contracts. During fiscal year 2017, the University transacted approximately 450 credit default contracts with average notional amounts of approximately $14.0 million.

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 year 2018, the University did not enter into interest rate swap nor cap/floor contracts. During fiscal year 2017, the University transacted approximately 2,800 interest rate swap and cap/floor contracts with average notional amounts of approximately $184.3 million.

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 year 2018, the University transacted 50 equity swap contracts with average notional amounts of approximately $30.5 million, and 39 index swap contracts with an average notional amounts of approximately $87.3 million. During fiscal year 2017, the University transacted approximately 25 commodity swap contracts with average notional amounts of approximately $33.9 million; 1,400 equity swap contracts with average notional amounts of approximately $9.4 million; 200 currency swap contracts with average notional amounts of approximately $17.8 million; and 100 credit swaps with average notional amounts of approximately $22.0 million.

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 2018 and 2017, the University transacted approximately 626 and 8,200

forward currency contracts with average USD equivalent notional amounts of approximately $35.7 million and $5.7 million, respectively.

Futures contracts

The University uses futures contracts to manage its exposure to financial markets, including hedging such exposures. Upon entering into a futures contract, the University is required to deposit an amount of cash or securities with its prime broker 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 2018 and 2017, the University transacted approximately 134 and 49,000 futures trades with an average transaction size of approximately 924 and 30 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, 2018, no additional collateral would have been due to counterparties, whereas at June 30, 2017, $8 million in additional collateral would have been due to counterparties for derivative contracts.

5. RECEIVABLES

The major components of receivables, net of reserves for doubtful accounts of $12.9 million and $10.6 million as of June 30, 2018 and 2017, respectively, were as follows (in thousands of dollars):

	2018	2017
Federal sponsored support	**$ 72,148**	$ 59,730
Executive education	**66,837**	46,824
Publications	**60,424**	52,280
Gift receipts	**22,510**	13,098
Tuition and fees	**20,479**	19,932
Non-federal sponsored support	**14,030**	21,046
Other	**44,830**	48,931
TOTAL RECEIVABLES, NET	**$ 301,258**	**$ 261,841**

6. 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):

	2018			2017		
	Receivable	Allowance	Net	Receivable	Allowance	Net
Student Loans:						
Government revolving	$ 59,941	$ 1,433	**$ 58,508**	$ 72,712	$ 1,817	**$ 70,895**
Institutional	87,206	2,372	**84,834**	87,027	2,248	**84,779**
Federally insured	371		**371**	375		**375**
Total student loans	147,518	3,805	**143,713**	160,114	4,065	**156,049**
Faculty and staff loans	230,335	179	**230,156**	217,069	179	**216,890**
Other loans	30,989	23,063	**7,926**	24,832	14,708	**10,124**
TOTAL	**$ 408,842**	**$ 27,047**	**$ 381,795**	**$ 402,015**	**$ 18,952**	**$ 383,063**

Government revolving loans are funded principally with federal advances to the University under the Perkins Loan Program and certain other programs. These advances totaled $65.4 million and $72.6 million as of June 30, 2018 and 2017, respectively, and are classified as liabilities in the *Balance Sheets*. The Perkins Loan Program ended during fiscal year 2018 and as a result the University made the first of its annual required repayments to the government. 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, loans that bear interest at the applicable federal rate and interest-free loans. In addition, certain mortgages that bear interest at the current market rate or applicable federal rate 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, 2018 and 2017 to be reasonable and adequate to absorb potential credit losses inherent in the loan portfolio.

7. 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 $91.8 million and $75.7 million for the years ended June 30, 2018 and 2017, respectively, were calculated using rates ranging from 1.3% to 3.1%.

Pledges receivable included in the financial statements as of June 30, 2018 and 2017 are expected to be realized as follows (in thousands of dollars):

	2018	2017
Within one year	**$ 276,074**	$ 283,376
Between one and five years	**1,104,294**	1,133,505
More than five years	**632,340**	705,632
Less: discount and allowance for uncollectible pledges	**(174,916)**	(174,487)
TOTAL PLEDGES RECEIVABLE, NET	**$ 1,837,792**	**$ 1,948,026**

Pledges receivable as of June 30, 2018 and 2017 have been designated for the following purposes (in thousands of dollars):

	2018	2017
General Operating Account balances:		
Gifts for current use	**$ 552,268**	$ 550,819
Non-federal sponsored awards	**127,140**	99,623
Facilities and loan funds	**222,735**	222,626
Total General Operating Account balances	**902,143**	**873,068**
Endowment	**935,649**	1,074,958
TOTAL PLEDGES RECEIVABLE, NET	**$ 1,837,792**	**$ 1,948,026**

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 $59.5 million and $49.1 million as of June 30, 2018 and 2017, respectively.

8. 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, 2018 and 2017 are summarized as follows (in thousands of dollars):

	2018	2017	Estimated useful life (in years)
Research facilities	**$ 2,376,412**	$ 2,302,795	*
Classroom and office facilities	**2,046,484**	1,831,097	35
Housing facilities	**2,010,649**	1,757,609	35
Other facilities	**427,397**	414,587	35
Service facilities	**751,236**	733,956	35
Libraries	**487,598**	483,836	35
Museums and assembly facilities	**788,587**	783,536	35
Athletic facilities	**223,072**	191,782	35
Land	**968,922**	967,978	N/A
Construction in progress	**1,337,279**	1,079,120	N/A
Equipment	**1,289,975**	1,288,717	**
SUBTOTAL AT COST	**12,707,611**	**11,835,013**	
Less: accumulated depreciation	**(4,975,439)**	(4,709,115)	
FIXED ASSETS, NET	**$ 7,732,172**	**$ 7,125,898**	

* *Estimated useful lives of components range from 10 to 45 years.*
** *Estimated useful lives of equipment range from 4 to 10 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 $292.8 million and $260.7 million as of June 30, 2018 and 2017, 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 $174.4 million and $135.0 million, which are included in "Deferred revenue and other liabilities" in the *Balance Sheets* as of June 30, 2018 and 2017, respectively.

9. ENDOWMENT AND GENERAL OPERATING ACCOUNT NET ASSETS

The University's endowment consists of 13,789 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 $2.6 million and $3.4 million for such losses in fiscal year 2018 and 2017, 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 3*.

The endowment consisted of the following as of June 30, 2018 and 2017 (in thousands of dollars):

	2018				2017
	Unrestricted	Temporarily restricted	Permanently restricted	Total	Total
Endowment funds	$ (2,648)	$ 20,737,189	$ 7,378,054	**$ 28,112,595**	$ 26,615,944
Funds functioning as endowment	6,759,901	3,048,618		**9,808,519**	9,041,146
Pledge balances		326,769	608,880	**935,649**	1,074,958
Interests in trusts held by others		12,514	364,459	**376,973**	364,426
TOTAL ENDOWMENT	**$ 6,757,253**	**$ 24,125,090**	**$ 8,351,393**	**$ 39,233,736**	**$ 37,096,474**

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 in part 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 year 2018, the endowment distribution approved by the Corporation (prior to decapitalizations) was equal to 5.2% 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 $1.8 billion in both fiscal year 2018 and 2017, respectively.

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 and therefore, are excluded from net operating surplus. These decapitalizations totaled $46.0 million and $53.5 million in fiscal year 2018 and 2017, respectively. These additional decapitalizations, in combination with the endowment distribution, resulted in an aggregate payout rate of 5.3% and 5.4% in fiscal year 2018 and 2017, 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, 2018 and 2017 (in thousands of dollars):

	2018				2017
	Unrestricted	Temporarily restricted	Permanently restricted	Total	Total
General Operating Account	$ 4,592,384	$ 2,480,144	$ 98,769	**$ 7,171,297**	**$ 6,455,723**

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

10. SPLIT INTEREST AGREEMENTS

Under split interest agreements, donors enter into trust or other 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 in the "Investment portfolio, at fair value" in the University's *Balance Sheets*. Additional disclosures are included in *Note 3*. The publicly-traded securities are included as Level 1 and externally managed investments are included in investments measured using the practical expedient in the fair value hierarchy table in *Note 3*. Associated liabilities are recorded at the present value of estimated future payments due to beneficiaries and other institutions. These liabilities are calculated using the University's current taxable unsecured borrowing rate of 3.1% and 2.3% as of June 30, 2018 and 2017, respectively

The changes in split interest agreement net assets for fiscal years 2018 and 2017 were as follows (in thousands of dollars):

	2018			2017
	Temporarily restricted	Permanently restricted	Total	Total
Investment return:				
Investment income	$ 2,695	$ 8,670	**$ 11,365**	$ 13,280
Change in realized and unrealized appreciation, net	23,947	77,027	**100,974**	123,926
Total investment return	26,642	85,697	**112,339**	137,206
Gifts *(Note 15)**	6,524	5,642	**12,166**	19,606
Payments to annuitants	(15,588)	(50,140)	**(65,728)**	(64,659)
Transfers to endowment	(5,229)	(20,478)	**(25,707)**	(29,243)
Transfers between SIA and the GOA	(12,637)	(24)	**(12,661)**	(15,204)
Change in liabilities and other adjustments	1,231	3,629	**4,860**	(15,690)
NET CHANGE DURING THE YEAR	**943**	**24,326**	**25,269**	**32,016**
Total split interest agreement net assets, beginning of year	53,838	480,044	**533,882**	501,866
TOTAL SPLIT INTEREST AGREEMENT NET ASSETS, end of year	**$ 54,781**	**$ 504,370**	**$ 559,151**	**$ 533,882**

* *Shown at net present value. The undiscounted value of these gifts was $29,287 and $42,217 for the years ended June 30, 2018 and 2017, respectively.*

Split interest agreement net assets as of June 30, 2018 and 2017 consisted of the following (in thousands of dollars):

	2018	2017
Split interest agreement investments *(Note 3)*		
Charitable remainder trusts	**$ 924,576**	$ 896,451
Charitable lead trusts	**125,341**	123,396
Charitable gift annuities	**250,473**	230,352
Pooled income funds	**121,174**	124,419
Total split interest agreement investments[1]	**1,421,564**	**1,374,618**
Liabilities due under split interest agreements:		
Amounts due to beneficiaries	**(801,355)**	(779,885)
Amounts due to other institutions	**(61,058)**	(60,851)
Total liabilities due under split interest agreements	**(862,413)**	**(840,736)**
TOTAL SPLIT INTEREST AGREEMENT NET ASSETS, end of year	**$ 559,151**	**$ 533,882**

[1] *For the year ended June 30, 2018, $820,725 of SIA investments are held in the pooled general investment account and $600,839 of SIA investments are held in the other investments outside the general investment account. For the year ended June 30, 2017, $789,972 of SIA investments are held in the pooled general investment account and $584,646 of SIA investments are held in the other investments outside the general investment account. Refer to* Note 3.

11. BONDS AND NOTES PAYABLE

Bonds and notes payable as of June 30, 2018 and 2017 were as follows (in thousands of dollars):

	Fiscal year of issue	Years to final maturity[1]	One-year yield[2]	Outstanding principal 2018[3]	Outstanding principal 2017[3]
Tax-exempt bonds and notes payable:					
Variable-rate demand bonds and commercial paper:					
Series R – daily	2000-2006	14	0.9%	$ 131,200	$ 131,200
Series Y – weekly	2000	17	1.1%	117,905	117,905
Total variable-rate bonds and notes payable			1.0%	249,105	249,105
Fixed-rate bonds:					
Series N (par value, $80,000)	1992	2	6.3%	79,815	79,714
Series 2009A (par value, $22,645)	2009		4.8%	22,692	45,513
Series 2010A (par value, $49,590)	2010	3	4.6%	52,134	52,861
Series 2010B (par value, $110,235)	2011	6	4.7%	115,891	117,938
Series 2016A (par value, $1,539,720)	2017	22	3.8%	1,886,801	1,912,871
Total fixed-rate bonds			4.0%	2,157,333	2,208,897
Total tax-exempt bonds and notes payable			**3.7%**	**2,406,438**	**2,458,002**
Taxable bonds and notes payable:					
Variable-rate bonds:					
Commercial paper	2012	<1	1.6%	262,798	343,341
Total variable-rate bonds			1.6%	262,798	343,341
Fixed-rate bonds:					
Series 2008A (par value, $243,000)	2008	20	5.6%	242,875	242,869
Series 2008C (par value, $125,205)	2008		5.3%	125,205	125,205
Series 2008D (par value, $500,000)	2009	21	6.5%	498,751	498,691
Series 2010C (par value, $300,000)	2011	22	4.9%	298,506	298,439
Series 2013A (par value, $402,000)	2013	19	3.4%	402,000	402,000
Series 2016B (par value, $1,000,000)	2017	38	3.3%	995,643	995,521
Total fixed-rate bonds			4.4%	2,562,980	2,562,725
Total taxable bonds and notes payable			**4.1%**	**2,825,778**	**2,906,066**
Other notes payable	Various	Various	Various	87,057	86,773
Unamortized bond issuance costs				(18,352)	(19,751)
TOTAL BONDS AND NOTES PAYABLE			**4.0%**	**$ 5,300,921**	**$ 5,431,090**

[1] *The weighted average maturity of the portfolio on June 30, 2018 was 18.2 years.*
[2] *Exclusive of interest rate exchange agreement. Inclusive of this agreement, the overall portfolio rate was 0.04% higher.*
[3] *Balances include original issuance premiums/discounts.*

Interest expense related to bonds and notes payable was $187.5 million and $201.1 million for fiscal 2018 and 2017, respectively. The interest expense in the *Statement of Changes in Net Assets with General Operating Account Detail* includes additional components related to capital leases. The aggregate amount of scheduled principal payments, including maturing commercial paper but excluding unamortized discounts and premiums, underwriter's discount and unamortized cost of issuance fees are (in thousands of dollars):

Fiscal year	Principal payments
2019	$ 410,300
2020	117,999
2021	88,185
2022	109,619
2023	54,890
Thereafter	4,190,360
TOTAL PRINCIPAL PAYMENTS	**$ 4,971,353**

The University is rated Aaa by Moody's Investors Service and AAA by Standard & Poor's Global Ratings. The Standard & Poor's rating was re-affirmed in November 2017 and the Moody's Investors Service rating was re-affirmed in December 2017.

The University has two unsecured, revolving credit facilities totaling $1.5 billion, both of which expire in January 2020. There was no outstanding drawn balance on either of these credit facilities at June 30, 2018.

As of June 30, 2018, 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. 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.

Interest rate exchange agreements

In fiscal 2018, 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 fair value of the interest rate exchange agreement was $(15.5) million and $(21.9) million as of June 30, 2018 and 2017, respectively and is recorded in "Other liabilities associated with the investment portfolio" on the University's *Balance Sheets*.

12. 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 $828.1 million and $836.5 million as of June 30, 2018 and 2017, respectively. During fiscal years 2018 and 2017, the University made cash contributions to the defined benefit pension plan of $15.5 million and $13.4 million, respectively. The University recorded expenses for its defined contribution plans of $141.5 million and $135.0 million for fiscal year 2018 and 2017, respectively.

Postretirement health benefits

The University provides postretirement health coverage and life insurance to substantially all of its employees. As of June 30, 2018, the University had internally designated and invested $692.2 million to fund the postretirement health benefit accrued liability of $806.7 million. As of June 30, 2017, the University had internally designated and invested $633.6 million to fund the postretirement health benefit accrued liability of $853.0 million.

The following table sets forth the pension and postretirement plans' funded status that is reported in the *Balance Sheets* as of June 30, 2018 and 2017 (in thousands of dollars):

	Pension benefits		Postretirement health benefits	
	2018	2017	2018	2017
Change in projected benefit obligation:				
Projected benefit obligation, beginning of year	**$ 1,075,728**	$ 1,105,690	**$ 853,003**	$ 941,815
Service cost	**11,233**	12,274	**34,645**	40,155
Interest cost	**42,418**	42,056	**35,522**	37,872
Plan participants' contributions			**3,377**	3,449
Plan change[1]			**(193)**	(5,094)
Gross benefits paid	**(44,157)**	(40,459)	**(23,555)**	(24,247)
Actuarial (gain)/loss	**(80,260)**	(43,833)	**(96,085)**	(140,947)
PROJECTED BENEFIT OBLIGATION, end of year[2]	**1,004,962**	**1,075,728**	**806,714**	**853,003**
Change in plan assets:				
Fair value of plan assets, beginning of year	**836,456**	803,659		
Actual return on plan assets	**20,302**	59,832		
Employer contributions	**15,523**	13,424		
Gross benefits paid	**(44,157)**	(40,459)		
FAIR VALUE OF PLAN ASSETS, end of year	**828,124**	**836,456**	**0**	**0**
UNFUNDED STATUS[3]	**$ (176,838)**	**$ (239,272)**	**$ (806,714)**	**$ (853,003)**

[1] *The postretirement plan change of $(193) in fiscal year 2018 and $(5,094) in fiscal year 2017, reflects plan changes for union employees, effective January 1,2016, that increased cost-sharing and the length of service needed for the maximum subsidy.*
[2] *Measurement of the University's pension benefit obligation including assumed salary increases (required by GAAP).*
[3] *These amounts totaling $983,552 as of June 30, 2018 and $1,092,275 as of June 30, 2017 are included in the "Accrued Retirement Obligations" line in the* Balance Sheets.

The accumulated pension benefit obligation (ABO) is a measurement of the University's pension benefit obligation, based on past and present compensation levels and does not include assumed salary increases. The ABO was $860.8 million and $908.7 million at June 30, 2018 and 2017, 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, 2018.

Net periodic benefit cost

Components of net periodic benefit cost 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, 2018 and 2017 (in thousands of dollars):

	Pension benefits		Postretirement health benefits	
	2018	2017	2018	2017
Components of net periodic benefit cost:				
Service cost	**$ 11,233**	$ 12,274	**$ 34,645**	$ 40,155
Interest cost	**42,418**	42,056	**35,522**	37,872
Expected return on plan assets	**(50,426)**	(49,030)		
Amortization of:				
Actuarial loss/(gain)	**10,088**	15,710	**(6,564)**	
Prior service cost/(credit)	**288**	288	**(7,116)**	(6,693)
Total net periodic benefit cost recognized in operating activity	**13,601**	**21,298**	**56,487**	**71,334**
Other amounts recognized in non-operating activity in unrestricted net assets:				
Current year net actuarial loss/(gain)	**(50,136)**	(54,635)	**(96,085)**	(140,947)
Current year net prior service cost			**(193)**	(5,094)
Amortization of:				
Prior service (cost)/credit	**(288)**	(288)	**7,116**	6,693
Actuarial (loss)/gain	**(10,088)**	(15,710)	**6,564**	
Total other amounts recognized in non-operating activity[1]	**(60,512)**	**(70,633)**	**(82,598)**	**(139,348)**
Total recognized in *Statements of Changes in Net Assets with General Operating Account Detail*	**$ (46,911)**	**$ (49,335)**	**$ (26,111)**	**$ (68,014)**

[1] *These amounts totaling $(143,110) in fiscal year 2018 and $(209,981) in fiscal year 2017 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.

Cumulative amounts recognized as non-operating changes in unrestricted net assets are summarized as follows for the years ended June 30, 2018 and 2017 (in thousands of dollars):

	Pension benefits		Postretirement health benefits	
	2018	2017	2018	2017
Net actuarial loss/(gain)	**$ 97,697**	$ 157,921	**$ (266,133)**	$ (176,612)
Prior service cost/(credit)	**1,469**	1,756	**(53,589)**	(60,512)
Cumulative amounts recognized in unrestricted net assets	**$ 99,166**	**$ 159,677**	**$ (319,722)**	**$ (237,124)**

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 year 2019 are $3.3 million and $0.3 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 year 2019 are ($13.3) million and ($7.1) million, respectively.

Other assumptions and health care cost trend rates used in determining the year end obligation as well as the net periodic benefit (income)/cost of the pension and postretirement health plans are summarized as follows for fiscal years 2018 and 2017:

	Pension benefits		Postretirement health benefits	
	2018	2017	2018	2017
Weighted-average assumptions used to determine benefit obligation as of June 30:				
Discount rate	**4.30%**	4.00%	**4.20%**	4.05%
Compensation increase trend:				
Initial rate	**3.00%**	3.00%	**3.00%**	3.00%
Ultimate rate	**4.00%**	4.00%	**4.00%**	4.00%
Year of ultimate	**2021**	2021	**2021**	2021
Health care cost trend rate:				
Initial rate	N/A	N/A	**5.00%**	5.50%
Ultimate rate	N/A	N/A	**4.75%**	4.75%
Year of ultimate	N/A	N/A	**2023**	2023
Weighted-average assumptions used to determine net periodic benefit (income)/cost:				
Discount rate	**4.00%**	3.85%	**4.05%**	3.90%
Expected long-term rate of return on plan assets	**6.50%**	6.50%	N/A	N/A
Compensation increase trend:				
Initial rate	**3.00%**	3.00%	**3.00%**	3.00%
Ultimate rate	**4.00%**	4.00%	**4.00%**	4.00%
Year of ultimate	**2021**	2021	**2021**	2021
Health care cost trend rate:				
Initial rate	N/A	N/A	**5.50%**	6.00%
Ultimate rate	N/A	N/A	**4.75%**	4.75%
Year of ultimate	N/A	N/A	**2023**	2023

As an indicator of sensitivity, a one percentage point change in assumed health care cost trend rate would affect 2018 as shown in the following table (in thousands of dollars):

	1% point increase	1% point decrease
Effect on 2018 postretirement health benefits service and interest cost	$ 20,034	$ (12,732)
Effect on postretirement health benefits obligation as of June 30, 2018	185,371	(122,899)

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 allocation of the investment portfolio for the pension plan at June 30, 2018 and 2017, along with target allocations for June 30, 2019, is as follows:

	2019 Target	June 30, 2018	June 30, 2017
Asset allocation by category for pension plan:			
Equity securities	30-55%	38.8%	37.7%
Fixed income securities	30-50	48.9	45.3
Real estate	0-5	0.0	1.0
Hedge funds	10-30	10.9	12.9
Cash	0-5	1.4	3.1
TOTAL OF ASSET ALLOCATION CATEGORIES		**100.0%**	**100.0%**

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 2018, the University maintained its allocation to fixed income securities to manage the interest rate volatility associated with its pension obligations. The University expects to continue this strategy in future years. 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, 2018 and 2017 (in thousands of dollars):

	2018					2017
	Level 1	Level 2	Level 3	NAV as practical expedient	Total	Total
PLAN ASSETS:						
Cash and short-term investments	$ 21,951				**$ 21,951**	**$ 34,158**
Domestic equity	24			$ 145,965	**145,989**	**128,142**
Foreign equity	73,244			33,857	**107,101**	**95,735**
Domestic fixed income	99,104	$ 259,522			**358,626**	**336,892**
Foreign fixed income		21,110			**21,110**	**20,200**
Emerging market equity and debt	32,291	11,425		26,474	**70,190**	**71,784**
Hedge funds				89,505	**89,505**	**105,391**
Due from brokers	330				**330**	**404**
Buy-sell backs		25,962			**25,962**	**0**
Private equity				8,994	**8,994**	**25,935**
Real estate				34	**34**	**8,361**
PLAN ASSETS SUBJECT TO FAIR VALUE LEVELING	**$ 226,944**	**$ 318,019**	**$ 0**	**$ 304,829**	**$ 849,792**	**$ 827,002**
Other assets not subject to fair value					3,007	**9,454**
TOTAL PLAN ASSETS					**$ 852,799**	**$ 836,456**
PLAN LIABILITIES:						
Due to brokers		$ 22			**$ 22**	
Forward sale commitment		20,022			**20,022**	
PLAN LIABILITIES SUBJECT TO FAIR VALUE LEVELING		**$ 20,044**			**$ 20,044**	
Other liabilities not subject to fair value					4,631	
TOTAL PLAN LIABILITIES					**$ 24,675**	

The following is a rollforward of Level 3 investments for the year ended June 30, 2018 (in thousands of dollars):

	Beginning balance as of July 1, 2017	Net realized gains/ (losses)	Net change in unrealized appreciation (depreciation)	Purchases/ contributions	Sales/ distributions	Transfers into Level 3	Transfers out of Level 3	Ending balance as of June 30, 2018
PLAN ASSETS:								
Private equity	$ 15,445	$ (17,606)	$ 12,382	$ 7	$ (10,228)			**$ 0**
Real estate	8,264	(9,555)	8,755		(7,464)			**0**
PLAN ASSETS SUBJECT TO FAIR VALUE LEVELING	**$ 23,709**	**$ (27,161)**	**$ 21,137**	**$ 7**	**$ (17,692)**	**$ 0**	**$ 0**	**$ 0**

The following is a rollforward of Level 3 investments for the year ended June 30, 2017 (in thousands of dollars):

	Beginning balance as of July 1, 2016	Net realized gains/ (losses)	Net change in unrealized appreciation (depreciation)	Purchases/ contributions	Sales/ distributions	Transfers into Level 3[1]	Transfers out of Level 3	Ending balance as of June 30, 2017
PRIOR YEAR NET ASSETS SUBJECT TO FAIR VALUE LEVELING	**$ 0**	**$ 4,412**	**$ (2,877)**	**$ 64**	**$ (9,627)**	**$ 31,737**	**$ 0**	**$ 23,709**

[1] *Private equity and real estate investments valued using a secondary sale price were transferred into Level 3.*

Expected future benefit payments

Employer contributions of $14.9 million are expected for fiscal year 2019 to fund the pension benefit plan.

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

	Expected benefit payments	
Fiscal year	Pension	Postretirement health
2019	$ 55,212	$ 21,334
2020	55,889	23,809
2021	58,323	25,950
2022	60,646	28,030
2023	62,673	30,266
Thereafter	336,191	188,409

13. STUDENT FINANCIAL AID

Financial aid granted to students is summarized as follows for the years ended June 30, 2018 and 2017 (in thousands of dollars):

	2018	2017
Scholarships and other student awards:		
Scholarships applied to student income	**$ 439,445**	$ 413,870
Scholarships and other student awards paid directly to students	**152,421**	147,555
Total scholarships and other student awards	**591,866**	**561,425**
Student employment	**76,133**	74,074
Student loans	**15,943**	21,519
Agency financial aid[1]	**19,564**	19,282
TOTAL STUDENT FINANCIAL AID	**$ 703,506**	**$ 676,300**

[1] *Represents aid from sponsors for which the University acts as an agent for the recipient.*

14. SPONSORED SUPPORT

Total expenditures funded by US government sponsors or by institutions that subcontract federally-sponsored projects to the University were $625.3 million and $618.1 million in fiscal year 2018 and 2017, respectively. The University's principal source of federally-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 2019 and for T.H. Chan School of Public Health through fiscal year 2023. Funds received for federally-sponsored activity are subject to audit.

15. GIFTS

Gifts are classified as unrestricted, temporarily restricted, or permanently restricted net assets in accordance with donor specifications.

Additionally gifts are categorized by purpose as "Current use", "Non-federal sponsored grants", "Endowment funds", "Split interest agreements", or "Facilities and loan funds".

Gifts received for the year ended June 30, 2018 are summarized as follows (in thousands of dollars):

	2018		
	Gifts received	Donor redesignations/ other changes	Total
Current use	$ 466,991	$ (445)	**$ 466,546**
Non-federal sponsored grants	183,331	(2,258)	**181,073**
Endowment funds[1]	646,340	(41)	**646,299**
Split interest agreements[2]	12,166		**12,166**
Loan funds and facilities	109,410	(183)	**109,227**
TOTAL GIFTS	**$ 1,418,238**	**$ (2,927)**	**$ 1,415,311**

[1] *Gift receipts include non-cash gifts of $10 million for the year ended June 30, 2018.*
[2] *Shown at net present value. The undiscounted value of these gifts was $29,287 for the year ended June 30, 2018.*

Gifts received for the year ended June 30, 2017 are summarized as follows (in thousands of dollars):

	2017		
	Gifts received	Donor redesignations/ other changes	Total
Current use	$ 450,978	$ (1,039)	**$ 449,939**
Non-federal sponsored grants	153,566	(1,677)	**151,889**
Endowment funds	514,639	35,890	**550,529**
Split interest agreements[1]	19,606		**19,606**
Loan funds and facilities	142,098	(32,020)	**110,078**
TOTAL GIFTS	**$ 1,280,887**	**$ 1,154**	**$ 1,282,041**

[1] *Shown at net present value. The undiscounted value of these gifts was $42,217 for the year ended June 30, 2017.*

16. OTHER REVENUE

The major components of other revenue for the years ended June 30, 2018 and 2017 were as follows (in thousands of dollars):

	2018	2017
Publications and royalties from copyrights	**$ 226,757**	$ 216,377
Rental and parking[1]	**135,529**	134,974
Services income	**120,309**	103,463
Health and clinic fees	**61,211**	53,937
Royalties from the commercialization of intellectual property[2]	**54,573**	36,289
Sales income	**29,665**	31,695
Interest income	**10,699**	10,390
Other student income	**5,421**	5,463
Other	**44,560**	45,722
TOTAL OTHER REVENUE	**$ 688,724**	**$ 638,310**

[1] *The University is the lessor of space and facilities under operating leases, the income from which is included in rental and parking.*
[2] *Excludes distributions to external parties.*

17. OTHER EXPENSES

The major components of other expenses for the years ended June 30, 2018 and 2017 were as follows (in thousands of dollars):

	2018	2017
Subcontract expenses under sponsored projects	**$ 165,445**	$ 167,416
Travel	**99,555**	96,199
Publishing	**46,223**	47,671
Advertising	**36,113**	29,543
Taxes and Fees	**35,278**	31,445
Postage	**18,073**	19,047
Insurance	**17,182**	16,977
Telephone	**14,398**	13,942
Other	**79,511**	92,989
TOTAL OTHER EXPENSES	**$ 511,778**	**$ 515,229**

18. FUNCTIONAL CLASSIFICATION OF OPERATING EXPENSES

Operating expenses are allocated functionally on a direct basis. Operations and maintenance expenses are allocated based on square footage. During the fiscal year 2017, the University adjusted certain functional expense classifications to better align with industry practice.

Operating expenses by functional classification for the years ended June 30, 2018 and 2017 were as follows (in thousands of dollars):

	2018	2017
Instruction	**$ 1,263,491**	$ 1,193,349
Research	**1,109,831**	1,077,541
Institutional support	**911,993**	911,811
Academic support	**633,466**	614,877
Auxiliary services	**564,217**	557,406
Student services	**203,899**	203,323
Libraries	**179,639**	178,723
Scholarships and other student awards	**152,421**	147,555
TOTAL EXPENSES	**$ 5,018,957**	**$ 4,884,585**

19. 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 $86.0 million and $76.5 million in fiscal year 2018 and 2017, respectively.

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

	Operating	Capital
2019	$ 78,381	$ 16,431
2020	66,408	11,665
2021	59,236	10,943
2022	54,093	11,215
2023	50,342	11,276
Thereafter	321,648	163,027
TOTAL FUTURE MINIMUM PAYMENTS	**$ 630,108**	**$ 224,557**

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, 2018 totaled approximately $621.6 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.

Utilities 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, 2018, future obligations under the PPAs are as follows (in thousands of dollars):

2019	$ 19,737
2020	16,595
2021	12,328
2022	6,631
2023	5,579
Thereafter	11,661
TOTAL UTILITY FUTURE PURCHASE OBLIGATIONS	**$ 72,531**

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 October 25, 2018, the date the financial statements were issued. The University has concluded that no material events have occurred that are not accounted for in the accompanying financial statements or disclosed in the accompanying notes.

Schedule of Expenditures of Federal Awards

Harvard University
Schedule of Expenditures of Federal Awards
Year Ended June 30, 2018

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	Federal Expenditures	Passed to Sub-Recipients
Reseach and Development Cluster (R & D)					
Direct Awards					
Agency for International Development					
Alliance for Family Strengthening: A collaboration to test the effectiveness and scalability of the Family Strengthening Intervention for improved early childhood development in Rwanda	98.RD	AID696A1600003		$ 52,450	$ 21,769
Rapid diagnosis of frail and sick newborns with a handheld vital sign monitor	98.RD	AID-OAA-F-14-00005		(88,332)	(818)
Total of CFDA 98.RD				(35,882)	20,951
Total for Agency for International Development Direct Award R & D				**(35,882)**	**20,951**
Corporation for National and Community Service					
PFS Government Performance Lab	94.019	16PSHMA001		1,091,574	-
Total for CFDA 94.019				1,091,574	-
Harvard Kennedy School SIB Lab	94.024	14PSHMA001		428,828	-
Total for CFDA 94.024				428,828	-
Total for Corporation for National and Community Service Direct Award R & D				**1,520,402**	-
Department of Agriculture					
Developing a Framework for Measuring the Value of Consumer Confidence in the Food Supply	10.250	58-3000-4-0038		5,444	-
Total for CFDA 10.250				5,444	-
A Novel Intervention Nanotechnology For Fresh Produce Surface Disinfection Using Engineered Water Nanostructures	10.310	2013-67021-21075		(302)	-
Understanding the contributions of remotely sensed chlorophyll fluorescence for domestic and international crop monitoring programs	10.310	2016-67012-25208		820	-
Total for CFDA 10.310				517	-
Transects across New England landscapes: Investigating historical disturbances, vegetation dynamics, and functional changes in forest ecosystems	10.RD	17-JV-11242306-038		28,932	-
Total for CFDA 10.RD				28,932	-
Total for Department of Agriculture Direct Award R & D				**34,893**	-
Department of Commerce					
CO2 Urban Synthesis and Analysis (CO2-USA) Network	11.431	NA17OAR4310086		126,058	-
Maritime Continent as a barrier to the MJO propagation: an analysis of the sensitivity of convection to column moisture	11.431	NA17OAR4310260		102,820	-
Total for CFDA 11.431				228,878	-
Raymond Lin NIST SURF APPLICATION at GAITHERSBURG MD	11.620	70NANB17H090		5,500	-
Total for CFDA 11.620				5,500	-
CarbonTracker-Lagrange CH4	11.RD	RA133R17SE0907		24,500	-
Total for 11.RD				24,500	-
Total for Department of Commerce Direct Award R & D				**258,878**	-

The accompanying notes are an integral part of this schedule.

Harvard University
Schedule of Expenditures of Federal Awards
Year Ended June 30, 2018

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	Federal Expenditures	Passed to Sub-Recipients
Department of Defense					
A Computational Approach to Human Moral Judgment	12.300	N00014-14-1-0800		158,877	-
A desktop super-resolution microscope for structural analysis of complex DNA nanostructures	12.300	N00014-17-1-2724		255,059	-
Bi-Layer Thermal Barrier Coatings Based on the Yttrium-Tantalate Zirconia System	12.300	N00014-15-1-2715		192,574	-
Biophysiokinetic effect of NIR on cochlear oxidative stress and TTS	12.300	N00014-16-1-2966		668,826	-
Civil-Military Engagement Annotated Bibliography Project	12.300	N0012417P0202		44,712	-
Confirmatory GWAS Analysis of the Samples in the Marine Recruit Archive	12.300	N00014-15-1-2518		271,970	-
Custom Super-Resolution Microscope for the Structural Analysis of Nanostructures	12.300	N00014-16-1-2563		138,347	-
Decentralized Perception from Online Learning and Semantic Understanding	12.300	N00014-17-1-2075		108,768	45,120
Designing a Dynamic Platform that Provides Multiple Defense Mechanisms against Fouling	12.300	N00014-16-1-3169		115,188	-
Designing Composite Coatings that Provide a Dual-Defense Against Fouling	12.300	N00014-15-1-2157		(325)	-
Efficient Bayesian Computation for Massive Data Sets - Theory and Methods	12.300	N00014-16-1-2663		107,707	-
Elements of Causal Learning: Basic Concepts, Theory, Methods, Algorithms and Applications	12.300	N00014-17-1-2131		328,711	226,251
Equipment for Infrared Optoelectronic Measurement in 2D Materials Nanostructures	12.300	N00014-18-1-2246		119,725	-
Fluidic Powered Soft Fabric-Based Actuators for Wearable Robotic Applications	12.300	N00014-17-1-2121		226,014	-
Genotyping Completion of samples in the Marine Recruit Archive	12.300	N00014-16-1-2866		328,721	-
Mass Cytometry Platform for Integrated NIHL Research	12.300	N00014-17-1-2823		704,420	-
Measuring and understanding information and behavioral patterns for planning and executing non-kinetic course of actions	12.300	N00014-14-1-0485		283,897	-
MicroRNA-mediated genomic stability and NIHL susceptibility	12.300	N00014-17-1-2647		171,994	-
Nanostructured Surfaces for Integrated Optoelectronics, Plasmonics, and Quantum Optics	12.300	N00014-16-1-2825		697,540	-
NIR effect on exosome-mediated inflammation in a cellular model of DCS	12.300	N00014-16-1-2411		143,121	-
Optimization for Intelligent Embedded Devices	12.300	N00244-16-1-0018		(9,803)	-
Oxygen Generation and Extraction from Seawater	12.300	N00014-18-1-2650		791	-
Practical and Scalable Quantum Simulators for Chemistry and Materials	12.300	N00014-16-1-2008		347,086	-
Programmable Architected Materials	12.300	N00014-16-1-2823		709,292	-
Programmable synthesis of DNA nanostructures for spatial and temporal control	12.300	N00014-16-1-2410		415,686	-
Quantifying the efficiency of MCMC methods in High Dimensional Bayesian Problems	12.300	N000141410188		13,896	-
Quantum Opto-Mechanics with Atoms and Nanostructured Diamond: QOMAND	12.300	N00014-15-1-2761		1,968,830	1,366,031
Quantum Sensing and Metrology: Novel Methods and Applications	12.300	N00014-15-1-2846		945,090	-
Randomized Dimensionality Reduction Methods for Machine Learning	12.300	N00014-15-1-2388		179,280	-
Reprogrammed Cochlear Resilience to Inflammation and Apoptosis	12.300	N00014-16-1-2744		(5,290)	-
Scaling up complexity of DNA brick structures	12.300	N00014-16-1-2182		(2,724)	-
Seeding cooperation.	12.300	N00014-16-1-2914		134,007	-
Sketching methods for high-dimensional data analysis	12.300	N00014-17-1-2127		95,992	-
SLIPS Mechanisms and Design Principles for Marine Biofouling Prevention	12.300	N00014-17-1-2913		78,896	-
Structured Reinforcement Learning in the Human Brain	12.300	N00014-17-1-2984		66,106	-
Synthetic biodetector of mitothermogensesis in NIHL model system.	12.300	N00014-17-1-2822		46,233	-
Towards Living Materials using Synthetic Building blocks	12.300	N00014-17-1-3029		210,864	-
TwoRavens: Intuitive Statistical Exploration, Model Extraction, and Curation	12.300	FA8750-17-2-0114		512,736	82,279
Total for CFDA 12.300				10,772,814	1,719,681

The accompanying notes are an integral part of this schedule.

Harvard University
Schedule of Expenditures of Federal Awards
Year Ended June 30, 2018

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	Federal Expenditures	Passed to Sub-Recipients
An Herbal Derivative as the Basis for a New Approach to Treating Post-Traumatic Osteoarthritis	12.420	W81XWH-15-1-0396		445,292	-
An Herbal Derivative as the Basis for a New Approach to Treating Post-Traumatic Osteoarthritis	12.420	W81XWH-15-1-0397		430,990	-
Anticoagulant Vascular Shunts for Temporary Arterial Bypass	12.420	W81XWH-17-2-0028		810,524	88,183
Behavioral-Based Predictors of Workplace Violence in the Army STARRS	12.420	W81XWH-12-2-0113		329,621	-
Chemigenomic Drug Discovery for Tuberculosis	12.420	W81XWH-17-1-0692		763,341	442,807
Elucidating the Role of Stromal Factors in HER2 Therapy Resistance in Breast Cancer	12.420	W81XWH-14-1-0222		79,540	-
Identification, Characterization, and Utilization of Adult Meniscal Progenitor Cells	12.420	W81XWH-13-1-0244		56,028	-
Identification of Premotor Parkinson disease	12.420	W81XWH-14-1-0131		838,317	187,868
Inhibition of metastases by disrupting platelet-cancer cell interactions using ex vivo modified platelets	12.420	W81XWH-15-1-0305		117,281	24,520
Posttraumatic Stress Disorder and Ovarian Cancer Risk	12.420	W81XWH-17-1-0153		135,885	20,125
Preclinical Evaluation of BCL2/BCLXL Inhibition to Enhance the Efficacy of Antibody-Drug Conjugates (ADCs) for the Treatment of Distinct Breast Cancer Subtypes	12.420	W81XWH-16-1-0340		476,311	-
Understanding Microbial Sensing in Inflammatory Bowel Disease Using Click Chemistry	12.420	W81XWH-15-1-0368		915,619	-
Understanding Microbial Sensing in Inflammatory Bowel Disease Using Click chemistry	12.420	W81XWH-15-1-0367		242,159	-
Total for CFDA 12.420				5,640,908	763,503
6.2.3 Quantum Computation and Communication	12.431	W911NF-15-1-0256		134,473	-
A Cell-Type Specific Platform for Identifying Toxicity of Proteins and Polypeptides	12.431	W911NF-17-2-0089		766,549	57,222
An Automated Scientific Discovery Framework (ASDF) for Mechanistic Reasoning Across Complex Data	12.431	W911NF-18-1-0124		70,877	-
Charge Density Waves in Mesoscopic 2-Dimensional Materials for Nanoelecronics	12.431	W911NF-14-1-0638		(11,420)	-
Continuation Study: A Systems Approach to Understanding Post-Traumatic Stress Disorder	12.431	W911NF-16-2-0015		(350)	-
Continuation Study: A Systems Approach to Understanding Post-Traumatic Stress Disorder	12.431	W911NF-17-2-0086		1,087,831	499,688
Continuum Models for Multi-Agent Cooperative Control	12.431	W911NF-12-1-0350		43,548	-
Design of Cellular Blocks, their Programmatic Assembly into Biological Meshes, and the Synthesis of Tissue-Like Structures	12.431	W911NF-17-2-0079		1,265,228	-
Exploring New Approaches for Coupling Spin Qubits	12.431	W911NF-15-1-0203		83,132	-
Fundamental Research: Quantum Communication and Teleportation over long distances	12.431	W911NF-14-2-0099		547	-
Hydrodynamic Electron Transport in 2-Dimensional Materials for Nanoelectronics	12.431	W911NF-17-1-0574		175,566	31,220
Imaging and Control of Biological Transduction using NV-DIamond	12.431	W911NF-15-1-0548		1,254,855	406,555
Integrated Human Organ-on-Chip Microphysiological Systems	12.431	W911NF-12-2-0036		1,858,219	358,846
Nano- and Bio-Electronics: CMOS-Enabled Massively-Parallel Intracellular Nanowire Array as a New Neuroscience Tool and its Biotic-Abiotic Hybrid Application for Micro-Neuroprosthesis Technology	12.431	W911NF-15-1-0565		166,485	-
Oxidative decomposition of chemical agent simulants using atomically dispersed metal centers on oxides	12.431	W911NF1820143		13,456	-
Quantum Sensing of Quantum Materials	12.431	W911NF-17-1-0023		529,868	-
Rapid Tests for Virus Genes that Suppress the Host Antiviral Defenses	12.431	W911NF-17-2-0092		1,349,390	462,478
Shannon Inspired Approach to Limits of Learning	12.431	W911NF-16-1-0561		91,479	-
Statistical Structural Health Monitoring in the Presence of Environmental Variability and Uncertainty	12.431	W911NF-15-1-0172		59,889	-
STIR: Multi-level Hidden Markov Model for Co-translational Protein Targeting	12.431	W911NF-16-1-0286		(82)	-
Total for CFDA 12.431				8,939,540	1,816,009

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Diamond-Based High-Power Optical Components	12.630	W911NF-17-1-0226		24,930	-
Total for CFDA 12.630				24,930	-
Active Metasurfaces for Advanced Wavefront Engineering and Waveguiding	12.800	FA9550-14-1-0389		1,114,108	705,043
Chiral Nanophotonics	12.800	FA9550-16-1-0156		86,426	-
Cyborgcell: Molecular-Nanoscale Circuits for Active Control of Cells	12.800	FA9550-15-1-0401		386,883	-
Equipment for Laser Cooling of Polyatomic and Diatomic Molecules	12.800	FA9550-16-1-0264		100,770	-
Equipment to Support Advance Research in Basic Mechanism of Oxidative Stress	12.800	N00014-18-1-2234		1,350	-
Generating Multiple Hypotheses in Non-negative Matrix Factorization and Related Linear Models	12.800	FA9550-17-1-0155		99,128	-
High-Throughput Experimentally and Computationally Guided Discovery of Next Generation High-Temperature Shape Memory Alloys	12.800	FA9550-16-1-0180		178,552	23,078
Laser Cooling of Polyatomic Molecules	12.800	FA9550-15-1-0446		262,879	-
Nanoelectronics Innervated Cells, Cell Networks and Three-Dimensional Biomaterials	12.800	FA9550-14-1-0136		294,461	-
Optical Magnetic Imaging of Neuronal Currents and Impedance using Quantum Defects in Diamond	12.800	FA9550-17-1-0371		120,921	-
The Production and Study of Antiprotons and Cold Antihydrogen	12.800	FA9550-15-1-0275		229,574	-
Ultracold Molecular Assembly and Quantum Chemistry	12.800	FA9550-15-1-0260		99,461	-
Writing and Securing Peer-to-Peer Computation	12.800	FA9550-16-1-0351		182,272	-
Total for CFDA 12.800				3,156,785	728,121
Active Context	12.910	W911NF-15-1-0544		2,101,811	792,085
Continuous Directed Evolution of Synthethic Regulatory Elements for Use in Mammalian Cells	12.910	HR0011-11-2-0003		(7,287)	-
DARPA Biological Control: A generalizable approach to engineer ultra-precise cellular control systems with applications to drug resistance	12.910	HR0011-16-2-0049		2,006,802	204,992
Deep Learning Architectures for Robust Classification Under Adversarial Noise	12.910	FA8650-18-1-7811		55,764	-
Development of Diamond Nanoscale Magnetometer Using Quantum Assisted Sensing and Readout	12.910	HR0011-11-C-0073		(640)	-
Diamond Micro-Combs and Applications	12.910	W31P4Q-15-1-0013		709,305	488,551
Discovery of Tolerance-Mediating Gut Microbial Metabolites	12.910	HR0011-16-2-0013		138,024	-
Engineering Self-Organizing Systems: Theory and Top-down Synthesis Methodology for Resilient Collectives using Kilobot and Molecular Robotics Platforms	12.910	W911NF-17-1-0075		367,810	-
Executable Knowledge	12.910	W911NF-14-1-0367		587,919	112,228
High-efficiency aberration corrected large metalenses	12.910	HR00111810001		76,858	-
Information Storage and Processing Using Time-Ordered Strings of Molbytes, and Molecular Processes	12.910	W911NF-18-2-0030		378,335	-
Molecular Control and Prevention of Genome Editing	12.910	N66001-17-2-4056		941,926	112,138
Programmatic modelling for reasoning across complex mechanisms	12.910	W911NF-14-1-0397		712,877	248,408
Rapid Tests for signatures of genetic engineering in biological samples	12.910	N660011824505		8,506	-
Spleen-on-a-Chip Sepsis Therapeutic Device	12.910	N66001-11-1-4180		(929)	-
Surveillance of Passenger Organisms to Record Embarkment	12.910	HR0011-18-2-0014		626,717	-
Translation and Selection of Functional Sequence-Defined Synthetic Polymers	12.910	N66001-14-2-4053		760,484	-
Ultrahigh-Throughput Virus-Host Cell PicoReactor System for Predictive Modeling of Viral Evolution	12.910	HR0011-11-C-0093		(2,091)	(2,091)
Total for CFDA 12.910				9,462,191	1,956,311

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Behavioral Approach to Simplified Learning from Space-Time Data	12.RD	N66001-15-C-4028		5,434	-
Biologically Inspired Soft Smart Exosuit for Injury Prevention and Performance Augmentation	12.RD	W911NF-14-C-0051		859,798	62,892
DARPA A2P: Connecting the Micro and Meso Scales through Pop-up Book Microelectromechanical Systems MEMs	12.RD	FA8650-15-C-7548		409,407	-
Examining Individual Differences in the Cognitive Processes and Brain Networks Supporting Social Cognition in the Contextualized Soldier	12.RD	W911QY-14-C-0009		12,294	-
Integrated Microfluidic DLT Device for Sepsis Therapy	12.RD	HR0011-13-C-0025		125,473	103,087
Integration of top-down and bottom-up methodologies for accurate modeling of biological networks	12.RD	FA8750-17-C-0255		388,293	-
Reverse Engineering Host Resilience	12.RD	W911NF-16-C-0050		2,948,586	596,860
Towards Re-Programming the Gut Microbiome	12.RD	HR0011-15-C-0094		862,409	437,793
Total for 12.RD				5,611,694	1,200,632
Total for Department of Defense Direct Award R & D				**43,608,862**	**8,184,257**
Department of Education					
National Resource Centers for Davis Center for Russian and Eurasian Studies	84.015A	P015A140087 - 17		244,344	-
Total for CFDA 84.015A				244,344	-
Partnering in Education Research (PIER): A Predoctoral Interdisciplinary Training Program	84.305	R305B150010-16		736,380	-
Student Outcomes of Integrative Mental Health Services	84.305	R305A140253-16		413,962	-
Total for CFDA 84.305				1,150,342	-
Digital Messaging for Improving College Enrollment and Success	84.305A	R305A140121-17		413,558	250,917
The language of written argumentation and explanation: Individual developmental trajectories from 4th to 8th grade	84.305A	R305A170185		185,510	29,071
Total for CFDA 84.305A				599,068	279,988
Understanding and Measuring Treatment Effect Heterogeneity in Large Scale Experiments and Pseudo-Experiments in Education	84.305D	R305D150040-17		265,285	119,855
Total for CFDA 84.305D				265,285	119,855
Project READS: Using Data to Promote Summer Reading and Close the Achievement Gap for Low-SES Students in North Carolina	84.396B	U396B100195		36,643	-
Total for CFDA 84.396B				36,643	-
Total for Department of Education Direct Award R & D				**2,295,682**	**399,843**
Department of Energy					
IC Fellowship (Kehaylas) Research Advisor stipend and lab allowance	81.000	No Awrd Nmbr		3,165	-
Total for CFDA 81.000				3,165	-
A Lagrangian study of the transition from shallow to deep convection using ASR observations and LES simulations	81.049	DE-SC0018120		72,326	-
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-SC0011115		36,119	-
Correlated Electrons in Graphene at the Quantum Limit	81.049	DE-SC0012260		3	-
Correlated Quasiparticles in Graphene	81.049	DE-SC0012260		340,815	-

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Dynamic Self-Assembly, Emergence, and Complexity	81.049	DE-FG02-00ER45852		494,606	-
Early Career: Catalyst design for small molecule activation of energy consequence	81.049	DE-SC0008313		(109)	-
Energy Transductions in Multimodal Stimuli-Responsive Systems with Information Encoding Capabilities and Non-equilibrium Signal Processing	81.049	DE-SC0005247		569,506	83,591
Harnessing Chemo-mechanical Energy Transduction to Create Systems that Selectively Catch and Release Biomolecules	81.049	DE-SC0005247		(39,513)	-
Harnessing the power of ab initio calculations, distributed computing and machine learning to efficiently locate extreme molecules for use in Carbon-based solar cells	81.049	DE-SC0015959		8,384	-
Imaging Electron Motion in Two-Dimensional Materials	81.049	DE-FG02-07ER46422		158,090	-
INTEGRATED MESOSCALE ARCHITECTURES FOR SUSTAINABLE CATALYSIS (IMASC)	81.049	DE-SC0012573		2,641,554	405,987
Microbial Ecology, Proteogenomics and Computational Optima	81.049	DE-FG02-02ER63445		(3,846)	-
Microbial Ecology, Proteogenomics and Computational Optima	81.049	DE-FG02-02ER63445		2,041,712	-
Modeling the temporal dynamics of nonstructural carbohydrate pools in forest trees	81.049	DE-SC0012416		7,576	-
Molecular-scale Understanding of Selective Oxidative Transformations of Alcohols Promoted by Au and Au-based Alloys	81.049	DE-FG02-84ER13289		96,291	-
Physical and Thermodynamic Properties of Secondary Organic Materials for Modeling	81.049	DE-SC0012792		207,471	-
Proton-Coupled Electron Transfer Studies of Homogeneous and Heterogeneous Energy Conversion Catalysts	81.049	DE-SC0017619		412,692	-
Pursuing Dark Energy with Large Galaxy Redshift Surveys: Baryon Acoustic Oscillations and Beyond	81.049	DE-SC0013718		78,427	-
Quantum Field Theory and Theoretical Particle Physics	81.049	DE-SC0013607		240,886	-
Research in High Energy Physics	81.049	DE-SC0007881		1,163,966	-
Research Theoretical in High Energy Physics	81.049	DE-SC0007870		202,174	-
SISGER: Transport and Imaging of Mesoscopic Phenomena in Single and Bilayer Graphene	81.049	DE-SC0001819		415,529	200,000
Unravel lipid accumulation mechanism in oleaginous yeast through single cell systems biology study	81.049	DE-SC0012411		110,297	58,797
Total for CFDA 81.049				9,254,956	748,375
From Z to Planets: Phase II	81.112	DE-NA0002937		540,807	230,117
High Pressure Metallic Hydrogen	81.112	DE-NA0003346		107,432	-
Total for CFDA 81.112				648,239	230,117
Organic Acid Flow Battery for Grid Storage	81.135	DE-AR0000348		(10,882)	-
Transistor-less Power Supply Technology Based On UWBG Nonlinear Transmission Line	81.135	DE-AR0000858		182,953	-
Total for CFDA 81.135				172,071	-
Total for Department of Energy Direct Award R & D				**10,078,431**	**978,492**
Department of Homeland Security					
Feeding America's Bravest: Mediterranean Diet-Based Interventions to Change Firefighter's eating Habits and Improve Cardiovascular Risk Profilies	97.044	EMW-2014-FP-00612		562,395	261,792
Total for CFDA 97.044				562,395	261,792
Total for Department of Homeland Security Direct Award R & D				**562,395**	**261,792**
Department of Housing & Urban Development					
Prospective Evaluation of a Comprehensive Smoke-Free Public Housing Policy in a Multi-State Setting	14.902	MAHHU0025-14		112,338	5,704
Total for CFDA 14.902				112,338	5,704
Total for Department of Housing & Urban Development Direct Award R & D				**112,338**	**5,704**

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Department of Justice					
Community Corrections: An Executive Session on the Future of Correctional Policy	16.560	2012-R2-CX-0048		89,525	-
Evaluation of the Peer to Peer (P2P): Challenging Extremism Initiative	16.560	2016-ZA-BX-K001		225,980	37,690
Research Assistantship Program, VAIW	16.560	2015-IJ-CX-0014		74,525	-
Using Public Health Datasets to Analyze Legal Intervention Shootings	16.560	2016-R2-CX-0038		235,762	-
Total for CFDA 16.560				625,792	37,690
Total for Department of Justice Direct Award R & D				**625,792**	**37,690**
Department of Labor					
The Real Effects of Electronic Wage Payments: An Experiment with Salaried Factory Workers in Bangladesh	17.791	EO-30274-17-60-5-25		40,436	-
Total for CFDA 17.791				40,436	-
Total for Department of Labor Direct Award R & D				**40,436**	**-**
Department of the Interior					
Collaborative Research: Activity and earthquake potential of the Wilmington blind thrust, Los Angeles, CA	15.807	G17AP00008		45,397	-
Digitization of Harvard-Adam Dziewo¿ski Analog Seismograms from January 1939 for Improved Seismicity Constraints in the Northeastern United States and the World	15.807	G18AP00018		11,053	-
Digitization of Harvard-Adam Dziewonski Analog Seismograms from 1933 to 1953 with a Focus on Caribbean Earthquakes	15.807	G17AP00007		16,508	-
Total for CFDA 15.807				72,958	-
Historic Resource Study: African-American Civil Rights Leaders and the Roosevelts	15.946	P14AC00888		89	-
Total for CFDA 15.946				89	-
Algorithms for Representation and Inference informed by the Acquisition of Data from Neuroscience Experiments (ARIADNE)	15.RD	D16PC00002		4,277,910	1,026,256
Cortical architecture and algorithms for machine listening	15.RD	D16PC00008		4,432,661	3,429,194
Total for 15.RD				8,710,571	4,455,450
Total for Department of the Interior Direct Award R & D				**8,783,618**	**4,455,450**
Department of Transportation					
Rapid Classification of Hazardous Materials in Transportation	20.RD	DTPH5617C00002		238,328	-
Rapid Identification of Crude Oil Properties Using W-Ink (Follow-On)	20.RD	DTFR5315C00025		59,846	54,449
Total for 20.RD				298,174	54,449
Total for Department of Transportation Direct Award R & D				298,174	54,449
Department of Health and Human Services (DHHS)					
Impact Evaluation of Combination HIV Prevention Interventions in Botswana	93.067	5U2GGH001911-03		5,248,144	3,556,755
Total for CFDA 93.067				5,248,144	3,556,755
E-Cigarette Vaping in Advertising Portrayals and Behavioral Outcomes Research (E-VAPOR Study)	93.077	1R03CA212544-01A1		134,742	35,334
Total for CFDA 93.077				134,742	35,334
THE MDEPINET MEDICAL COUNTER MEASURES STUDY	93.103	1U01FD004493-01 REVISED		208,714	54,731
Total for CFDA 93.103				208,714	54,731

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Epidemiological MCH/SPH Institute	93.110	5T03MC07648-12-00		43,128	-
Training Grant in Maternal and Child Health	93.110	6T76MC00001-62-01		347,704	-
Total for CFDA 93.110				390,832	-
Air Particulate, Metals, and Cognitive Performance in an Aging Cohort- Roles of Circulating Extracellular Vesicles and Non-coding RNAs	93.113	1R01ES027747-01Revised		200,171	24,024
Air Pollution and Autism in Israel: A Population-Wide Study	93.113	5R21ES026900-02		144,882	56,773
Air pollution and Parkinson Disease: a GIS-based approach	93.113	5K01ES019183-05		(4,268)	-
Arsenic Exposure, ER stress and Type 2 Diabetes	93.113	5R01ES022230-05		262,784	-
Cardiovascular Health and Air Pollution: A National Study	93.113	5R01ES024332-04		909,454	57,633
Causal Inference with Interference for Evaluating Air Quality Policies	93.113	5R01ES026217-03		358,156	-
Chronic effects of weather fluctuations: population susceptibility and adaptation over time and space	93.113	5R21ES024012-02		(4)	-
Comprehensive Translational Science Analytics Tools for the Global Health Agenda	93.113	5DP1ES025459-04		1,300,592	73,794
COPD and Response to Traffic Related Particles	93.113	4R01ES019853-05 REVISED		198,716	95,516
Data-Driven identification of environmental factors in cardiovascular diseaase	93.113	5R00ES023504-05		226,824	-
Early and late-life metal exposures and Alzheimer's disease	93.113	5R01ES024165-04S1		533,775	191,042
Effects of Environmental Phthalates and Chemical Mixtures on Male Puberty and Semen Quality	93.113	5R01ES014370-12		617,791	244,628
Effects of environmental stressors on mitochondrial-cellular cross-talk	93.113	5R21ES025615-02 REVISED		31,422	-
Engineered Nanomaterial Synthesis, Characterization and Method Development Center for Nano-safety Research	93.113	5U24ES026946-02Rev		946,712	299,353
Environmental Chemicals, Exosomal miRNAs in Ovarian Follicles, and IVF Success	93.113	5R21ES024236-02REVISED		31,015	-
Environmental Obesogens and Weight Change in the POUNDS LOST Trial	93.113	5R01ES022981-04		224,684	13,305
Epigenetic Regulation by Large Non-Coding RNAs in the p53 Mediated DNA Damage Response	93.113	5R01ES020260-05		(882)	-
Epigenomic drivers of human muscle progenitor cells in development and disease	93.113	5R01ES024935-02		5,329	-
Glucose Metabolism in Adults Prenatally Exposed to Diabetogenic Pollutants	93.113	5R01ES021477-05REVISED		530,371	305,035
Graduate Training in Biostatistics	93.113	5T32ES007142-35Revised		460,364	-
Gut Microbiome in Adults with Early Life Exposures to Environmental Chemicals	93.113	5R21ES023376-03		37,046	-
HSPH NIEHS Center for Environmental Health	93.113	5P30ES000002-54		1,466,716	20,000
Human Exposure to Bisphenol A, Phthalates and Fertility, Pregnancy Outcomes	93.113	5R01ES009718-19		718,084	26,841
Immunotoxicity in Humans with Lifetime Exposure to Ocean Pollutants	93.113	4R01ES021993-05		23,226	-
Impact of Obesity on Airway Responses to Air Pollution	93.113	5R01ES013307-13		394,459	40,604
Increasing the power of GxE detection by using multi-locus genome-wide predictors	93.113	5R21ES025052-03 REVISED		158,514	67,230

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Inflammation and metabolic abnormalities in pollutant-exposed children	93.113	1R01ES026596-01A1REVISED		12,547	-
Interdisciplinary Training in Genes and the Environment	93.113	5T32ES016645-09		371,960	-
Lipoprotein Corona Fingerprints: Implications for Pulmonary Clearance and Toxicity of Engineered Nanoparticles	93.113	5K99ES025813-02		109,262	-
Manganese Transport and Toxicity	93.113	5R01ES014638-12		257,568	-
Maternal and Paternal Flame Retardant Exposure, Impact on Fertility and Pregnancy	93.113	5R01ES022955-05		705,902	262,171
Maternal and Paternal Preconception Environmental Exposures and Children's Health	93.113	1R01ES027408-01A1		105,455	-
Maternal Exposure to Air Pollution and Early Pregnancy Outcomes	93.113	5K99ES026648-02		116,281	-
New Tools for the interpretation of Pathogen Genomic Data with a focus on Mycobacterium tuberculosis	93.113	5 K01 ES026835-04		311,564	-
Novel markers of exposure and pathways of response to Chromium	93.113	1R01ES027981-		64,298	-
Obesity and asthma: microbiome-metabolome interactions	93.113	5R21ES024032-02		(311)	-
Organ on chip technology to evaluate engineered nanomaterial toxicity	93.113	5U01ES027272-02		554,906	-
PCA-based selection scans in very large samples	93.113	1R03ES027902-01A1		7,270	-
Phthalates, Gestational Diabetes, and Markers of Type 2 Diabetes Risk in Women	93.113	5R01ES026166-04		388,020	44,840
Pollutant-related diabetes in the Nurses' Health Study II	93.113	5R01ES021372-05		319,115	59,337
Relationship Between Multiple Environmental Exposures and CVD Incidence and Survival: Vulnerability and Susceptibility	93.113	1R01ES028033-01A1		73,138	-
Semiparametric Methods for Gene-environment Interaction	93.113	5R01ES020337-04		(40)	-
Summer Intern Program (SIP) in Environmental Health Sciences	93.113	5R25ES020722-05 REVISED		7,059	-
The role of beta-endorphin in cutaneous inflammation	93.113	5F31ES027301-02		31,932	-
The role of UV-induced neoantigens and exogenous neoepitopes in enhancing response to immune checkpoint blockade in melanoma and other cancers	93.113	1F30ES028995-01 REVISED		1,987	-
Theory and methods for interaction	93.113	2R56ES017876-06A1		88,038	-
Training Program in Environmental Epidemiology	93.113	5T32ES007069-38		528,541	-
Total for CFDA 93.113				13,830,425	1,882,126
Anti-Inflammatory Mesenchymal Stem Cell Therapy for Dental Applications	93.121	5K08DE025292-02		122,712	-
Dynamics of the bacterial type IX secretion system and its effect on subgingival biofilm formation by bacteria of the human oral microbiome	93.121	1K99DE026826-01		154,160	-
Engineering Skeletal Muscle With Biodegradable Hydrogels	93.121	4R01DE013349-16		98,917	86,135
Epigenetic Regulation of HSV Infection of Oral Cells	93.121	5R56DE023909-02 REVISED		85,607	-
Gas-Hedgehog signaling in intramembranous bone formation and expansion	93.121	5R01DE025866-02		343,596	-
Leveraging Novel Multivariate Methods of Subphenotypes in Genetic Association Studies of Sjogren¿s Syndrome	93.121	5R03DE025665-02		168,504	78,654
Polymeric Matrices With Defined Cell Adhesion	93.121	5R01DE013033-20		436,850	-

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Probing the cAMP signaling microdomain of the primary cilium	93.121	5R21DE025921-02 REVISED		107,739	-
Regulation of Inflammation in T2D-Associated Periodontitis	93.121	4R00DE024575-03		26,269	-
The Role of Salivary Mucin in Preventing Cariogenic Streptococcus Biofilm Formation	93.121	5F30DE024917-03 REVISED		35,844	-
Tooth Movement derived by PDL Cellular Manipulations	93.121	5K99DE025053-02 REVISED		41,255	-
Tooth Movement derived by PDL Cellular Manipulations	93.121	4R00DE025053-03		52,762	-
Total for CFDA 93.121				1,674,215	164,789
Grants for National Academic Centers of Excellence on Youth Violence Prevention	93.136	R49/CCR118602-05-1		387	-
Total for CFDA 93.136				387	-
Safety and Health Management of Hazards Associated with Emerging Technologies	93.143	3R25ES023635-05S1		182,262	8,361
Safety and Health Management of Hazards Associated with Emerging Technologies	93.143	5R25ES023635-03		(206)	(206)
Total for CFDA 93.143				182,056	8,155
Center for Genomically Engineered Organs	93.172	5RM1HG008525-03		1,560,842	54,760
Computational methods to advance from genetic association to biological insight	93.172	1F31HG009850-01		30,794	-
Fast and accurate phasing using the positional Burrows-Wheeler transform (PBWT)	93.172	1R21HG009513-01REVISED		88,823	-
Fast and powerful extensions of mixed model methods for GWAS	93.172	5F32HG007805-03REV		7,136	-
Flybase: A Drosophila Genomic and Genetic Database	93.172	5U41HG000739-25 REVISED		3,327,199	1,635,762
Flybase: A Drosophila Genomic and Genetic Database	93.172	2U41HG000739-26		496,212	-
Functionally specialized components of disease heritability in ENCODE data	93.172	1U01HG009379-01REVISED		319,787	148,530
Global measurement of splicing kinetics	93.172	5R21HG009264-02		129,050	-
HMMER and Infernal: Finding distant homologs of sequences and RNA structures	93.172	5R01HG009116-02		362,193	-
Identifying Genome-scale Interaction Effects in Human Traits and Diseases	93.172	5R21HG007687-02		94,100	-
Large-Scale High-Confidence Binary Protein Interaction Network for Drosophila	93.172	5R01HG007118-05		898,248	570,951
Leveraging histone modification heritability to understand complex disease genetics	93.172	1F32HG009615-01		45,470	-
Leveraging Tissue-Specific Regulatory Grammar to Interpret Human Evolution and Non-coding Variation	93.172	3F32HG009226-01S1		60,861	-
Massively Parallel Phenotypic Characterization of Non-coding Genetic Variation	93.172	5K99HG008179-02 REVISED		10,458	-
Mechanisms of Transcriptional Control Revealed by Nascent Transcript Sequencing	93.172	5R01HG007173-05 REVISED		256,573	-

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Methods for disease mapping in multi-ethnic populations	93.172	2R01HG006399-06A1REVISED		328,004	140,080
Methods for Genome-wide Association Studies in Admixed Populations	93.172	5R01HG006399-05		83	-
Pathway Commons: Research Resource for Biological Pathways	93.172	5U41HG006623-07 REVISED		1,243,878	578,507
Patient-Centered Information Commons (PIC)	93.172	5U54HG007963-04 REVISED		4,583,920	1,247,315
Population-Based Approaches to Genome Structure and Structural Variation	93.172	5R01HG006855-06		631,418	-
Powering whole genome sequence-based genetic discovery for common human diseases	93.172	5U01HG009088-02REVISED		682,698	461,373
Preparing Association Analysis Software Tools for Next Generation Sequencing Data	93.172	5R01HG008976-02		363,343	47,703
Systematic Exploration of the Human Interactome	93.172	5U41HG006673-06		661,252	-
The Flybase Diversity Action Plan	93.172	5R25HG007630-03 REVISED		335,275	325,161
Training in Bioinformatics and Integrative Genomics	93.172	5T32HG002295-15 REVISED		822,147	-
Visualization of (Epi)Genomic Data for Discovery of Disease-Associated Variants	93.172	5R00HG007583-05		249,177	-
Total for CFDA 93.172				17,588,941	5,210,142
Afferent-efferent interactions in the developing cochlea	93.173	5R01DC015974-02		548,672	-
Atomic Structure of Sensory Transduction Proteins	93.173	5F32DC016210-02		51,118	-
Characterizing Odor Maps in the Olfactory Bulb and Cortex	93.173	5R01DC011558-05		(17,488)	-
Characterizing the Functional Architecture of the Necklace Olfactory System	93.173	1R01DC016222-01		622,259	-
Cortical feedback and olfactory processing	93.173	1R01DC016289-01A1		111,739	-
Development and refinement of functional properties of adult-born olfactory bulb neurons	93.173	1F31DC016482-01 REVISED		37,445	-
Development of computational models to diagnose mechanical lesions of the ear	93.173	1F31DC016761-01		30,841	-
Dissecting sensory to motor transformations in Drosophila melanogaster	93.173	1F31DC015701-01A1 REVISED		31,125	-
Examining behavioral and neural links between speech delay and literacy skills	93.173	1F31DC015919-01		6,844	-
Force Dependent Unbinding of Mammalian Inner Ear Tip Link Proteins	93.173	5F31DC016199-02		36,855	-
Functional integration of adult-born neurons into the mammalian brain	93.173	5R01DC013329-05		365,192	-
Genetic Dissection of Auditory Circuit Assembly	93.173	5R01DC009223-08 REVISED		426,062	-
Improved binaural stimulation strategy for bilateral cochlear implants	93.173	5F31DC014873-02 REVISED		(620)	-
Improving round window stimulation via moldable coupler and impedance modeling	93.173	5F31DC015911-02		30,317	-
Information Coding in Individual Olfactory Sensory Axons	93.173	1F32DC015938-01A1		57,040	-
Mechanisms of apraxia of speech in primary progressive aphasia	93.173	5F31DC015703-02		31,075	-

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MOLECULAR AND CELLULAR MECHANISMS OF A NEURONAL NETWORK FOR OLFACTORY LEARNING	93.173	5R01DC009852-09		320,105	-
Molecular Basis of Inherited Deafness	93.173	5R01DC002281-20		301,197	78,443
Molecular Mechanisms of Auditory Transduction	93.173	5R01DC000304-33		249,584	44,782
Neural Mechanisms for Olfactory and Gustatory Integration in the Drosophila Larva	93.173	5F31DC015704-02		31,272	-
Neuromodulation of sensory processing by the serotonin system	93.173	5R01DC014453-04		320,671	-
Non-sensory cells as a potential source for signaling molecules in the cochlea	93.173	5R21DC014916-02		217,705	-
Olfactory circuits that control behavior	93.173	5R01DC013289-05		321,581	-
Optogenetic Stimulation in a Model of the Auditory Brainstem Implant	93.173	5F31DC014871-02		1,948	-
Sensory processing of social and defensive chemosignals	93.173	5R01DC013087-05		342,725	-
Subcortical auditory feedback mechanisms in speech: Function and structure	93.173	5F31DC015695-02		31,917	-
Synaptic and Circuit Mechanisms of Olfactory Processing	93.173	2R01DC008174-11A1		220,666	-
The mechanism of inner ear pressure homeostasis by the endolymphatic sac	93.173	5R01DC015478-02		406,349	-
The role of inhibition in higher olfactory processing	93.173	1F31DC016471-01		33,615	-
Training for Speech and Hearing Sciences	93.173	2T32DC000038-26 REVISED		593,040	-
Training for Speech and Hearing Sciences	93.173	4T32DC000038-25 REVISED		66,938	-
Use of new measurements to develop a model of bone conduction in animal and human	93.173	5F31DC015915-02 REVISED		27,706	-
Why are interneurons within the same brain region so diverse	93.173	1F31DC016196-01A1		29,640	-
Total for CFDA 93.173				5,885,135	123,225
Sensory receptors of the vagus nerve	93.212	5DP1AT009497-02		1,511,715	-
Total for CFDA 93.212				1,511,715	-
2018 Research Day on Teaching Kitchens and Self Care Practices	93.213	1R13AT009822-01		30,000	-
Chemical biology of bacterial symbionts	93.213	9R01AT009874-09		233,669	-
Identification and characterization of gut microbial bioactive molecules that determine predisposition to autoimmune disease and atopy	93.213	1R01AT009708-01A1		541,020	238,697
Inequities in Health Outcomes in the Twenty-First Century: Understanding New Causes and the Impact of Delivery System Reforms on Health Care Disparities	93.213	1DP5OD024564-01		280,494	-
Neurobiological and Clinical Phenotypes in OEF OIF OND Veterans with mTBI or Blast	93.213	5R21AT009430-02		180,131	31,239
Sensory Neuron-Bacteria Interactions in Modulating Pain and the Host Microbiota	93.213	1DP2AT009499-01 REVISED		313,564	-
Total for CFDA 93.213				1,578,878	269,936
Health Policy Training Program	93.225	5T32HS000055-24		385,470	-
Total for CFDA 93.225				385,470	-

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Engineering highly reliable learning lab	93.226	5P30HS024453-03		834,989	459,328
Identifying Cascades of Low-Value Care and the Organizational Practices that Prevent Them	93.226	1R01HS023812-01A1REVISED		177,956	140,435
Identifying Predictors of Hospital Admission from the ED Among the Elderly	93.226	1R01HS025408-01		131,681	-
Measuring Effects of Antihypertensive Medication Adherence on BP levels through Bayesian Dynamic Linear Models	93.226	7R03HS022112-02 REVISED		22,200	-
Medicaid Policy, Coverage, and Access to Care Among Low-Income Americans Under Health Reform	93.226	5K02HS021291-05REVISED		125,290	-
Quality and Outcomes under Medicaid Managed Care: Evidence from Random Plan Assignment	93.226	1K01HS025786-01		21,154	-
The Impact of Resource Constraints on Provider Behavior and Health Outcomes in Childbirth	93.226	1R36HS024898-01A1		32,608	-
Total for CFDA 93.226				1,345,878	599,763
Genetics of Sleep in Zebrafish	93.233	5R01HL109525-08 REVISED		628	-
Innovations in Genome Wide Asssociation Testing Inspired by Obstructive Sleep Apnea	93.233	1F31HL140822-01		16,654	-
Total for CFDA 93.233				17,282	-
A General Approach for the Development of New Cell-Type-Specific Viral Vectors	93.242	1RF1MH114081-01		729,465	-
Assessing causality Is post-traumatic stress disorder cardio-toxic	93.242	5R01MH101269-03REVISED		56,015	45,614
Basal forebrain purinergic P2 receptor mechanisms of sleep-wake regulation	93.242	5R03MH107650-02		39,744	-
Cerebellar network mapping with a high-throughput TEM platform	93.242	1RF1MH114047-01		226,792	-
Comprehensive Classification Of Neuronal Subtypes By Single Cell Transcriptomics	93.242	5U01MH105960-03 REVISED		187,237	187,237
Context dependent modulations of dopamine signaling	93.242	5R01MH110404-03		449,281	-
CRCNS: Leveraging decision-making variability to identify underlying computations	93.242	No Award Nmbr		154,425	-
Dissecting the assembly of vertebrate neurotransmitter release sites	93.242	5R01MH113349-02		453,626	-
Dissecting the role of anterior cingulate cortex projections to the amygdala in observational learning	93.242	5F31MH107151-02		50,749	-
Effects of a single-session implicit theories of personality intervention on recovery from social stress and long-term psychological functioning in early adolescents	93.242	5F31MH108280-02 REVISED		622	-
ESSENCE (Enabling translation of Science to Service to ENhance Depression CarE)	93.242	1U19MH113211-01 REVISED		413,458	182,856
Event-related Neuroimaging of Human Memory Formation	93.242	D-5R01MH060941-18		499,751	-
Experimental examinations of the mechanisms that generate the responses of midbrain dopamine neurons	93.242	5R01MH101207-05 REVISED		354,144	-
Exploring a Novel Paradigm of Schizophrenia and Bipolar Disorder	93.242	5R01MH113279-02		808,455	-
Functional analysis of schizophrenia-associated genes	93.242	5K99MH110603-02		109,215	-
Functional roles of long noncoding RNAs during neuronal development	93.242	5R01MH102416-05		289,789	-
Genomic mechanisms of firing rate homeostasis	93.242	1R01MH116223-01		370,084	-
Health Policy Training Program	93.242	5T32MH019733-23 REVISED		316,481	-
Healthy Options: Group psychotherapy for HIV-positive depressed perinatal women	93.242	5R01MH100338-05 REVISED		440,807	290,171

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Hidden State Inference in the Midbrain Dopamine System	93.242	1F30MH112242-01A1 REVISED		37,600	-
Identifying Risk Factors for PTSD by Pooled Analysis of Current Prospective Studies	93.242	5R01MH101227-04		557,799	278,458
Impact of Telemedicine on Medicare Beneficiaries with Mental Illness	93.242	1R01MH112829-01A1		226,899	-
Imprinting a Connectome: Developmental Circuit Approach to Mental Ilness	93.242	5P50MH094271-05		8,517	-
In situ transcriptional analysis of brain circuits at single cell resolution	93.242	5R01MH111502-03		1,704,193	316,498
In situ transcriptome imaging in single cells	93.242	5R01MH113094-02		1,111,619	-
METTL23 is essential for human cognitive function	93.242	5F30MH102909-05		29,741	-
Modeling ASD-linked genetic mutations in 3D human brain organoids	93.242	1R01MH112940-01A1		43,354	10,853
Neuropsychiatric Genome Scale and RDOC Individualized Domians (N-GRID)	93.242	5P50MH106933-04		3,328,924	1,489,599
New approaches to understand neuronal microcircuit dynamics for working memory	93.242	5R01MH107620-03		578,142	-
Optimizing cognitive training to improve functional outcome in clinical high risk	93.242	5R01MH105246-02 REVISED		(21,657)	(21,657)
Optimizing Delivery of ART/PrEP for HIV Prevention through Qualitative Research	93.242	4R01MH101027-04		337,649	70,395
Peptide Modulation of Striatal Patch and Matrix Subdivisions	93.242	5R01MH100568-05		344,151	-
Ph.D. Training in Neuroscience	93.242	5T32MH020017-20 REVISED		645,961	-
Physiological Genomics of Central Vasopressin Circuits Across Gender	93.242	5K01MH109712-02		136,121	-
Post Traumatic Stress Disorder and Accelerated Aging in Women	93.242	2R01MH101269-04A1REVISED		283,005	112,831
Posttraumatic Stress Disorder and Cognitive Decline in Women	93.242	7R21MH102570-02Revised		14,277	9,586
Real-time fMRI Neurofeedback as a Tool to Mitigate Auditory Hallucinations in Patients with Schizophrenia	93.242	1R61MH113751-01A1		232	-
Regional and Genetic Diversity of Cortical Interneurons	93.242	5R01MH071679-14		260,354	-
Regulation of Neuronal Calcium Dynamics and Learning by Mental Disease-Associated miRNAs	93.242	1R21MH117386-01		7,510	-
Synaptic Basis of Sleep Cycle Control	93.242	5R01MH039683-32		313,959	-
Technology Diffusion and New Delivery Models	93.242	5U01MH103018-05 REVISED		519,391	-
The algorithms used by the genome to interpret neural activity	93.242	5R01MH101528-05 REVISED		537,737	-
The biochemical correlates of sleep homeostasis	93.242	4R01MH099180-04		260,391	-
Training Program in Psychiatric Genetics and Translational Research	93.242	5T32MH017119-31Revised		244,647	-
Using ambulatory physiological monitoring to improve detection of harmful behaviors on adolescent inpatient psychiatry units	93.242	1R21MH115293-01		96,816	-
VENTRICLES, CORPUS CALLOSUM, SYMPTOMS and MIR137 IN LARGE N STUDY OF SCHIZOPHRENIA	93.242	5R21MH109819-02		127,410	62,470
Youth FORWARD: Capacity Building in Alternate Delivery Platforms and Implementation Models for Bringing Evidence-Based Behavioral Interventions to Scale for Youth Facing Adversity in West Africa	93.242	1U19MH109989-01Revised		138,085	73,411
Total for CFDA 93.242				17,822,967	3,108,322

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Lung Disease in Chinese Textile Workers	93.262	5R01OH002421-22REV		104,252	-
The Harvard TH Chan School of Public Health Center for Work, Health and Wellbeing	93.262	5U19OH008861-11 REVISED		1,150,854	918,225
The HSPH Education and Research Center of Occupational Safety and Health	93.262	5T42OH008416-13REVISED		1,267,141	-
Total for CFDA 93.262				2,522,247	918,225
Alcohol and Cell Adhesion	93.273	4R01AA012974-15 REVISED		157,303	3,482
Chronic disease risk and genetic risk factors in fetal alcohol spectrum disorder	93.273	1F31AA025254-01A1		26,840	-
Data-Based Methods for Just-In-Time Adaptive Interventions in Alcohol Use	93.273	5R01AA23187-02		429,898	-
Mechanisms of Hippo signaling in Alcoholic liver disease	93.273	1R21AA025725-01		224,262	-
The gut microbiota and ethanol	93.273	5R21AA023207-02		1,817	-
Total for CFDA 93.273				840,120	3,482
Behavioral Couples Therapy for Female Drug-Abusing Patients	93.279	5R01DA025618-05 REVISED		2,574	-
Developmental gene networks of 5HT neurons in addiction, aggression, and anxiety	93.279	5R01DA034022-04		409,996	43,418
Drug abuse and jobs: racial disparities in labor force participation and outcomes	93.279	5R03DA038697-02REVISED		362	-
Generation and characterization of tools for target-specific de novo DNA methylation	93.279	5R01DA036898-05		298,702	-
Intergenerational impacts of parent marijuana use on adolescent health behavior	93.279	5F31DA039586-03REVISED		29,614	-
Substance Abuse at the Schizophrenia International Research Congress	93.279	5R13DA036925-04		12,500	-
Substance Use Disorder Treatment under New Payment and Delivery System Models	93.279	5R01DA035214-03 REVISED		261,121	93,145
Syringe Injectable Electronics Platform for Chronic Mapping and Modulation of Neural Circuits in Addiction	93.279	5R21DA043985-02		171,085	-
Total for CFDA 93.279				1,185,954	136,563
Automated Procedure Guidance with Ultrasound Imaging Catheters	93.286	5R21EB018938-02		33,580	33,580
Biomaterial based breast cancer vaccine	93.286	4R01EB015498-04		31,021	-
Continuous Evolution of Proteins with Novel Therapeutic Potential	93.286	5R01EB022376-11 REVISED		4,989	-
In vivo Handheld Coherent Raman Scattering (CRS) Microscopy for Glioma Imaging	93.286	5R01EB017254-04		321,892	236,921
Mechanotransduction analysis in a microengineered lung-on-a-chip	93.286	5R01EB020004-04		589,593	246,197
MSC Encapsulation with Thin Gel Coating	93.286	1R01EB023287-01A1		154,239	-
Total for CFDA 93.286				1,135,314	516,698
Addressing Mental Health Disparities in Refugee Children Through Family and Community-based Prevention: A CBPR Collaboration and Hybrid Implementation Effectiveness Trial	93.307	7U01MD010613-02Rev		269,919	118,556
Addressing Mental Health Disparities in Refugee Children: A CBPR Collaboration	93.307	5R24MD008057-03REVISED		16,637	11,103

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Disparities in Exposure and Health Effects of Multiple Environmental Stressors Across the Life Course	93.307	3P50MD010428-03S1		763,878	353,535
Harvard School of Public Health MHIRT Training Program Grant	93.307	5T37MD001449-21		258,691	-
Trends in Racial Disparities in Surgical Readmissions and Strategies to Narrow the Gap	93.307	1R21MD011701-01REVISED		38,963	-
Total for CFDA 93.307				1,348,088	483,194
A Road Map to the Neocortex	93.310	5DP1MH099906-05		(1,026)	-
Antibody therapeutics for human viral hemorrhagic fevers and prevention of late neurological syndromes	93.310	1DP5OD23084-01		570,915	-
Biocompatible Chemistry for In Vivo Metabolite Modification	93.310	1DP2GM105434-01		(13,419)	-
Biomedical Data Science Online Curriculum on HarvardX	93.310	5R25GM114818-03		129,877	68,685
Coordinating Center for the Undiagnosed Diseases Network	93.310	3U01HG007530-04S2		3,331,628	341,367
Dissecting bacterial cell wall synthesis using in vivo single molecule tracking	93.310	1DP2AI117923-01		409,064	-
Investigating Organ Formation and the Emergence of Complexity in the Visual System Using Comparative Developmental Approaches	93.310	5DP5OD023111-02		346,834	-
Machine Learning for Health Outcomes and Quality of Care in Low-Income Populations	93.310	1DP2MD012722-01		249,871	-
Mechanisms of arousal threshold and sleep homeostasis	93.310	1DP2AT009498-01 REVISED		356,101	-
Modeling the Aging Epigenome	93.310	5DP1AG044161-05 REVISED		209,050	-
Molecular mechanisms of adiponectin signaling and PAQR function	93.310	5DP5OD021345-03		359,238	-
New tools for understanding the blood brain barrier	93.310	5DP1NS092473-04		1,060,367	-
NIH Data Commons	93.310	1 OT3 OD025466-01 S1		398,010	-
Pharmaco Response Signatures and Disease Mechanism	93.310	5U54HL127365-04 REVISED		2,235,963	195,064
Physician Determinants of Health Care Spending, Quality, and Patient Outcomes	93.310	5DP5OD017897-05		324,186	-
Probing Dynamics of The Human Genome by Single Cell Sequencing	93.310	5DP1CA186693-05		664,214	-
Psychological functions of music in infancy	93.310	1DP5OD024566-01 REVISED		355,879	-
Quantification and prediction of treatment efficacy for HIV cure strategies	93.310	5DP5OD019851-04		268,298	-
Single cell analysis of metabolism using genetically-encoded fluorescent sensors	93.310	4DP1EB016985-05		394,900	-
Small-Molecule Catalysts for the Stereoselective Synthesis of Oligosaccharides	93.310	3U01GM116249-02S2		323,919	-
Subcellular RNA-Proteome Mapping in Subtype- and Circuit-specific Growth Cones: Development, Cell Biology, Disease, and Regeneration	93.310	1DP1NS106665-01		639,966	-
Super-resolution imaging via programmable autonomous blinking	93.310	5R01EB018659-05		746,187	203,850
Syringe Injectable Mesh Electronics for Seamless Integration with the Central Nervous System	93.310	1DP1EB025835-01		811,364	-
The inheritance of position: It's not just who you are, it's where you are	93.310	4DP1GM106412-05		476,806	-
Towards a FAIR Digital Ecosystem in the Cloud	93.310	1OT3OD025456-01		135,647	23,777
Transporting established insights from classical experimental design to address causal questions in environmental epidemiology, including the understanding of biological mediating mechanisms	93.310	5DP5OD021412-02		544,098	-
Using mobile phones for social and behavioral sensing of mood disorder patients	93.310	1DP2MH103909-01REVISED		845,098	1,619
Watching a vertebrate brain learn and behave in a virtual environment	93.310	5DP1NS082121-05 REVISED		36,763	-
Total for CFDA 93.310				16,209,798	834,362

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Harvard Clinical and Translational Science Center	93.350	5UL1TR001102-05 REVISED		23,466,785	15,776,364
Harvard Clinical and Translational Science Center	93.350	5KL2TR001100-05 REVISED		1,851,762	1,767,387
Harvard Clinical and Translational Science Center	93.350	5TL1TR001101-05 REVISED		594,008	-
Human Cardio-Pulmonary System on a Chip	93.350	5UH3TR000522-05 REVISED		370,745	-
The Harvard Clinical and Translational Science Center	93.350	1KL2TR002542-01		11,997	-
The Harvard Clinical and Translational Science Center	93.350	3UL1TR002541-01S1		1,393,999	-
Total for CFDA 93.350				27,689,296	17,543,751
ARC: Building Awareness, Respect, and Confidence through Genetics	93.351	8R25GM129172-03		334,330	15,544
Drosophila resources for modeling human diseases	93.351	5R24OD021997-02 REVISED		407,012	-
Next-generation Drosophila cell lines to elucidate the cellular basis of human diseases	93.351	1R24OD019847-01A1		298,223	95,667
Total for CFDA 93.351				1,039,565	111,211
Area A: High Precision Single Cell Genomes: Linear Amplification and Digital Haplotypes	93.353	1R33CA225344-01		306,779	97,574
Total for CFDA 93.353				306,779	97,574
Novel Epigenomic Biomarkers of Prenatal Risk Factors, and Childhood Obesity	93.361	5R01NR013945-03Revised		124,617	124,617
Total for CFDA 93.361				124,617	124,617
4D Nucleome Network Data Coordination and Integration Center	93.393	5U01CA200059-03 REVISED		1,999,086	59,806
Bone metabolism and bone metastases in prostate cancer	93.393	5R01CA179129-05REVISED		149,847	15,542
Cancer Epidemiology Cohort in Male Health Professionals	93.393	2U01CA167552-06REVISED		1,590,878	79,811
Cancer Epidemiology Cohort in Male Health Professionals	93.393	4UM1CA167552-05Rev		315,370	87,387
Circadian Disruption and Risk of Prostate Cancer in a Multiethnic Cohort	93.393	5R01CA202690-03		368,634	64,530
Clustered semi-competing risks analysis in quality of end-of-life care studies	93.393	5R01CA181360-04REVISED		351,212	78,068
Colorectal carcinogenesis and Fusobacterium nucleatum: oncomicrobe, oncometabolites, and oncoimmunology	93.393	2R01CA154426-06A1		288,130	-
Comparative Modeling to Inform Cervical Cancer Control Policies	93.393	5U01CA199334-03		1,312,252	887,403
Conferences on Emerging Statistical Issues in Biomedical Research	93.393	5R13CA124365-10		(663)	-
Early life risk factors and risk of colorectal neoplasia	93.393	5R03CA197879-02		(2)	-
Genomic targets of oncoproteins and tumor suppressors	93.393	5R01CA107486-10 REVISED		664,983	-
Integrating diet and tissue whole exome sequencing data to study processed meat and colorectal cancer	93.393	1R21CA222940-01		71,146	-
Leveraging GxE interaction to understand pancreatic cancer and altered metabolism	93.393	5UH2CA191284-02- Revised		63,893	33,825

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Life Course Cancer Epidemiology Cohort in Women	93.393	5UM1CA176726-05REVISED		3,232,860	1,946,986
Long-term trends in breast cancer DNA copy number alterations and disparities	93.393	5R03CA193078-02REVISED		71,321	12,168
Measuring and Improving Colonoscopy Quality Using Natural Language Processing	93.393	5R01CA168959-05		119,467	89,018
Molecular Biology of Oncogenic Papillomaviruses	93.393	5R35CA197262-03		1,130,122	-
Reducing Skin Cancer Risk in Childhood Cancer Survivors	93.393	5R01CA175231-05REVISED		580,034	241,237
Risk Factors for Breast Cancer in Younger Nurses	93.393	5R01CA050385-28REVISED		1,301,560	908,114
Single-cell analysis of tumor-microenvironment interactions in follicular lymphoma	93.393	1R21CA220147-01		62,216	27,980
Social Networks and the Spread of Cancer Care Practices	93.393	4R01CA174468-04		293,343	80,089
Statistical Informatics for Cancer Research	93.393	5P01CA134294-10Revised		606,349	20,494
Statistical Methods for Analysis of Massive Genetic and Genomic Data in Cancer Research	93.393	5R35CA197449-03		721,347	478
Statistical methods for analysis of pooled continuous biomarker data arisen from multiple studies	93.393	5R03CA212799-02		57,886	-
The Boston Lung Cancer Survival Cohort	93.393	1U01CA209414-01A1REVISED		762,391	225,972
The Obesity Paradox in Renal Cell Carcinoma	93.393	5R03CA195098-02REVISED		53,894	16,463
Theory and methods for mediation and interaction	93.393	1R01CA222147-01		43,658	-
Understanding the Mechanism of a Gut Microbial Genotoxin Involved in Colorectal Carcinogenesis	93.393	5R01CA208834-02		516,864	48,223
Weight cycling and total and site-specific cancer incidence and mortality	93.393	5R03CA204825-02		86,212	-
Workshop for Junior Biostatisticians in Health Research	93.393	5R1 CA196188-02REVISED		25,000	-
Total for CFDA 93.393				16,839,290	4,923,594
Droplet microfluidic technology for single cell cancer genomics	93.394	5R33CA212697-02Revised		512,905	-
Effective Training Models for Implementing Health-Promoting Practices Afterschool	93.394	5R21CA201567-02		166,295	-
Total for CFDA 93.394				679,200	-
A p53/NFkB-mediated metabolic mechanism for chemotherapy protection	93.395	5R01CA183074-05		406,409	-
Biomaterial Cancer Vaccines that Generate Patient-Specific Antigen In Situ	93.395	1R01CA223255-01		224,158	-
Modulation of p53 function by tyrosine kinase networks	93.395	4R01CA167814-05		(13,258)	-
Regulation of Apoptotic Priming and Competence in Healthy and Cancerous Cells	93.395	5R00CA188679-04		270,334	-
Synthesis and Study of Natural and Non-natural Antiproliferative Agents	93.395	5R01CA047148-28		(6,227)	-
Synthesis and Study of Natural and Non-natural Antiproliferative Agents	93.395	5R01CA047148-31		689,279	-
Total for CFDA 93.395				1,570,695	-

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(PQ7) A multi-fluorescent intravital microscopy approach to study osteosarcoma	93.396	1R21CA208618-01A1 REVISED		157,932	8,940
3D Models of Immunotherapy	93.396	1U01CA214369-01		480,710	63,661
Analysis of Intratumoral Crosstalk in Clonal Populations of OvarianTumor Cells	93.396	5R01CA181543-04 REVISED		375,216	-
Decoding and targeting the PI3K-mTOR signaling network in cancer	93.396	5R35CA197459-03		842,208	37,609
Epithelial layer jamming in breast cancer cell migration	93.396	5U01CA202123-03		887,753	188,212
MDM2 and MDMX function together as the p53 E3 ligase	93.396	5R01CA085679-14		(2,072)	-
Molecular mechanisms of Nutrient sensing in cancer	93.396	1R01CA213062-01A1 REVISED		338,480	-
Notch Signaling in Cancer	93.396	1R35CA220340-01 REVISED		893,628	-
Roles of Eukaryotic Translation Initiation Factors in Gene Expression	93.396	3R01CA200913-02S1		581,875	-
SCH: INT: Collaborative Research: Intelligent Information Sharing: Advancing Teamwork in Complex Care	93.396	5R01CA204585-02		267,609	171,376
Structural and Mechanistic Studies of Regulation of let-7 biogenesis by Lin28'	93.396	4R01CA163647-05		(2,901)	-
Structure and function in Notch Signaling	93.396	5R01CA092433-14 REVISED		117,774	4,413
Visual Analysis of Genomic and Clinical Data from Large Patient Cohorts	93.396	5U01CA198935-03 REVISED		470,491	62,283
Visualizing healthcare system dynamics in biomedical Big Data	93.396	5U01CA198934-03 REVISED		610,280	136,588
Total for CFDA 93.396				6,018,983	673,082
Harvard Transdisciplinary Research in Energetics and Cancer	93.397	5U54CA155626-05Revised		44,456	21,842
Systems Pharmacology of Therapeutic and Adverse Responses to Immune Checkpoint and Small Molecule Drugs	93.397	1U54CA225088-01		304,840	28,344
Total for CFDA 93.397				349,296	50,186
Alternative End-Joining in DNA Repair and Chromosomal Translocations	93.398	5F30CA189740-04		50,122	-
Analysis of tumor-stroma signaling that mediates HER2-therapy resistance in breast cancer	93.398	1K99CA222554-01		66,713	-
Androgen receptor expression and signaling and breast cancer risk and progression	93.398	5F31CA192462-03		28,323	-
Behavioral Economics and Improving Chemotherapy Decisions for Advanced Cancer	93.398	5K24CA181510-04		169,814	-
Characterization of a novel RNA-guided endoRNAse and applications towards genome-wide screening for non-coding RNA roles in melanoma resistance	93.398	5F30CA210382-02		44,879	-
Characterization of GATOR1 signaling to mTORC1 and its role in cancer	93.398	7F30CA189333-03 REVISED		43,200	-
Characterization of organ wasting/cachexia mechanisms	93.398	1F32CA213805-01 REVISED		4,687	-
Collective cellular migration, cell jamming, and matrix adhesion in breast cancer model systems	93.398	5F32CA210447-02		59,040	-
Computational Analysis of Subclonal Evolution in Chronic Lymphocytic Leukemia	93.398	5F31CA206236-02 REVISED		3,942	-
Defining and manipulating quiescence associated DNA damage resistance in single cells	93.398	5K99CA207727-02		161,553	-
Development of covalent Pin1 inhibitors for the treatment of triple negative breast cancer	93.398	1F31CA225066-01		7,905	-

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Dissect regulation of RNA translation in human cancers	93.398	5K99CA207865-02 REVISED		78,086	-
Dissecting CRBN-substrate interactions in the mechanism of lenalidomide	93.398	5F30CA199988-02		1,948	-
Dissecting the Functional Roles of Two BH3-Binding Sites on Pro-Apoptotic BAX	93.398	5F31CA189651-03 REVISED		13,291	-
Drug Tolerant Persisters in EGFR-mutant Non-small Cell Lung Cancer: Epigenetic Landscape and Therapeutic Targeting	93.398	1F30CA213726-01A1 REVISED		37,600	-
Effects of Brca1 Heterozygosity on Mammary Gland Biology	93.398	1F31CA228200-01 REVISED		3,974	-
EGFR T790M-mediated drug resistance in non-small cell lung cancer	93.398	5F31CA192623-03		31,010	-
Elucidating Reversible Drug Resistance in Glioblastoma	93.398	1F31CA224536-01		7,948	-
Elucidating the role of bisphosphonates in the inhibition of breast cancer	93.398	5F31CA195797-02 REVISED		15,587	-
Elucidation of the impact of commonly co-altered genes on chemosensitivity using a novel model of high-grade serous ovarian cancer	93.398	5F32CA196008-03 REVISED		8,690	-
Estrogen signaling and epigenetics in breast tumorigenesis	93.398	5F30CA192477-03 REVISED		33,156	-
Evaluation of dynamic strategies of cancer care	93.398	1K99CA207730-01A1REVISED		83,918	-
Harvard Education Program in Cancer Prevention Control	93.398	5R25CA057711-24REVISED		464,409	1,741
Inflammation and gynecologic cancer: the role of prostaglandins in ovarian cancer	93.398	5F99CA212222-02		26,298	-
Investigating host protein interactions of the Human Papillomavirus E2 protein	93.398	5F31CA189512-03		4,896	-
Investigating metabolic adaptations of Myc-dependent cancers	93.398	5F31CA210310-02		31,166	-
Investigating the Mechanism of B-myb Dependent Gene Expression	93.398	5F31CA189328-03		3,896	-
Investigating the Novel Function of ATR Checkpoint Kinase in R-Loop Responses	93.398	5F31CA210311-02		30,732	-
Linking oncogenic signaling to tumor metabolism	93.398	5K99CA194192-02 REVISED		(3,954)	-
Mechanically mediated genomic changes during the metastatic cascade	93.398	1F30CA224588-01		15,531	-
Metabolic regulation of anti-tumor T cell responses	93.398	1F31CA224601-01		7,948	-
Molecular regulation and therapeutic targeting of the TSC signaling network	93.398	1F32CA221080-01		33,026	-
Oncolytic Herpes Simplex Virus Interactions with Glioblastoma Stem Cells	93.398	5F31CA192453-03		23,771	-
Optimal BET inhibitor combination therapies in triple negative breast cancer	93.398	1F30CA228208-01		13,704	
Program for Training in Cancer Epidemiology	93.398	5T32CA009001-42Rev		598,802	-
Proinflammatory and hyperinsulinemic dietary patterns and colorectal cancer risk: role of the metabolome	93.398	5K99CA207736-02		126,557	-
Regulation of arginine metabolism as a therapeutic target in breast cancer	93.398	5F31CA213460-02		36,761	-
Role of Akt isoforms in PTEN-deficient breast cancer	93.398	5F31CA195701-02 REVISED		29,849	-

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Statistical Methods for Characterizing Tumor Heterogeneity at the Single Cell Level	93.398	1F99CA222750-01Revised		15,904	-
Statistical Methods for Characterizing Tumor Heterogeneity at the Single Cell Level	93.398	4K00CA222750-02		8,943	-
T antigens inhibit Notch to promote Merkel cell carcinoma in skin stem cells	93.398	5F31CA213464-02		31,166	-
The Molecular Atlas Project	93.398	5F32CA204038-03		59,343	-
The Role of Driver Mutations in Lung Cancer Response to Anti-PD-1 Therapy	93.398	5F31CA196035-03 REVISED		24,818	-
The role of Folliculin, tumor suppressor mutated in BHD, in mTOR nutrient sensing	93.398	4F30CA180754-03		49,044	-
The role of Lin28/let 7 pathway in Wilms' tumor	93.398	5F99CA212487-02		32,181	-
Training Grant in Quantitative Sciences for Cancer Research	93.398	5T32CA009337-37		537,766	-
Tumor suppressor role of the DREAM complex	93.398	1F31CA220800-01		25,836	-
Total for CFDA 93.398				3,183,779	1,741
Supporting Families of Preterm Infants to Access Supplemental Security Income	93.647	90PD0302-01-00		27,515	-
Total for CFDA 93.647				27,515	-
A defend and destroy approach to curing HIV	93.837	5U19HL129903-03 REVISED		2,205,645	1,600,572
Assessing the effects of antihypertensive medication adherence through bayesian dynamic linear models	93.837	7R21HL121366-03		10,803	-
Biasing Myocardial Neuregulin Signaling with Engineered Ligands	93.837	7R01HL117986-05		31,488	-
Complement Activation and Initiation of Heart Regeneration	93.837	1R01HL137710-01A1		92,204	-
CVD Epidemiology Training Program in Behavior, the Environment and Global Health	93.837	5T32HL098048-09		342,704	-
Deconstructing Roles of Sensory Neuron Subtypes in Respiration and Airway Defense	93.837	5F31HL132645-02 REVISED		30,159	-
Defining Genetic Architecture and Pathways of DCM	93.837	5R01HL080494-10		534,575	-
Developing integrative methods to improve GWAS inference using epigenomic data	93.837	5F31HL126581-03 REVISED		18,116	-
Developing Standardized Intraoperative Process Models to Enhance Surgical Safety	93.837	5R01HL126896-02		383,212	289,559
Diet quality and cardiometabolic disparities among Latino ethnic subgroups	93.837	5K01HL120951-04		127,766	-
Dietary Etiologies of Heart Disease	93.837	5R01HL035464-27		754,729	342,057
Dietary Patterns and Risk of Cardiovascular Disease	93.837	5R01HL060712-14		358,332	243,261
Genetic Determinants of Chagas Cardiomyopathy	93.837	1R01HL133165-01A1		389,153	-
Genetic Markers of CHD in Type 2 Diabetes	93.837	5R01HL071981-08Rev		(3,118)	-
Genetic Signals in Ventricular Hypertrophy	93.837	5R01HL084553-09		394,537	-
HDL Proteins and Coronary Heart Disease	93.837	5R01HL123917-04		526,156	26,661
HIV-induced transcriptional changes in alveolar macrophages in susceptibility to M. tuberculosis infection	93.837	5F30HL134566-02 REVISED		34,789	-
Mechanism and inhibition of SREBP-dependent cholesterol/lipid metabolism	93.837	4R01HL116391-04		127,865	18,493
Mechanisms of DNA interstrand cross-link repair	93.837	5R01HL098316-07		317,404	-
Mediterranean diet, Metabolites, and cardiovascular Disease	93.837	5R01HL118264-06		292,673	49,917
Mediterranean diet, Metabolites, and cardiovascular Disease	93.837	4R01HL118264-04REVISED		138,547	98,297

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Modulation of vascular permeability by shear stress via Notch signaling	93.837	5F32HL129733-02		59,973	-
Molecular Architecture Of The Mitochondrial Calcium Uniporter	93.837	5R01HL130143-02		728,352	333,430
Multi-scale modeling of inherited pediatric cardiomyopathies	93.837	1UG3HL141798-01		409,702	-
NHLBI Summer Training Experience to Increase Diversity in Health-Related Research	93.837	5R25HL121029-04		98,900	-
Precision cardiovascular medicine for multi-ethnic populations	93.837	1K01HL138259-01A1		22,993	-
Preterm delivery and risk of maternal cardiovascular disease in the Nurses' Health Study II	93.837	5F31HL131222-03		28,430	-
Regulation of Cardiac Development in Health and Disease	93.837	5UM1HL098166-09		1,271,168	672,315
Reprogramming Non-myocytes to Cardiomyocytes in vivo	93.837	5R01HL119230-02		580,659	121,260
Sensory biology of respiratory control neurons in the vagus nerve	93.837	5R01HL132255-03		402,976	-
Single cell molecular network mechanisms of cardiotoxicity induced by tyrosine kinase inhibitors	93.837	1F32HL142231-01		12,212	-
Statistical methods for analysis of single-cell variability	93.837	5R01HL131768-03		601,981	373,782
The Intergration of Trans-omics for Precision Medicine (TOPMED) and other Heart, Lung, Blood, and Sleep (HLBS) Data sets with the NIH Data Commons	93.837	1 OT3 HL142480-01		664,037	-
The role of immunometabolic pathways in atherosclerosis	93.837	5R01HL125753-04		253,111	-
The Role of Inflammation and Inflammatory Mediators in Hematopoiesis	93.837	1F31HL132410-01A1 REVISED		27,153	-
The role of the enteric microbiome in chronic HIV pathogenesis and cardiovascular disease in HIV-infected individuals	93.837	1F30HL136257-01 REVISED		37,711	-
Training in Interdisciplinary Pulmonary Sciences	93.837	5T32HL007118-42 REVISED		365,831	-
Total for CFDA 93.837				12,672,928	4,169,604
Dissecting the Lineage and Function of the Airway Brush Cell	93.838	1F31HL136128-01		25,836	-
Integrative analysis of lung disease genotypes and gene expression	93.838	1F31HL138832-01		23,863	-
Lung-on-a-Chip Disease Models for Efficacy Testing	93.838	1UG3HL141797-01		939,577	-
Mechanics of Monolayer Migration	93.838	5R01HL107561-05Revised		83,193	-
Mechanism and Function of Beta-2 Adrenergic Receptor Degradation in the Lung	93.838	4R01HL114769-04		67,759	67,759
MicroRNA-10a in Airway Smooth Muscle and Asthma	93.838	1R01HL139496-01		164,736	-
Molecular Epidemiology of ARDS	93.838	5R01HL060710-13		58	-
Physics of collective cellular migration in lung health and disease	93.838	5P01HL120839-04		2,457,163	709,705
Plasma Gelsolin and Host Defense After Lung Injury	93.838	5R01HL115778-03		7,531	-
Training in Interdisciplinary Pulmonary Sciences	93.838	3T32HL007118-40S1REV		4,824	-
Trial of Vitamin D Supplementation to Prevent TB Infection in Schoolchildren	93.838	5R01HL122624-04		648,736	465,565
Whole Blood MicroRNAs as Risk and Survival Biomarkers for ARDS	93.838	1R56HL134356-01		276,517	20,366
Total for CFDA 93.838				4,699,793	1,263,395

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A novel program of ubiquitination in global remodeling of the erythroid proteome	93.839	5R01HL125710-03		523,248	120,992
A synthetic biology approach to targeting erythropoietin-based therapeutics	93.839	5F32HL122007-03 REVISED		(308)	-
Characterizing the clonal dynamics and origins of the developing hematopoietic system	93.839	1F30HL137235-01A1		17,518	-
Functional analysis of red blood cell determinants of Plasmodium invasion	93.839	3R01HL139337-02S1		736,535	-
Identifying factors that promote clonal dominance in zebrafish hematopoiesis	93.839	5F31HL126338-03 REVISED		15,139	-
Red cell determinants of premature hemolysis of Plasmodium infected red cells	93.839	1F32HL136173-01		52,770	-
Total for CFDA 93.839				1,344,902	120,992
A mechanism for tyrosine phosphorylation of extracellular matrix proteins	93.846	1R21AR072192-01A1		146,241	-
Adult Bone Mass Regulation by Type 2 BMP Receptors	93.846	5R01AR064227-04 REVISED		516,506	-
Assessment and Evaluation of Hill-type Muscle Models for Predicting In Vivo Force	93.846	5R01AR055648-08		307,451	119,093
Biogenesis of Extracellular Matrix	93.846	4R01AR036819-32		4,345	-
Characterization of the Insulin to Autophagy Pathway in Muscles	93.846	5R01AR057352-08		347,569	-
Epigenetic regulation of skeletal patterning and morphogenesis during development	93.846	5K01AR069197-03		112,226	-
Hypertrophy and Inflammation in Osteoarthritis: epistasis or synergy	93.846	5R01AR069671-02		443,741	-
Igf signaling control of chondrocyte hypertrophy in bone development and repair	93.846	5F32AR067097-03		44,901	-
Interdependence of lineages within the mammalian skin	93.846	5R01AR070825-02		467,426	-
Mechanisms and function of the microtubule podosome connection in osteoclasts	93.846	4R01AR062054-05		175,156	-
Molecular Mechanism of Wnt/Planar Cell Polarity Signaling	93.846	5R01AR070877-02		501,057	-
Muscle Tregs in health and disease	93.846	5R01AR070334-03		387,875	-
R-Spondin3 as a target for anabolic bone therapy	93.846	5R01AR064724-04 REVISED		598,525	-
Regulation of Quiescence and Activation in Skin Stem Cells	93.846	5R00AR063127-05		12,303	-
Regulation of Skin Inflammation by Nociceptive Sensory Neurons	93.846	5R01AR068383-03 REVISED		522,851	-
Role of GATA6 in regulating hedgehog signaling in the growth plate	93.846	5R01AR060735-05 REVISED		324,923	-
Role of the first secreted tyrosine kinase in bone development, homeostasis, and repair.	93.846	5R01AR066717-03 REVISED		675,296	-
Transcriptomics in synoviocytes defines pathogenesis of rheumatoid arthritis	93.846	5F31AR070582-02		30,253	-
Total for CFDA 93.846				5,618,645	119,093
A novel pathway for small molecule delivery to Peyer's patch follicles	93.847	5F31DK105596-03 REVISED		20,883	-
Adipose-tissue Tregs: important players in immunological control of metabolism	93.847	5R01DK092541-07		355,566	-
Aire, a zinc-finger protein that controls autoimmunity	93.847	5R01DK060027-18		307,963	-
Bacterial Metabolites controlling Th17 cells	93.847	5R01DK110559-02		396,149	-

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Biomarkers for diabetes using stem cell-derived beta cells	93.847	1UC4DK104159-01		429,511	-
Cell and Molecular Dynamics of Hematopoiesis In Vivo	93.847	5R24DK103074-03		824,964	108,164
Cellular signaling in muscle metabolic adaptation and energy metabolism	93.847	1R01DK113791-01A1		338,367	-
Central circuitry controlling micturition	93.847	1R01DK114834-01		412,470	31,067
Charting vagal circuits containing glucagon-like peptide 1 receptor	93.847	5R01DK103703-03		324,599	-
Chemosensory tuft cells and intestinal homeostasis	93.847	1K01DK113041-01		40,889	-
Control of metabolic homeostasis in diabetes by sirtuins	93.847	5R01DK103295-04		300,885	-
Deciphering CD160 contribution in intestinal homeostasis and inflammation	93.847	5F31DK105624-02		27,784	-
Deciphering the molecular basis of T1D in human cells using functional genomics	93.847	1DP3DK111898-01 REVISED		825,817	626,584
Developmental processes shaping the luminal surface and stem cell zones in the gut	93.847	5F32DK103563-03		10,387	-
Dietary Interventions, Metabolites, and Risk of Type 2 Diabetes	93.847	5R01DK102896-04		217,217	20,417
Dietary Interventions, Metabolites, and Type 2 Diabetes	93.847	1F31DK114938-01		29,373	-
Dissecting Yap Activity in the Regulation of Adult Liver Ductal Progenitors	93.847	5F31DK107049-02		6,326	-
Effect of mitochondrial mutations on ion channel activity and cytoskeletal homeostasis	93.847	1F30DK112477-01		33,626	-
Elucidating mechanisms of SIRT1 activation	93.847	5R01DK100263-02		390,304	-
Empowerment as a mechanism for change in childhood obesity prevention	93.847	5R01DK108200-03		615,936	188,543
Generating novel sources of functional human insulin-secreting cells for T1D modeling	93.847	1UC4DK116280-01		336,413	64,216
GLP1R neurons in the subfornical organ and integration of thirst and satiety cues	93.847	1K01DK113047-01 REVISED		73,309	-
Identification of Novel Regulators of Fetal Hemoglobin Expression	93.847	5F30DK103359-03 REVISED		47,018	-
Identifying the Neural circuit for presystemic control of vasopressin release	93.847	5F31DK109575-02		30,572	-
Immune signaling in skeletal muscle oxidative metabolism	93.847	5F31DK107256-02REVISED		22,799	-
Inflammatory and stress signaling networks in metabolic disease	93.847	5R01DK052539-20		336,784	-
Investigating the physiological mechanisms that allow the blind cavefish Astyanax mexicanus to thrive in a low nutrient environment	93.847	5F32DK108495-02		61,539	-
Investigating the role of natural and engineered curli fibers in mediating interactions with the gut epithelium	93.847	5R01DK110770-02		370,786	-
Linking hypothalamic and amygdalar circuits underlying attention to food cues	93.847	5F31DK105678-03		31,506	-
Lipid-dependent regulation of human Th17 cell function	93.847	5R01DK106351-02		407,924	-
Mechanisms of dietary control of the transsulfuration pathway and increased endogenous hydrogen sulfide production	93.847	5R01DK090629-06		497,840	-
Metabolomics and Type 2 Diabetes in a Cohort of Older Puerto Ricans	93.847	5K01DK107804-02		151,364	-
Microgial Iron Metabolism and Its Regulation by Cannabinoids	93.847	2R01DK064750-09A1		221,081	-
NKT cell mediated immunoregulation by symbiotic gut microbial glycosphingolipids	93.847	5K01DK102771-03		164,167	-
Obesity Genes, Energy Regulation in Response to Weight-Loss Diets	93.847	5R01DK091718-04Revised		(7,834)	-
Pediatric Artificial Pancreas System for Enhanced Diabetes Management In Young Children with Type 1 Diabetes	93.847	7DP3DK104057-02 REVISED		404,309	67,157

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Physiology of Lipid Droplets and Triglyceride Storage	93.847	5R01DK101579-05 REVISED		545,032	-
Production of clinical-grade diabetes patient-specific induced pluripotent stem cell lines intended for autologous beta cell replacement therapy	93.847	3UC4DK104165-01S1 REVISED		1,721,678	448,589
PTH resistance and marrow adipogenesis	93.847	1R01DK112374-01A1 REVISED		551,711	-
Quantification of genetic circuits for detection of intestinal inflammation	93.847	1F32DK112640-01A1		56,839	-
Radial patterning of smooth muscle in the vertebrate gut	93.847	5F31DK111059-02		29,732	-
Regulation of de novo lipogenesis through BAD-dependent glucose signaling	93.847	5F31DK105595-03 REVISED		20,983	-
Regulation of Fructose Transport by Thioredoxin-Interacting Protein	93.847	5R01DK107396-02		456,109	-
Reprogram gastric tissue to functional insulin-secreting cells	93.847	5R01DK106253-03		422,952	-
Resolving the role of nicotine-mediated phosphorylation on pancreatic fibrosis	93.847	5K01DK098285-05		127,638	-
Role of DGAT in Triacyglycerol Metabolism	93.847	7R01DK056084-13REVISED		(5,874)	-
Role of DN T cells in colonic microbiota-immune system maturation	93.847	1F32DK111126-01A1		57,469	-
The Effect of Autophagy on the Generation and Function of Gut Regulatory T Cells	93.847	5F31DK105653-03		29,810	-
The role of adipocyte alpha-arrestin ARRDC3 in obesity	93.847	7F32DK105682-02		(2,398)	-
Training Grant in Academic Nutrition	93.847	3T32DK007703-23S1		354,163	-
Trial of Vitamin D in HIV Progression	93.847	5R01DK098075-05REVISED		213,195	151,873
Total for CFDA 93.847				13,637,632	1,706,610
InterdisciplinaryTraining in Genetics+Complex Disease	93.849	5T90DK070078-05rev		(3,344)	-
Total for CFDA 93.849				(3,344)	-
Action and interaction of ionotropic and metabotropic neurotransmission	93.853	2R37NS046579-14		740,837	-
Action and interaction of ionotropic and metabotropic neurotransmission	93.853	4R01NS046579-13		(118,121)	-
Architecture and function of striatal dopamine release machinery	93.853	1R01NS103484-01		477,397	-
Big data screening for associations between medication use and ALS	93.853	1R21NS099910-01		181,173	57,702
C9ORF72 in Motor System Biology and ALS	93.853	5R01NS089742-04		330,943	-
Cell type-specific vulnerability of neurons to axonal injury: comprehensive mapping of types and gene expression analyzed by high throughput single cell RNAseq	93.853	1R21NS104248-01		260,607	-
Cellular mechanisms of dietary therapy for epilepsy	93.853	4R01NS055031-09		122,186	-
Cerebellar Outputs	93.853	5F32NS101889-02		56,547	-
Contribution of Peripheral Mechanoreceptor Subtypes to the Functional Organization of Mouse Primary Somatosensory Cortex	93.853	1F32NS105324-01A1 REVISED		14,301	-
Control of long gene expression as a novel therapeutic approach for Rett syndrome	93.853	1K08NS101064-01		138,414	-

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Core Facilities for Analysis of Neural Circuit Structure and Function	93.853	5P30NS062685-09 REVISED		208,946	-
Corticospinal modulation of tactile information processing in the spinal cord dorsal horn	93.853	1F31NS101843-01A1		21,236	-
Defining Synapse-Regulatory Functions of the Microtubule +TIP TACC in Drosophila	93.853	5F31NS101756-02		31,127	-
Defining the cellular metabolic responses to brain activity using fluorescent biosensors	93.853	5F32NS100331-02		60,006	-
Development of novel transsynaptic tracers for use in the central nervous system	93.853	5R01NS083848-05 REVISED		152,193	-
Dynamic control of sensory processing by an active network of interneurons	93.853	5F32NS087708-03		36,188	-
Electrical Stimulation of Immediate Early Genes	93.853	5R37NS028829-29		663,592	-
Elucidating cutaneous mechanosensory circuits, from development to disease	93.853	5R35NS097344-02		976,695	-
Epigenetic Regulation of Cortical Neuronal Lineage Progression	93.853	1R01NS102228-01		501,916	-
Extracellular matrix dependent maintenance of cortical neuron identity	93.853	5F31NS098539-02		29,732	-
Formation of a neuron-glia contact at single-cell resolution in C. elegans	93.853	1F31NS103371-01 REVISED		29,023	-
Functional Genomic Analysis of Neural Activity-Regulated Enhancer Deactivation	93.853	5F30NS095458-03		43,728	-
Genetic Dissection of Direct and Indirect Touch Pathways	93.853	1F32NS095631-02		24,277	-
Growth cone RNA-proteome mapping in subtype-specific cortical circuit formation	93.853	1F31NS103262-01 REVISED		36,802	-
HMS/BCH Center for Neuroscience Research	93.853	2P30NS072030-06A1		180,754	-
HMS/CHB Center for Neuroscience Research	93.853	5P30NS072030-05 REVISED		78,673	-
Imaging cellular energy metabolism in vivo using fluorescent biosensors	93.853	5F32NS093784-03		50,043	-
Investigating Genomic Alterations in Neurons of the Mammalian Cerebral Cortex	93.853	5F30NS095520-02		49,044	-
Investigating the mechanism of TNFalpha mediated cell death in oligodendrocytes	93.853	5R01NS082257-05		306,025	-
Investigating the Role of Long Gene Misregulation in Rett Syndrome	93.853	1F32NS101739-01		57,134	-
Lagging or Leading Linking Substantia Nigra Activity to Spontaneous Motor Sequences	93.853	5U01NS094191-03		454,878	-
Local synaptosis mechanisms target developing synapses for elimination	93.853	1F31NS100221-01 REVISED		6,832	-
Mammalian circadian clock: genetics of PERIOD complex composition and structure.	93.853	5R01NS095977-02		583,080	-
Mechanisms and functions of synapses and circuits	93.853	5R35NS097284-02		1,010,750	-
Mechanisms of seizure resistance in a mouse genetic model with altered metabolism	93.853	1R01NS102586-01A1		23,632	-
Mechanisms Underlying the Suppression of Transcytosis at the Blood Brain Barrier	93.853	5F31NS090669-03		5,844	-
Mechanosensory feature extraction for directed motor control	93.853	1R01NS101157-01A1		297,140	-
Metabolomics and risk of Parkinson's Disease	93.853	5R01NS089619-03		339,584	101,660
MicroRNA-Dependent Regulation of Synaptic and Behavioral Plasticity in Drosophila	93.853	5P01NS090994-02 REVISED		1,007,588	434,310
Molecular Controls over Neurogenesis, Subtype Development, and Diversity of Cortical Output Projection Neurons	93.853	5R01NS045523-14		344,743	-
Molecular development and diversity of callosal projection neurons	93.853	1R56NS093376-01A1		74,186	-
Molecular Dissection of Active Zone Functions in Neurotransmitter Release	93.853	5R01NS083898-04		229,398	-
Molecular Mechanisms of CTIP2 Function in Corticospinal Motor Neuron Development	93.853	4R01NS075672-05		14,490	-

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Molecular mechanisms of neuron motility and axon guidance	93.853	5R01NS069913-07 REVISED		404,288	-
Neural circuits in zebrafish: form, function and plasticity	93.853	5U01NS090449-03 REVISED		409,268	155,447
Neural circuits underlying the acquisition and control of motor skills	93.853	5R01NS099323-02		493,233	-
Neuroimaging and Neuropsychological Biomarkers of Vascular Risk Factors	93.853	5R01NS086882-04		371,049	28,404
Neuronal Activity-Dependent Regulation of MeCP2	93.853	5R01NS048276-13		662,904	-
Neurotrophic Factor Regulation of Gene Expression	93.853	5R01NS045500-30		629,464	-
Novel BEAM and R26-BEACON recombinase-based systems for mosaic analysis of gene function	93.853	1R21NS104733-01		154,210	-
Novel lipoprotein particles, brain abnormalities, and risk of dementia and stroke	93.853	5R01NS089638-03REVISED		618,532	138,103
Novel optrodes for large-scale electrophysiology and site-specific stimulation	93.853	3U01NS094190-03S1 REVISED		480,652	245,647
Optogentic dissection of basal forebrain neurons involved in sleep homeostasis	93.853	5R21NS079866-02 REVISED		(1,861)	-
Parietal cortex networks for sensorimotor processing during navigation	93.853	5R01NS089521-03 REVISED		414,198	-
Projection neuron control over interneuron positioning into neocortical circuitry	93.853	5R01NS078164-05		309,619	-
Prospective study of biomarkers and risk factors for ALS incidence and progression	93.853	4R01NS045893-11		211,924	54,404
Regulation of Cortical Circuit Development by Sonic Hedgehog Signaling	93.853	5K01NS089720-03		4,948	-
Regulation of Synapse Morphogenesis in Drosophila	93.853	5R01NS069695-08 REVISED		333,028	-
Regulation of synaptic specificity by two Ig-domain containing families	93.853	5K01NS094545-03		204,520	-
Regulation of Synchrony and Input Layer Excitability by Purkinje Cell Collaterals	93.853	5R01NS092707-02 REVISED		110,530	-
Role of nNOS cortical neurons in slow wave activity production and cognition	93.853	5R21NS092926-02		70,169	-
Sensorimotor processing, decision making, and internal states: towards a realistic multiscale circuit model of the larval zebrafish brain	93.853	1U19NS104653-01 REVISED		2,582,138	152,757
Sensory-motor processing in a developing nervous system	93.853	5R01NS082525-03		419,181	192,864
Short-Term Synaptic Plasticity in the CNS	93.853	2R01NS032405-22 REVISED		(2,597)	-
Somatosensory and Autonomic Circuit Modulation by Brainstem Serotonergic Neurons	93.853	1F32NS106762-01		14,061	-
Statistical methods for censored and dependently truncated data	93.853	5R01NS094610-02		273,206	39,596
Stimulus Selectivity in Drosophila Primary Mechanosensory Neurons	93.853	1F31NS106982-01 REVISED		5,961	-

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Structural and functional development of touch sensory neurons	93.853	1F32NS106807-01 REVISED		14,397	-
Structure and function of the mouse parafasicular and entopeduncular nuclei	93.853	1R01NS103226-01		338,286	30,274
Synaptic Choices in the Retinotectal System	93.853	4R37NS029169-28		513,561	-
Synaptic connectivity of Basal Forebrain neurotransmitter systems	93.853	1K99NS102429-01A1		23,626	-
Systematic discovery and functional analysis of the PARKIN modified proteome	93.853	4R37NS083524-12		657	-
Systematic discovery and functional analysis of the PARKIN modified proteome	93.853	4R37NS083524-13		429,441	-
The Development and Integration of Early Born SST-Expressing	93.853	2R01NS081297-06		27,555	-
The Development and Integration of Early Born SST-Expressing	93.853	4R01NS081297-04		322,777	-
Training in Neurostatistics and Neuroepidemiology	93.853	5T32NS048005-14		183,307	-
Transgenic zebrafish for neurobiology	93.853	5R24NS086601-04 REVISED		146,165	-
Understanding Somatosensory Deficits in Autism Spectrum Disorders	93.853	1K99NS101057-01		77,268	-
Using silk as a biocompatible viral delivery system in the brain	93.853	5R21NS093498-02		(284)	-
vGLUT2-Tomato mice: a novel tool to study Basal Forebrain Glutamate Neurons	93.853	5R21NS093000-02		33,806	-
Voltage-Dependent Ion Channels Controlling Firing Patterns of Central Neurons	93.853	5R01NS036855-21		452,530	-
Total for CFDA 93.853				21,869,280	1,631,168
2017 Boston Bacterial Meeting (BBM)	93.855	1R13AI131601-01		2,098	-
2018 Boston Bacterial Meeting (2018)	93.855	1R13AI138540-01		4,055	-
A clinical trial to evaluate the impact of broadly neutralizing antibody VRC01 on HIV viral reservoir and maintenance of suppression in a cohort of early-treated children in Botswana	93.855	1U01AI135940-01Revised		199,748	127,058
A Non-Canonical Translation Mechanism for Vesicular Stomatitis Virus	93.855	1F31AI138448-01 REVISED		5,961	-
Accurate and Efficient Measures for HIV Incidence	93.855	5R01AI097015-04Revised		201,738	-
Bacteriology PhD Training Program	93.855	1T32AI132120-01		258,629	-
Bioenergetic control in immune cell function	93.855	1R21AI131659-01A1		117,866	-
Biostatistics/Epidemiology Training Grants in AIDS	93.855	5T32AI007358-29Revised		497,601	-
Botswana-Harvard School of Public Health AIDS Initiative Partnership CTU	93.855	5UM1AI069456-12REVISED		1,429,374	1,180,873
Characterization of 3.47, a NPC1-targeting inhibitor of Ebola GP-mediated entry	93.855	1F31AI131452-01 REVISED		36,778	-
Characterization of a novel interaction between intracellular T. cruzi amastigotes and host mitochondria	93.855	1R21AI135520-01		129,868	-
Chemical genetic screening to identify synergistic inhibitors of malaria parasite cell cycle regulators	93.855	5R21AI128480-02		235,172	-
Chemical Tools for the Study of Dengue Virus Entry	93.855	5R01AI095499-03		232,018	(72)
Chemogenomic Interrogation of Non-Genetic Drug Resistance in Plasmodium falciparum	93.855	1F31AI129412-01		33,275	-
Control of macrophage activation by Akt signaling and metabolic input	93.855	5R21AI119763-02		127,436	-
Coordinate Regulation of Bacterial Virulence Factors	93.855	5R01AI026289-29		532,895	-

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Cytotoxic T Cell Mediated Immunity to Chlamydia	93.855	2R01AI039558-21A1 REVISED		589,415	-
Cytotoxic T Cell Mediated Immunity to Chlamydia	93.855	4R01AI039558-20 REVISED		72,592	-
Decoding the roles of critical genes of unknown function in M. tuberculosis	93.855	5U19AI107774-05REVISED		2,916,742	2,014,887
Deep sequencing of pathogens to precisely define transmission networks using rare variants	93.855	1R01AI128344-01A1REVISED		283,906	-
Defining physiological correlates of the human malaria infectious reservoir	93.855	5R21AI117304-02REVISED		147,417	22,257
Defining regulators of immunity to acute infection using CRISPR screens	93.855	1U19AI133524-01		1,243,502	599,338
Detecting Infection at Its Onset: The Site of RIG-I Signaling	93.855	1F31AI131469-01 REVISED		31,127	-
Developing a microfluidic platform for single virus genomics and virus discovery	93.855	5R21AI128623-02		236,236	48,241
Developing in vitro assays to identify small molecules that inhibit human prions	93.855	5F31AI122592-02		36,673	-
Discovery of antibiotics active against multidrug resistant bacteria	93.855	5R21AI117025-02		90,677	-
Dissecting the role of Escherichia coli peptidoglycan synthase activators	93.855	5F31AI122363-02 REVISED		31,049	-
Doctoral Training Program in Tropical Diseases	93.855	5T32AI049928-14REVISED		319,188	-
Dynamic Strategies for the clinical management of HIV disease	93.855	4R01AI102634-04		164,636	-
Early Infant Treatment	93.855	5U01AI114235-04-REVISED		1,147,349	989,823
Ecological and genetic contributions to the spread of resistance in pneumococcus	93.855	5R01AI106786-05		472,468	-
Elucidating a role for Calcium signaling in activation of the Nlrp3 inflammasome	93.855	5R01AI102964-05		251,940	-
Elucidating ligand-receptor interactions required for Plasmodium vivax blood-stage infection	93.855	1R01AI140751-01		11,504	-
Elucidating novel mechanisms controlling cell envelope biogenesis in Streptococcus Pneumoniae	93.855	1F32AI136431-01 REVISED		19,302	-
Elucidating the role of cis-regulatory elements in mediating V(D)J recombination	93.855	5F31AI117920-03 REVISED		5,296	-
Epidemiology of Infectious Diseases	93.855	5T32AI007535-18REVISED		199,330	-
Evolutionary medicine in the development of antimalaria drugs	93.855	5R01AI106734-04		247,751	-
Expansion of research and mentoring to improve birth outcomes and treatment outcomes among HIV-affected children in Botswana	93.855	1K24AI131924-01A1		60,720	-
Functional analysis of epigenetic regulators of malaria blood-stage proliferation and transmission	93.855	1R01AI138551-01		58,620	-
Functional analysis of Plasmodium vivax drug resistance polymorphisms	93.855	5R21AI126154-02		178,126	-

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Functional characterization of HtrA, an essential mycobacterial protease	93.855	1F31AI131502-01 REVISED		30,119	-
Generation and Function of NK Cell Memory (Project 1 - Disaggregated project)	93.855	5R01AI111595-05		388,008	-
Genetic Analysis of Toxinogenesis in Vibrio Cholerae	93.855	5R01AI018045-37		707,782	-
Genetic Analysis of Vibrio parahaemolyticus Pathogenicity	93.855	5F31AI120665-03 REVISED		25,875	-
Genetic screens for erythrocyte determinants of protein trafficking in malaria parasites	93.855	5R21AI126889-02		184,954	-
Genetic Variation and Evolution of Artemisinin Resistance	93.855	4R01AI099105-04Rev		67,862	-
Genetically modified HSC-HPC for management of aggressive demyelinating diseases	93.855	5R21AI103701-02		2,729	-
Genetically-encoded fluorescent RNA sensors for measuring transport of antibiotics into the cytoplasm of Gram-negative pathogens and development of efflux pump inhibitors	93.855	1R01AI136789-01		158,051	-
Genomics approaches to elucidating pathways to antibiotic resistance in Neisseria gonorrhoeae	93.855	1R01AI132606-01REVISED		307,528	-
Harvard University Center for AIDS Research	93.855	5P30AI060354-14		3,488,144	2,176,113
HIV cure studies: risk, risk perception, and ethics	93.855	3R01AI114617-04S1		650,984	365,517
Human Cytomegalovirus Nuclear Egress: Molecular Mechanisms and Drug Targeting	93.855	5R01AI026077-31		656,223	-
Identification and Inference for Longitudinal Causal Mediation Analysis in HIV Research	93.855	5R01AI104459-05REVISED		390,548	78,237
Identification of Adipose Tissue Factors that Induce Regulatory iNKT Cells	93.855	1F31AI138353-01		7,948	-
Identifying and validating new antibiotic targets in cell wall synthesis pathways	93.855	4R01AI099144-05		379,312	-
Identifying the ligand for the activating NK cell receptor KIR3DS1 and its protective role in HIV-1 disease progression	93.855	5F31AI116366-04		47,671	-
ImmGen: Gene Expression and Regulation in Immune Cells	93.855	2R24AI072073-11		882,182	130,159
ImmGen: Gene Expression and Regulation in Immune Cells	93.855	4R24AI072073-10 REVISED		551,677	327,219
Improving Maternal and Newborn Health Using the HIV/AIDS Program Platform in Tanzania (MNH+)	93.855	7R01AI093182-06		(10,822)	-
In vivo role of CTLA-4 in Costimulation and Autoimmunity	93.855	5R01AI040614-20		245,296	-
Inactivation of ambient virues using Engineered Water Nanostructures	93.855	5R21AI119481-02		70,777	-
Innovative Platforms for Antimicrobial Therapy and Vaccine Development	93.855	5U19AI109764-04 REVISED		5,226,370	108,815
Integrated discovery and development of innovative TB Diagnostics	93.855	5U19AI109755-04 REVISED		5,924,669	4,280,064
Interferon-induced IFITM recruitment of ZMPSTE24 blocks viral endocytic entry	93.855	5R01AI121288-02		681,833	197,236
Mechanisms and Immunological consequences of Host-Virus Interactions	93.855	5P01AI112521-04		1,803,449	811,566
Mechanisms and Population Genomics of Pneumococcal Antigenic Diversity	93.855	4R01AI048935-15REVISED		470,799	44,344
Mechanisms by which DNA sequence directs AID-mediated mutagenesis of Ig loci	93.855	5F30AI114179-04		54,179	-
Methods to Advance the HIV Prevention Research Agenda	93.855	5R37AI051164-16		366,782	92,906

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Methods to find and model predictors of the causal effect of HAART	93.855	5R01AI100762-04REVISED		32,806	-
Molecular Basis of Viral Infectivity	93.855	5T32AI007245-34 REVISED		371,612	-
Molecular biology of Trichomonas vaginalis viruses	93.855	1R56AI116597-01A1 REVISED		158,697	-
Molecular biology of trichomonasviruses	93.855	1R01AI132445-01A1		50,999	-
Molecular Genetics of HSV DNA Polymerase Gene	93.855	2R56AI019838-31 REVISED		369,408	86,222
Naive T cell homeostasis: Treg selection and survival	93.855	5R37AI051530-16		455,362	-
New methods for the design and evaluation of large HIV prevention interventions	93.855	5R01AI112339-04		439,701	67,427
Next generation missing data methods in HIV research	93.855	1R01AI127271-01A1		483,801	169,819
Nuclear Sensing of Herpesviral DNA	93.855	5R01AI106934-04		550,842	-
Outer Membrane Biogenesis: New Antibiotic Targets	93.855	5R01AI081059-10		553,713	-
Pain and Neuro-immune Signaling in S. pyogenes pathogenesis	93.855	1R01AI130019-01A1		497,077	80,631
Peptidoglycan Biogenesis in Escherichia Coli	93.855	5R01AI083365-09		541,058	-
Plasma Gelsolin as Immunotherapeutic for Antibiotic-Resistant Pneumonia	93.855	5R01AI125152-02		1,130,941	761,416
Poliovirus Cell Entry Pathways	93.855	5R01AI020566-34		728,583	-
Program for AIDS Clinical Research Training (PACRT)	93.855	2T32AI007433-26Revised		164,485	-
Program for AIDS Clinical Research Training (PACRT)	93.855	3T32AI007433-25S1		151,428	-
Randomized Trial of High-Dose Rifampin in Patients with New Smear-Positive TB	93.855	5U01AI091429-03 REVISED		8,855	8,604
Regulation of P. aeruginosa fitness by small non-coding RNAs	93.855	5R21AI125972-02		183,771	-
Release of Extracellular DNA during Biofilm Formation in Staphylococcus aureus	93.855	1R01AI139011-01		27,802	-
RNA Processing in Non-Segmented Minus-Strand RNA Viruses	93.855	5R37AI059371-13		642,386	-
Role of host fatty acid metabolism in Trypanosoma cruzi amastigote growth	93.855	5R01AI114622-03		417,375	-
SDMC - IMPACT Leadership Group	93.855	5UM1AI068616-12Revised		8,842,245	3,657,944
Sensory Transduction in Bacterial Chemotaxis	93.855	5R01AI016478-39		757,752	-
Small Molecule Inhibitors of Enveloped Virus Entry	93.855	5U19AI109740-04 REVISED		5,072,980	1,767,835
Specification of Treg cells: FOXP3 functional facets	93.855	5R01AI116834-04		504,165	-
Staphylococcus Aureus Carriage and the Nasal Microbiome	93.855	5R21AI112991-02REVISED		162,490	-
Statistical and Data Management Center (SDMC), AIDS Clinical Trials Group	93.855	5UM1AI068634-12REVISED		12,838,658	5,374,758
Structural Basis of Immune Cell Receptor Function	93.855	5R01AI037581-22		375,020	-
Structure and Mechanism of Programmed Ribosomal Frameshifting in SARS coronavirus	93.855	5R01AI104711-05		187,113	-

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T Cell Costimulatory Pathways: Functions and Interactions	93.855	5P01AI056299-14		1,950,215	1,534,774
T regulatory cell subsets at the microbial interface: determinism and function	93.855	5R01AI125603-02		422,263	-
Targeting cell separation systems of gram-negative bacteria	93.855	5R33AI111713-04		521,049	-
Targeting steroid hormone signaling in Anopheles mosquitoes for malaria control	93.855	5R01AI124165-02		808,137	131,061
Targeting the Mitochondrion of P. falciparum	93.855	5R01AI93716-06		676,116	161,577
Targeting the reproductive interactome of the malaria vector Anopheles gambiae	93.855	5R01AI104956-05		506,935	-
The molecular mechanism of Aire	93.855	2R01AI088204-06		368,280	-
The role of fatty acid binding protein aP2 in the pathogenesis and treatment of asthma	93.855	5R01AI116901-04		283,355	-
The role of Fc function in broadly neutralizing antibody efficacy against HIV	93.855	1F31AI131747-01A1 REVISED		34,786	-
The Role of PI3K in the Maintenance and Function of T Follicular Regulatory Cells	93.855	5F31AI126687-02		30,005	-
The Role of the Nuclear Envelope in Antiviral Signaling and HSV-1 Restriction	93.855	1F31AI129207-01		31,905	-
The translation apparatus of Leishmania: from basic analysis to pursuit of novel drug targets	93.855	5R01AI108718-04		263,800	161,197
Training Program in Immunological Tolerance and Autoimmunity	93.855	5T32AI118692-03 REVISED		193,678	-
Using agent-based modeling to estimate the effectiveness of the Miami Getting to Zero HIV campaign	93.855	1K01AI138863-01		36,029	-
Using genome engineering to study mosquito biology and combat malaria	93.855	5F31AI120480-02		31,408	-
Viral and host mechanisms that tilt the HSV lytic/latent balance	93.855	5P01AI098681-05		1,465,304	400,868
Total for CFDA 93.855				80,945,397	27,958,714
A Dual Catalytic Strategy for Enantioselective Pyridinium Photochemistry	93.859	1F32GM125187-01		47,300	-
A synchronized circadian clock in gut bacteria, using control theory	93.859	1F32GM125108-01		47,030	-
Accelerated Determination of 3D Structures of Proteins and Complexes	93.859	7R01GM106303-04 REVISED		79,147	-
Advanced Tools for Reconstructing Population History	93.859	5R01GM100233-06 REVISED		372,393	185,623
Aggression in Drosophila: circuitry involved; learning and memory accompanying aggression; and establishing the circuitry of high-level aggression in the brain	93.859	3R35GM118137-02S1		667,969	-
Amyloid aggregation and prion formation in bacteria	93.859	3R01GM115941-02S1		454,978	-
Analysis of the Essential Transcription Factors Spt5 and Spn1/Iws1	93.859	1R01GM120038-01A1		418,951	-
Application of Asymmetric Anion Binding to Palladium-Catalyzed Alkene Functionalization	93.859	5F32GM110951-02 REVISED		824	-
Atomic Resolution in Biological Electron Microscopy	93.859	4P01GM062580-15		158,730	115,872
BAX Activation and Oligomerization	93.859	5F32GM113406-02		(8)	-
Bayesian Methods for Comparative Effectiveness Research with Observational Data	93.859	5R01GM111339-04		712,651	-
Biochemical characterization of LMW PBPS with novel transpeptidase activity	93.859	1F32GM123579-01		57,087	-
Biochemical Studies of Mitosis	93.859	5R01GM026875-41		857,334	-
Biophysical mechanisms of proteomic and fitness effects of synonymous substitutions	93.859	1R01GM124044-01		258,029	-
Bmal1 and Hif1alpha partition metabolic regulation in inflammatory macrophages	93.859	5F31GM117854-02 REVISED		29,888	-

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Calibration and Simulation of the Botswana Combination Prevention Project	93.859	5R01GM116525-03		452,920	93,021
Catalyst-Controlled Stereo- and Regioselective Glycosidation Reactions	93.859	3F32GM117787-03		56,714	-
Cell Cycle Regulation	93.859	5R01GM039023-30 REVISED		334,619	-
Cellular and Developmental Biology	93.859	4T32GM007226-41		12,623	-
Characterizing the Co-evolution of Protein-protein and Regulatory Interactions	93.859	5F32GM116217-03		55,485	-
Characterizing the regulation of co-transcriptional splicing rates in human cells	93.859	5F31GM122133-02		31,205	-
Chemical Biology of Ant-Associated Defensive Bacteria	93.859	5F32GM117661-02 REVISED		732	-
Chemical Biology of Microbial Interspecies Signaling	93.859	5R01GM082137-08		(1,816)	-
Chemical Genetic and Biochemical Studies of Mitotic Proteolysis	93.859	4R01GM066492-13 REVISED		17,079	-
Chiral Catalysts Designed to Catalyze Organic Reactions	93.859	5R01GM043214-28		823,603	-
Chromosome Dynamics in Bacillus Subtills	93.859	5R01GM086466-08		341,931	-
Correlation of electronic structure to iron catalyzed C-H bond functionalization	93.859	5R01GM115815-03 REVISED		353,925	-
Deciphering GPCR signal transduction through NMR structure and dynamics studies	93.859	5K99GM115814-02		7,003	-
Defining the cellular functions of the conserved transcription complex Spt6/Iws1 in the control of gene expression	93.859	5F32GM119291-02		58,088	-
Designing Biological Circuits	93.859	4R01GM036373-32		69,785	-
Determination of the molecular basis of choanoflagellate multicellularity induction by bacteria	93.859	5F32GM116205-03		59,222	-
Determining the source of missing heritability	93.859	5R01GM120122-02		362,613	-
Development and validation of a precision genome editing platform	93.859	3F32GM112366-02S1		3,649	-
Development of modern late-stage fluorination reactions with [18F]	93.859	5R01GM088237-07		21,157	-
Discovering the regulatory roles of transcription during erythropoiesis, one nucleotide at a time	93.859	1F32GM125238-01		42,462	-
Discovery of Small Molecule Immunomodulators from Disease-Associated Microbiome Members	93.859	1F32GM122233-01		56,616	-
Dissecting the establishment and regulation of human pluripotency	93.859	2P01GM099117-06A1		1,755,830	704,084
Dissecting the establishment and regulation of human pluripotency	93.859	5P01GM099117-05 REVISED		(13,051)	-
Diversity in Biomedical Sciences Via Personalized Research and Education Programs for Post-Baccalaureates	93.859	5R25GM109436-02 REVISED		193,597	-
Drosophila Transgenic RNAi Resource Project	93.859	5R01GM084947-10		765,284	-
Dual Hydrogen-Bond Donor and Cation-¿ Catalysis: Enantioselective Cycloadditions of Strained Donor-Acceptor Ring Systems	93.859	1F32GM126636-01		27,967	-
Dynamic regulatory mechanisms of robust pattern formation in the neural tube	93.859	5R01GM107733-04		271,624	-
Dynamics of Cellular Senescence in Single Cells	93.859	5R01GM116864-02		404,792	-
Dynamics of Signaling Pathways: Mechanism and Function	93.859	5R01GM083303-11		359,975	-
Dynamics of Signaling Pathways: Mechanism and Function	93.859	4R01GM083303-09 REVISED		9,802	-
Elucidating the function of mammalian autophagy receptors in selective autophagy	93.859	5K99GM117218-02		85,154	-
Elucidating the role of an immunomodulator from a gut microbe in inflammatory bowel disease	93.859	1F32GM126650-01		18,048	-
Enantioselective Prins-type cyclizations via small molecule H-bonding catalysis	93.859	5F32GM116405-03		56,179	-
Engineering Protein Stability Through Phage-Assisted Continuous Evolution	93.859	3F32GM119228-01S1		57,966	-

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Enhancing Diversity in Academic Medicine through Faculty Networks	93.859	5R01GM111563-04 REVISED		332,801	12,228
Epigenetic Inheritance of Heterochromatin	93.859	2R01GM072805-13		375,806	-
Facile Access to Quaternary Stereocenters Through Anion Binding Catalysis	93.859	5F32GM116421-03		53,001	-
Factors Controlling Transcription and Chromatin in Yeast	93.859	5R01GM032967-34 REVISED		303,532	-
Feedback Control of the Cell Cycle	93.859	5R01GM043987-27		603,968	-
Function and mechanism of the HCV p7 channel and its therapeutic potential	93.859	5R01GM116898-03		401,594	-
Functional analysis of systemic factors regulating germline stem cells	93.859	5F32GM113395-03		32,532	-
Functional analysis of the conserved transcription elongation factor Spn1	93.859	5F31GM112370-03		3,896	-
Functional characterization of an insulin-like peptide network that regulates learning	93.859	5R01GM108962-04		471,704	253,961
Functional Genomic Analysis by RNAi Screening in Drosophila Cells	93.859	5R01GM067761-15		755,672	-
Genetic Mechanisms of Axis Formation in Vertebrates	93.859	5R37GM056211-20		412,762	-
Genetics and Genomics PhD Training Grant	93.859	5T32GM096911-07 REVISED		278,005	-
Genome-wide validation of posttranscriptional variation in selection and disease	93.859	5F30GM114940-03		49,054	-
Harvard Chemical Biology Graduate Program	93.859	2T32GM095450-06		(211)	-
Harvard Chemical Biology Graduate Program	93.859	7T32GM095450-07 REVISED		367,468	-
Harvard Systems Biology Graduate Program	93.859	7T32GM080177-08		269,051	-
High Resolution Analysis of Transcription-Splicing Coupling	93.859	5R01GM117333-02		508,173	-
High-throughput optimization of genetically-encoded fluorescent biosensors	93.859	1R01GM124038-01		206,363	-
HMS Laboratory of Systems Pharmacology	93.859	5P50GM107618-04 REVISED		2,212,259	145,545
Identification and Characterization of Systems that Limit Transgenerational Epigenetic Inheritance (TEI)	93.859	1F32GM120919-01A1		47,544	-
Illegitimate Recombination by Drug Resistance Elements	93.859	5R01GM025326-38		666,404	-
Illuminating molecular mechanisms of cellular functions by single-molecule and super-resolution imaging	93.859	5R35GM122487-02		471,388	-
Information Integration and Energy Expenditure in Eukaryotic Gene Regulation	93.859	1R01GM122928-01 REVISED		429,754	-
Information Processing by Post-translational Modification	93.859	5R01GM105375-04		326,723	44,562
Interdisciplinary training: Statistical Genetics/Genomics and Computational Biology	93.859	5T32GM074897-13REVISED		289,479	-
Joint Program in Molecules, Cells and Organisms	93.859	5T32GM007598-40		930,546	-
Kinetic control of transcription in animals	93.859	1F32GM128310-01 REVISED		8,134	-
Kinetics of macromolecular complex assembly and regulation	93.859	5F32GM116231-02		47,841	-
Limits and trade-offs of feedback control	93.859	5R01GM081563-08		397,806	-

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Mapping the pathway of membrane beta-barrel protein folding by the Bam complex.	93.859	5F31GM116210-02 REVISED		23,142	-
Mapping vertebrate differentiation hierarchies with high-throughput single cell transcriptomics	93.859	1K99GM121852-01		81,583	-
Maximizing Investigator's Research Award	93.859	1R35GM127136-01		180,080	-
Measuring the statistics of pleiotropic and epistatic fitness effects of beneficial mutations during microbial adaptation across environments	93.859	1F32GM122360-01A1		56,262	-
Mechanism and Inhibition of Enzymes that Assemble Bacterial Cell Wall	93.859	5R01GM076710-11		561,220	-
Mechanism of Divalent Metal Transport By Nramp-Family Transporters	93.859	5R01GM120996-02		256,281	-
Mechanisms of Lipid Droplet Formation	93.859	1R01GM124348-01		196,139	-
Mechanisms of Lipid Droplet Protein Targeting	93.859	5R01GM097194-08		379,316	129,102
Mechanisms of Selective Autophagy	93.859	5R01GM095567-07 REVISED		552,407	268,380
Mechanisms of yeast transcriptional initiation	93.859	5R01GM030186-36		906,106	-
Mechanistic analysis of post-translation membrane protein insertion into the ER	93.859	4R01GM099943-05		(6,380)	-
Mechanistic Analysis of the Ubiquitin-Proteasome System	93.859	1R35GM127032-01		105,542	-
Mechanistic and proteomic studies of a proteasome-associated ubiquitin ligase	93.859	1F32GM125355-01		48,720	-
Medical Scientist Training Program	93.859	2T32GM007753-39 REVISED		2,527,101	-
Medical Scientists Training Program	93.859	3T32GM007753-38S1		41,132	-
Meiotic Chromosome Synapsis and Recombination in Yeast	93.859	5R01GM044794-28		693,623	72,953
Microbial Adaptation and the Statistics of Epistasis and Pleiotropy	93.859	2R01GM104239-06		6,283	-
Microbial adaptation and the statistics of epistasis and pleiotropy	93.859	5R01GM104239-05		294,487	-
Microtubule Dynamics and Mitotic Mechanism	93.859	5R01GM039565-30		479,493	-
Microtubule Integrity Response	93.859	1R01GM122784-01A1		40,997	-
MIDAS Center for Communicable Disease Dynamics	93.859	5U54GM088558-09		1,624,198	301,566
Modeling individual-to-collective behavior in mound-building termites	93.859	5R01GM112633-04		389,007	118,508
Modeling scientific workforce dynamics using social network analysis	93.859	5U01GM112623-04		360,873	126,620
Molecular Biophysics Training Grant	93.859	5T32GM008313-29 REVISED		745,786	-
Molecular Chaperones and Protein Degradation	93.859	2R01GM051923-21		496,524	-
Molecular Genetic Analysis of Extracellular RNAs in C. elegans	93.859	5R01GM089795-08 REVISED		32,972	-
Molecular Genetics of Biofilm Formation	93.859	5R01GM058213-20 REVISED		347,185	-
Molecular Genetics of the Bithorax Complex	93.859	5R01GM028630-31		179,783	-
Molecular mechanisms by which mild elevation of mitochondrial superoxide extends lifespan	93.859	7R01GM121756-02		39,880	-

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Molecular mechanisms of germline DNA repair and DNA damage response	93.859	5R01GM105853-04 REVISED		(13,044)	-
Molecular Mechanisms of Lipopolysaccharide Transport Driven by ABC Transporters	93.859	1R01GM122797-01		310,838	-
Molecular Mechanisms of SCUBE2-Mediated Sonic Hedgehog Release and Delivery	93.859	5F31GM120833-02		31,932	-
Molecular mechanisms of sigma receptor signaling	93.859	1R01GM119185-01A1		385,211	-
Molecular, Cellular and Developmental Dynamics PhD Program	93.859	2T32GM007226-42 REVISED		728,617	-
mRNA Capping Enzyme	93.859	5R01GM056663-19		544,347	-
Multiscale study of the phenotypic consequences of protein folding intermediates in dihydrofolate reductase	93.859	1F32GM126651-01		4,908	
New and Disruptive Technologies to Study Ubiquitin Biology through Sample Multiplexing	93.859	5R01GM067945-15		511,223	-
New approaches to measuring and containing the spatial spread of human pathogens	93.859	1R35GM124715-01		161,260	-
New Tools for the Study of O-GlcNAc Transferase in Disease	93.859	5F32GM117704-02 REVISED		43,035	-
NMR and Computational Studies of Biomolecules	93.859	5P01GM047467-25 REVISED		1,770,692	803,047
Novel mechanisms for oxysterols in cell-cell signaling	93.859	5R01GM110041-04 REVISED		155,237	-
Novel platforms for development of optimized genetically encoded fluorescent biosensors	93.859	5F32GM123577-02		60,191	-
Nuclear-mitochondrial co-regulation during mitochondrial biogenesis	93.859	1R01GM123002-01		420,124	-
Organogenesis of the Pharynx in C Elegans	93.859	5R37GM056264-21		494,792	-
Pipelines into Biostatistics: Training in Quantitative Public Health	93.859	5T36GM093773-05REVISED		204,120	-
Polynuclear iron complexes as functional mimics of the nitrogenase FeMo-cofactor	93.859	2R01GM098395-06A1		412,812	-
Predictive biophysical models of evolution	93.859	5R01GM068670-14		378,681	-
Protein Transport Across Membranes	93.859	5R01GM052586-24		362,377	-
Proton Coupled Electron Transfer Mechanism of Ribonucleotide Reductase	93.859	5R01GM047274-26		514,035	-
Quantitative methods for systems-level analyses of regulation and signaling dynamics	93.859	5R01GM096193-05 REVISED		28,593	-
Regulation of translesion synthesis by the bacterial replisome	93.859	5R01GM114065-03 REVISED		321,743	-
RNA Processing Machines in Biology and Disease	93.859	1R35GM122524-01		653,189	-
Role of RNA polymerase in bacterial differentiation	93.859	5R01GM018568-46		364,978	-
Sending and receiving Hedgehog signals	93.859	1R01GM122920-01A1		59,572	-
Single-molecule studies of ATP-dependent chromatin remodeling	93.859	4R01GM105637-04		281	-
Small regulatory RNA functions in the nucleus	93.859	5R01GM088289-09 REVISED		50,251	-
Structure, Function and Inhibition of Human O-GlcNAc Transferase	93.859	5R01GM094263-07		507,918	-
Studies on the Biological Mechanisms of Antibiotics	93.859	5R01GM066174-16		662,555	-
Study of phenotypic and fitness effects of non-functional protein interactions in crowded cellular milieu	93.859	5R01GM111955-04		262,913	-
Substrate recognition and processing by the proteasome	93.859	5R01GM043601-25		615,750	-

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Synaptonemal complex assembly and function in meiosis	93.859	5R01GM072551-12		225,701	-
Technologies for visualizing the genome in situ	93.859	1R01GM123289-01		501,899	-
The Effect of Multicellularity on Bacterial Interactions and Diversity	93.859	1K99GM121873-01		81,729	-
The Effects of Glucokinase Polymerization During Metabolic Transitions	93.859	5F31GM116441-03		31,843	-
The first secreted Tyrosine kinase	93.859	5R01GM115417-03		512,664	37,284
The genetic mechanisms and dependent pathways of insulin/IGF-like signaling that contribute to ovariole number in the Drosophila ovary	93.859	5F32GM119299-02		61,270	-
The Long Noncoding RNA Firre in Neural Development and Disease	93.859	1F32GM122335-01A1		53,615	-
The mechanism of vertebrate DNA replication termination	93.859	5R01GM080676-10 REVISED		291,406	-
The Mechanisms of Lipid Droplet Formation and Regulation	93.859	3R01GM099844-05S1 REVISED		145,437	-
The molecular mechanism of relaxin receptor signaling	93.859	1F31GM128233-01 REVISED		3,974	-
The RNA polymerase II transcription complex	93.859	2R01GM046498-26A1		356,079	13,204
The role of fitness epistasis and gene network interactions in bacterial evolution	93.859	5F32GM120839-02		58,843	-
Training in Pharmacological Sciences	93.859	5T32GM007306-42 REVISED		413,215	-
Ubiquitylation and Helicase Unloading in Eukaryotic DNA Replication Termination	93.859	1F31GM122277-01 REVISED		30,748	-
Uncovering kinase cascade mechanisms that target organelles for destruction by selective autophagy	93.859	5R01GM121419-02		484,117	-
Using Quantitative Proteomics to Elucidate the Signaling Consequences of Microtubule Disruption	93.859	5F31GM117882-03		37,771	-
Using Quantitative Proteomics to Understand Mitotic Spindle Composition and Function	93.859	5F31GM116451-03		32,626	-
Vesicular Trafficking of RNA from the Soma to the Germline	93.859	1F32GM125345-01		34,251	-
Visualizing DNA break repair: single-molecule studies of non-homologous end joining	93.859	5R01GM115487-03		376,373	-
Visualizing the Bacterial Replisome at Single-Molecule Resolution	93.859	5F32GM113516-02		3,032	-
Total for CFDA 93.859				48,953,600	3,425,560
A Cohort Study of Preterm Delivery in Relation to Partner Abuse, Mood and Anxiety	93.865	5R01HD059835-05Revised		13,574	-
A gesture training for low-income parents to improve child vocabulary development	93.865	5R21HD078771-03 REVISED		37,553	-
A population-based online study of the transition of young adults with perinatal HIV infection to adult clinical care	93.865	5R01HD089853-02		350,070	87,255
Absolute risks of adverse of pregnancy outcomes according to maternal age and inter-pregnancy interval: interpretable results to guide clinical practice and patient decision-making	93.865	5F31HD086970-02Revised		33,463	-
Birth Outcomes Surveillance in Botswana	93.865	5R01HD080471-04 REVISED		521,381	349,987
Causal Event Categories in Infancy: The Origins and Consequences of Causal Perception	93.865	5F32HD089595-02		56,199	-
Chemically Modified Peptide Agents for Next-Generation Conjugate Therapies to Treat Duchenne Muscular Dystrophy	93.865	7F30HD093358-02		1,987	-

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Control of placental infection by decidual NK cell secreted granulysin	93.865	5R21HD087689-02 REVISED		193,038	129,074
Creation of Public Use Datasets for the Pediatric HIV/AIDS Cohort Study	93.865	1R03HD092138-01		80,283	30,077
Culling the human genome of disease variants using ultraconserved elements	93.865	5R01HD091797-02		1,501,279	198,332
Development and function of a neural circuit underlying sex-specificity of social behaviors	93.865	1K99HD092542-01		100,619	-
Development of a Modular Soft Exosuit Platform Suitable for Community-Based Neurorehabilitation	93.865	5R01HD088619-02		796,018	83,929
DNA-mediated recording of cellular history	93.865	1DP1HD094764-01		1,276,588	-
Effects of linguistic input on the neural capacity for language development	93.865	5F31HD086957-02 REVISED		28,906	-
Embryonic gene regulatory networks from spatially resolved transcriptomes	93.865	5R01HD085905-03		674,360	-
Error Correction in Early Embryos	93.865	1K99HD091291-01		135,251	-
Finding Genes for Infertility through the Developmental Genome Anatomy Project	93.865	1F31HD090780-01 REVISED		31,127	-
Functional neuroanatomy of circuits governing parental behavior	93.865	1K99HD085188-01A1		3,211	-
Genetic regulation of ovariole development in Drosophila	93.865	5R01HD073499-05		463,255	-
Genetics of long non-coding RNAs in zebrafish	93.865	5R01HD076708-04		342,300	-
Impact of supplemental immunization activity campaigns on health systems	93.865	5R03HD082443-02		58,793	25,000
Integrating Forces and Signals in Tissue-Level Patterning of the Developing Digestive Tract	93.865	5R01HD087234-03		250,948	-
Integration of Mechanical Forces and Signaling in the Morphogenesis of the Gut	93.865	5R01HD089934-02		425,977	-
Intergenerational impact of war: A prospective longitudinal study	93.865	4R01HD073349-05Revised		131,957	50,000
Maternal Traumatic Stress and Child Development: Epigenetic Links	93.865	5R21HD085849-02		36,397	8,550
Microcircuits underlying murine parental behavior	93.865	5R01HD082131-03		430,699	-
Pediatric HIV/AIDS Cohort Study (PHACS) Data and Operations Center	93.865	3U01HD052102-13S3		17,927,360	14,866,710
Pregnancy Registries Nested in International Pooled Health Care Databases	93.865	1R21HD092879 - 01		134,360	87,592
Proteomics of Cell Signaling in Embryogenesis	93.865	5R01HD091846-06		773,339	-
Recapitulating the Placental Microenvironment to Improve Models of the Maternal-Fetal Barrier for Toxicity Screening	93.865	1F31HD095594-01 REVISED		5,376	-
SCH: Flexible Electronics For Assessment fo Planning By Children Born Prematurely	93.865	5R01HD090985-02		486,423	55,060
Studies of Direct Pluripotent Stem Cell Programming	93.865	5R21HD087723-02 REVISED		117,760	-
Systems Analysis of cell type differentiation in Xenopus development	93.865	2R01HD073104-06		722,765	18,991
Systems analysis of cell type differentiation in xenopus development	93.865	4R01HD073104-05		(16,882)	-
The biophysical and genetic basis of robust pattern formation and morphogenesis in zebrafish spinal cord	93.865	1K99HD092623-01		87,500	-
The effects of girl child marriage on women and children's health and well-being in sub-Saharan Africa	93.865	1F31HD090939-01A1		28,044	-
The genetics and neurobiology of parental care in wild mice	93.865	5K99HD084732-02		6,030	-
The Impact of Microfinance on Health: Experimental Evidence from India	93.865	5R01HD069546-05		406,179	32,951
The reprogramming of limb progenitor cells	93.865	2R01HD032443-21A1		445,212	-

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The Ventral Medulla and the Sudden Infant Death Syndrome	93.865	5P01HD036379-20		1,381,910	894,066
Toddler and Apelin Signaling During Zebrafish Gastrulation	93.865	5F31HD081925-03 REVISED		3,896	-
Trial of Vitamin D in Maternal HIV Progression and Child Health	93.865	5R01HD083113-04		406,178	286,473
Total for CFDA 93.865				30,890,683	17,204,047
(R37 Merit Extension) SIRT1 as a regulator of health and lifespan of mammals	93.866	5R37AG028730-12		310,999	-
A New Pathway for Reversing Cardiac Aging	93.866	5R01AG047131-04 REVISED		422,459	-
A scalable multi-level physical activity intervention for elderly persons with chronic obstructive pulmonary disease: First steps	93.866	1R56AG052580-01		126,668	-
Aging Memory	93.866	2R01AG008441-26		126,218	-
Aging Memory	93.866	4R01AG008441-25 REVISED		52,292	-
Aging, Stress Resistance and REST/spr transcription factors	93.866	5K99AG050830-02		65,188	-
An Innovative Language Controlled Tablet-Based Cognitive Test: Harmonizing Dementia Screening across High and Low Literacy Countries	93.866	3R01AG051144-02S1		226,512	79,403
Brain Aging Studies with Single-Neuron Resolution Using Syringe-Injectable Electronics	93.866	1K99AG056636-01 REVISED		109,376	-
Deciding about Dialysis: Improving Decision-Making Among Older Adults with ESRD	93.866	5K23AG049088-03		118,668	-
Defining Functional Outputs of Mitochondrial Networks in Longevity	93.866	1R21AG056930-01A1		46,551	-
Defining the Essential Function of Heat Shock Factor and the Consequences of its Age-Associated Decline	93.866	5R21AG050134-02		66,246	-
Dietary restriction promotes vascular health through hydrogen sulfide-mediated angiogenesis	93.866	2R56AG036712-06A1		321,096	-
Disability among Older Low-Skilled Workers	93.866	5R01AG056239-02		368,138	125,927
Dissociating Intrinsic and Extrinsic Motor Learning in Alzheimer's Disease	93.866	4R01AG041878-05		73,542	8,490
Epidemiology of Alzheimer's Disease and Cognition: Innovative Approaches to Global Harmonization	93.866	1R56AG054066-01Rev		428,086	25,007
Estimating the Potential Medicare Savings from Comparative Effectiveness Research	93.866	4R37AG036791-06		225,881	219,946
GDF11: an age-variant hormonal regulator of tissue homeostasis and repair	93.866	1R56AG052979-01		(855)	-
Genome Engineering an IPSC Model of Alzheimer's Disease	93.866	1RF1AG048056-01 REVISED		328,102	21,003
Health and Aging in Africa: Longitudinal Studies of an INDEPTH Community	93.866	2P01AG041710-04Revised		746,008	379,762
Health and Aging in Africa: Longitudinal Studies of INDEPTH Communities	93.866	3P01AG041710-03S2Revised		61,070	53,743
Health and Human Capital over the Life Course	93.866	5R01AG056238-02		462,127	232,864
Human Capital of Disabled Workers	93.866	5R01AG046290-05		508,053	189,980
Impact of social cohesion on functional recovery after earthquake and tsunami	93.866	5R01AG042463-05		414,538	131,105
Investigating GDF11 and MSTN as candidate circulating geronic factors	93.866	1R01AG057428-01		538,203	-

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Investigating the neuroinflammatory role of RIP1 kinase	93.866	5R01AG047231-04 REVISED		247,181	-
Investigating the role and mechanism of RIPK1 in mediating cerebrovascular pathology of AD	93.866	1R21AG059073-01		56,696	-
Mapping Progranulin's Bioactivity: Implications for Disease and Potential Therapies	93.866	5K99AG047339-02Revised		(6,356)	-
MD-PhD Training Program in Aging and the Social/Behavioral Sciences	93.866	5T32AG051108-03		209,763	-
Mechanisms Specific to the Beneficial Effects of Dietary Restriction	93.866	5R01AG044346-05		154,270	-
Medicare in a Restructured Delivery System	93.866	3P01AG032952-08S1 REVISED		1,639,855	27,820
On-Demand Stem Cell Delivery Systems for Tendon Healing Throughout Aging	93.866	1F32AG057135-01		53,169	-
Optimism and Exceptional Longevity	93.866	5R01AG053273-02 REVISED		415,581	201,011
Regulation and function of Growth Differentiation Factor 11 during development and aging	93.866	5R01AG048917-02 REVISED		515,630	56,707
Regulation of Skeletal Muscle Regeneration During Aging by Growth Differentiation Factor 11	93.866	5F32AG050395-03		11,537	-
Role of epigenetic decay in cell senescence and aging	93.866	2R01AG019719-11A1		366,078	-
Single cell RNA-seq analyses of age-related changes in glial cells and in AD	93.866	1RF1AG055521-01A1		352,949	-
Social protection, work and family strain: cumulative disadvantage effects in the US and Europe	93.866	5R01AG040248-05Revised		159,155	-
Specialization in Nursing Home Care	93.866	5R01AG047194-03 REVISED		170,916	-
Studying methionine flux and its role in aging and neurodegeneration	93.866	1K99AG057792-01		35,440	-
Targeting a Novel Regulator of Brain Aging and Alzheimer's Disease	93.866	5R01AG046174-04		706,949	314,979
Targeting mechanisms of inter-organelle communication to promote healthy aging	93.866	5K99AG052666-02		126,744	-
Targeting RNA homeostasis to promote healthy aging	93.866	1R01AG051954-01A1		245,401	-
The Center for the Global Demography of Aging	93.866	5P30AG024409-13		924,748	-
The Changing Landscape of Post-Acute Care and Health Outcomes for Older Adults	93.866	1K23AG058806-01		34,660	-
The Impact of Employee Wellness Programs	93.866	5R01AG050329-02		652,285	-
The Longitudinal Aging Study in India	93.866	3R01AG042778-04S2		1,708,786	1,448,602
The role of epigenetics in age-related cognitive decline and Alzheimer¿s disease	93.866	1K99AG055683-01		70,288	-
Training in the Molecular Biology of Neurodegeneration	93.866	5T32AG000222-27		295,535	-
Training in the Molecular Biology of Neurodegeneration	93.866	3T32AG000222-25S1		418,471	-
Ubiquitin-mediated proteolysis and cell cycle control	93.866	5R01AG011085-24 REVISED		390,077	216,204
Ubiquitin-mediated proteolysis and cell cycle control	93.866	2R01AG011085-25		22,389	-
Uncovering the Human Secretome	93.866	1DP1AG058605-01		650,212	-

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Utilizing DNA Methylation Age to Understand The Effects of Fine Particles on Cognition	93.866	1F31AG056124-01A1 REVISED		33,049	-
Vascular mechanisms and tDCS treatment of gait and posture in aging and age related disease	93.866	5K99AG051766-03 REVISED		33,171	
Welfare Effects of Balancing the Federal Social Security and Health Care Budgets	93.866	5R01AG048037-04		602,414	187,730
Total for CFDA 93.866				17,442,209	3,920,283
Cell-Cell Signaling in Development and Regeneration of Visual Connections	93.867	4R01EY011559-24		68	-
Characterizing training-related neuroplasticity in developmental prosopagnosia	93.867	5R01EY026057-02 REVISED		498,940	13,598
Combinatorial roles of cadherins in retinal circuit assembly	93.867	5R01EY022073-07		525,394	-
CORE GRANT FOR VISION RESEARCH	93.867	5P30EY012196-20		747,763	156,873
Cortico-Cortical Feedback	93.867	5R01EY011379-20 REVISED		422,389	-
Defining cell types of foveal and peripheral retina by high-throughput, single-cell transcriptional profiling	93.867	1R21EY028633-01		119,347	-
Development of Category-Selective Domains in Inferotemporal Cortex	93.867	5F32EY024187-03		4,960	-
Dissecting sensory and circadian circuitry that control the timing of sleep	93.867	5F31EY027252-02		30,497	-
Internal Signals in the Parietal Visual Pathway	93.867	5R01EY012106-15		7,167	-
Linking sequence and copy number variation to eye diseases by regulatory genomics	93.867	7R01EY024230-03		351,955	-
Mechanisms of Morphogen Secretion in Visual System Development and Disease	93.867	5R01EY024093-05		260,285	-
Molecular control of neuronal shape and connectivity in the developing retina	93.867	5R01EY024884-03		444,543	-
Physiological Mechanisms of Intensity Encoding in Ganglion Cell Photoreceptors	93.867	5F31EY025466-03 REVISED		12,966	-
Regulation of Cell Type Identity in Retinal Bipolar Cell Precursors	93.867	1K99EY028215-01		99,315	-
Research Training in Visual Neuroscience	93.867	5T32EY007110-29		162,165	-
Reverse Correlation Mapping in Face Patches	93.867	5R01EY016187-12		547,009	-
Subtype-specific Retinal Ganglion Cell Degeneration and Regeneration following Optic Nerve Crush	93.867	1F32EY028448-01		52,492	-
The normal development of inferotemporal cortex	93.867	5R01EY025670-03		598,345	-
Total for CFDA 93.867				4,885,600	170,471
Boston-Area Research Training Program in Biomedical Informatics	93.879	3T15LM007092-25S1		385,301	-
Boston-Area Research Training Program in Biomedical Informatics	93.879	2T15LM007092-26Revised		512,779	-
Bridges to Health Information for Individuals with Serious Mental Illness	93.879	5G08LM012154-04		103,988	82,468
Development of a Best Practices in Research Data Management Massive Open Online Course (MOOC)	93.879	1R25LM12284-01		26,495	1,207
On the Origins of Therapies: Innovation, Imagination, and the Evolution of Coronary Artery Surgery, 1910-1970	93.879	5G13LM012053-03		42,693	-
Predictive optimal anticlotting treatment for segmented patient populations	93.879	4R01LM011566-04		118,536	74,358
Statistical and Quantitative Training in Big Data Health Science	93.879	5T32LM012411-02REVISED		280,916	-
Total for CFDA 93.879				1,470,708	158,033

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Academic Units for Primary Care Training and Enhancement	93.884	6 UH1HP29962-02-01		722,853	263,213
Primary Care Training and Enhancement Program	93.884	6 T0BHP29997-02-01		547,095	256,908
Total for CFDA 93.884				1,269,948	520,121
Dietary Patterns and Risk of Cardiovascular Disease	93.897	2R01HL060712-16A1		21,188	
Total for CFDA 93.897				21,188	-
Ryan White-DRP HRSA-17-041	93.924	1T22HA312060100		16,547	-
Total for CFDA 93.924				16,547	-
2/2-Air Pollution and Health GeoHealth Hub Research and Capacity Building-US	93.989	5U2RTW010108-03Revised		185,147	-
Building Research Capacity to Improve Mental Health in China across the Lifespan	93.989	5D43TW009081-05 REVISED		76,513	19,008
Development Initiative for Ethical Review and Oversight of Health Research Involving Human Subjects in Rwanda	93.989	5R25TW010298-02		96,284	-
Employing genetic and genomic surveillance to reveal mechanisms of malaria parasite persistence	93.989	5K01TW010496-02		128,283	-
Fogarty HIV Research Training Program for Low and Middle-Income Countries	93.989	5D43TW009610-05		407,149	-
Novel therapeutic agents from the bacterial symbionts of Brazilian invertebrates	93.989	5U19TW009872-04 REVISED		1,012,717	759,257
Partnership for Global Health Research Training Program	93.989	1D43TW010543-01 REVISED		531,077	251,584
Tanzania Infectious Disease Research Training Program	93.989	5D43TW007886-09		229,354	47,728
Training in HIV/AIDS Prevention and Treatment Research in Botswana	93.989	2D43TW009610-06		3,111	
Training Tanzanian Researchers for HIV/AIDS Implementation Science	93.989	5D43TW009775-03		245,713	74,353
Total for CFDA 93.989				2,915,348	1,151,930
A Systems Approach to Measuring and Modeling Toxic Responses	93.RD	HHSF223201400052C		113,448	-
Address Selection Bias Issues with the Use of Treatment Information for Outcomes Analyses from Population-based SEER Cancer Registries	93.RD	HHSN261201700047A		52,004	-
CDC Meta Leadership Training	93.RD	No Award Nmbr		9,897	-
Center for Food Safety and Applied Nutrition (CFSAN) United States Population Longitudinal Data and Specialized Analytic Support	93.RD	HHSF223201610080C		83,032	-
Diabetes Risk Across Womens Lifespan: A Study of Long-Term Health Implications of Glucose Intolerance in Pregnancy	93.RD	HHSN275201500003C		18,254	-
Environmental Health and Safety Implications from engineered nanomaterials (ENMs) released from nano-enabled products (NEPs) during consumer use: Case study of printer emitted engineered nanoparticle	93.RD	200-2016-89213		67,505	-
Expanded Analyses of Circulating Vitamin D and Risk of Colorectal and Breast Cancer by Cancer Subtypes and in Population Subgroups	93.RD	HHSN261201700657P		29,399	-
Inter-professional Case-based Pain Medicine Curriculum for Students of Dentistry, Medicine, Pharmacy, Psychology, and Nursing in Boston, MA	93.RD	HHSN271201500075C		94,919	-

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Long-term transgenerational health impacts of maternal obesity and gestational diabetes and their determinants	93.RD	HHSN275201600003I		1,075,344	860,064
Organ-on-Chips Tools for Testing of Radiation Countermeasures	93.RD	HHSF223201310079C		719,822	26,193
Ovarian cancer risk factors in the Ovarian Cancer Cohort Consortium (OC3)	93.RD	HHSN261201600783P		(998)	-
Physico-Chemical, Pharmacokinetic and Toxicological Studies of Engineered Nanoparticles emitted from Photocopiers and Printing Equipment	93.RD	200-2015-M-87419		39,405	-
Total for 93.RD				2,302,031	886,257
Total for DHHS Direct Award R & D				**399,829,412**	**105,837,836**
EPA					
Disparities in Exposure and Health Effects of Multiple Environmental Stressors Across the Life Course	66.509	83615601		362,756	176,532
Effects of Changes in Climate and Land Use on U.S. Dust and Wildfire Particulate Matter	66.509	83587501		149,319	30,000
Integrated Modeling Approaches to Support Systems-Based Ecological Risk Assessment	66.509	RD-83579501-0		199,591	99,943
Regional Air Pollution Mixtures: The Past and Future Impacts of Emission Controls and Climate Change on Air Quality and Health	66.509	83587201		1,559,057	252,286
Total for CFDA 66.509				2,270,723	558,761
Immunotoxicity Risks Associated with Exposures to Perflourinated Compounds (PFCs)	66.514	FP-91765101-3		14,206	-
Total for CFDA 66.514				14,206	-
Total for EPA Direct Award R & D				**2,284,929**	**558,761**
Institute of Museum and Library Services					
Optically Recovering Sound Recordings from Aluminum Transcription Discs	45.312	LG-52-14-0170-14		975	-
Total for CFDA 45.312				975	-
Total for Institute of Museum and Library Services Direct Award R & D				**975**	-
Medicare Payment Advisory Commission (MedPAC)					
Phase 2 of development of healthy days at home population-level quality measure	99.RD	MED17P0035		103,065	-
Total for 99.RD				103,065	-
Total for Medicare Payment Advisory Commission (MedPAC) Direct Award R & D				**103,065**	-
National Aeronautics and Space Administration (NASA)					
A Comprehensive Search for X-ray Emission from the Coolest Magnetically Active Brown Dwarfs	43.001	GO8-19005X		10,236	
A comprehensive state-of-science GEOS-Chem capability for atmospheric chemistry in the GEOS Earth System Model (ESM) and Data Assimilation System (DAS) at GMAO	43.001	80NSSC17K0134		46,840	-
Advancing Tidal Tomography for Study of Earth's Interior	43.001	NNX17AE42G		100,456	-
Astrophysical Probes of Dark Matter Interactions	43.001	NNX16AI12G		165,453	-
Atmospheric Collapse and Volatile Transport on Rocky M-Star Planets	43.001	NNX16AR86G		117,947	-
Atmospheric Tomography Mission (ATom): Imaging the Chemistry of the Global Atmosphere	43.001	NNX15AJ23G		359,344	-
Aura Science Team activities and GEOS-Chem support	43.001	NNX17AI67G		105,880	-
Chandra Cycle 16 GO Program: Rapid Observations of Short-Duration Gamma-Ray Bursts: Accurate Positions Hold the Key to the Progenitor Population	43.001	G05-16053X		777	-
Chandra Cycle 16 GO Program: X-Ray Production in the Unique Relativistic Tidal Disruption Event Sw1644+57	43.001	GO5-16111X		1,223	-

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Chandra Cycle 17: Rapid Observations of Short-Duration Gamma-Ray Bursts: Accurate Positions Hold the Key to the Progenitor Population	43.001	GO6-17049X		37,331	-
Chandra Survey of the Oldest Open Clusters	43.001	GO3-14098X		(7,705)	-
Characterizing Small K2 Planets with the HARPS-N Spectrograph	43.001	80NSSC18K0293		28,220	
Characterizing Small K2 Planets with the HARPS-N Spectrograph	43.001	NNX17AL48G		93,017	-
Characterizing Small Planets with K2 and HARPS-N	43.001	NNX16AJ13G		76,706	-
Characterizing the Cooler KOIs: Studying the Planet Population around Mid-M Dwarfs	43.001	NNX15AW50G		7,275	-
Coastal Upwelling in a Warmer World: Understanding Interannual Variability and Predicting Future Response to Atmospheric Warming	43.001	NNX14AH39G		1,264	-
Constraining the onset of multiple stellar populations in globular clusters	43.001	HST-HF2-51387.001-A		100,696	-
Determining the explosion mechanism of a superluminous supernova through the deepest ever late-time study	43.001	HST-GO-14743.002-A		33,569	-
Development and deployment of an Autonomous Biogeochemical Instrument for In Situ Studies (the ABISS)	43.001	NNX17AB31G		762,923	144,010
Elemental and isotopic fractionations and mixing in the proto-lunar disk	43.001	NNX15AH66G		242,711	-
Evolution of sub-cellular metabolism in photosynthetic eukaryotes: Isotopic investigation of the partitioning of nitrogen between chloroplasts and mitochondria	43.001	NNX16AJ52G		143,991	89,544
Extracting distances from WFIRST/AFTA light curves and spectra	43.001	NNX15AJ55G		83,529	-
Fermi GI program Cycle 8: RAPID SPECTROSCOPY OF FERMI GRBS: REDSHIFTS, ENERGETICS, AND HOST GALAXIES	43.001	NNX16AC22G		30,691	-
Field Measurements of Atmospheric Trace Species: Airborne/Balloon in situ and Ground-Based Remote Sensing of CO2, CH4, CO, N2O, and C2H6	43.001	NNX17AF54G		391,296	-
First Atmosphere Characterization of the Benchmark Exo-Neptune WASP-107b	43.001	HST-GO-14915.001-A		34,544	-
Following the Kepler Planets with the HARPS-N Spectrograph to Determine the Transition from Rocky to Neptune-like Worlds	43.001	NNX15AC90G		85,978	36,932
Gamma-Ray Bursts: Progenitors to Probes	43.001	NNX15AE50G		80,256	-
Glacial Isostatic Adjustment in the Antarctic in the Presence of Complex Earth Structure: Applications to Space-Geodetic Measurements of Climate Change	43.001	NNX17AE17G		90,476	-
High Resolution Energetic X-ray Imager (HREXI)	43.001	NNX14AD59G		408,684	84,698
High-resolution constraints on North American and global methane sources using satellites	43.001	NNX14AO74G		215,175	-
HREXI prototype for 4piXIO	43.001	NNX17AE62G		340,457	48,879
Imaging and UV Spectroscopy of the Luminous and Unique Nuclear Transient PS16dtm	43.001	HST-GO-14902.002-A		15,318	-
Improved Understanding of Methane Emissions and Trends in North America and Globally Through a Unified Top-Down and Bottom-Up Approach Exploiting GOSAT and TROPOMI Satellite Data	43.001	80NSSC18K0178		84,398	
Improving terrestrial biosphere model predictions of coupled carbon, water, and energy fluxes using remotely sensed surface and vegetation temperatures	43.001	NNX16AO21H		43,815	-
Investigation of Tropospheric Chemistry-Climate Interactions in Hindcasts of the Recent Past	43.001	NNX13AO08G		129,909	-
Isotopic and chemical consequences of different accretion scenarios: Comparing models with observations	43.001	NNX17AE27G		67,104	19,291
Linking Terrestrial Biosphere Models with Imaging Spectrometry Measurements of Ecosystem Composition, Structure, and Function	43.001	NNX12AP33G		87,692	-
Management of the GEOS-Chem Chemical Transport Model and Application to Improve Understanding of Tropospheric Ozone	43.001	NNX15AB09G		362,387	-

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Merging and Observing Massive Black Hole Binaries: interactions with a gas disk	43.001	PF6-170151		87,578	-
Miniature Light-weight X-ray Optics for Solar System Exploration	43.001	NNX16AL75G		203,891	162,187
Moving Mesh Cosmology with Magnetohydrodynamics	43.001	NNX15AR88H		4,000	-
Multi-Scale Data Assimilation and Model Comparison for ABoVE to Identify Processes Controlling CO2 and CH4 Exchange and Influencing Seasonal Transitions in Arctic Tundra Ecosystems	43.001	NNX17AE75G		267,735	66,471
Multi-Scale Plasma Flows around Black Holes (Harvard node)	43.001	NNX14AB47G		85,568	-
New Frontiers for Turbulence in the Intercluster Medium: A Multiwavelength Study of the Velocity Power Spectrum with Chandra, Hubble, and Astro-H	43.001	PF4-150119		13,001	-
New Laboratory Bromine Kinetics for Improving Models and Projections of Stratospheric Ozone	43.001	NNX15AD87G		143,290	-
Radiative Forcing of Climate Using A-Train Data and Infrared Spectral Fingerprinting	43.001	NNX15AC29G		(2,899)	-
Reducing the Effect of Stellar Jitter to Enable RV Measurements of Earth-Like Exoplanets.	43.001	NNX16AD42G		59,075	15,115
Study of the Madden-Julian Oscillation with isotope-enabled regional and global models	43.001	NNX13AN47G		125,591	90,039
The isotopic consequences of microbial sulfur disproportionation	43.001	NNX15AP58G		31,850	-
The plasma phase transition in hydrogen for gas giants: structure and formation	43.001	NNX14AP17H		3,049	-
Towards a Complete Understanding of Stellar Feedback in Massive Star Formation	43.001	PF7-180166		96,477	-
Transit Search Around 2 White Dwarfs with Infrared Excesses	43.001	80NSSC18K0295		10,802	-
Understand predictability and improve prediction of atmospheric blocking and associated extreme weathe	43.001	80NSSC17K0267		96,538	-
Understanding The Atmospheric Methane Budget And Trends Using Satellite Observations In Combination With New Emission Inventories And Biogeochemical Models	43.001	NNX17AK81G		75,921	-
Unique Insights Into Swift GRBs With The VLA and ALMA	43.001	80NSSC17K0298		37,318	-
Unravelling the Formation History of the Milky Way	43.001	NNX15AR83H		(1,500)	-
Use of OMI Formaldehyde (HCHO) and Glyoxal (CHOCHO) Observations to Quantify and Map Emissions of Nonmethane Volatile Organic Compounds (NMVOCs)	43.001	NNX14AE83G		26,913	-
Using Aircraft Stratospheric Water Vapor Measurements Coupled with Complementary Satellite Data, Ground-based Radar and Model Results to Study the Influence of Deep Convection over North America	43.001	NNX14AR33G		2,264	-
Using NASA aircraft observations to improve understanding of biogenic VOC chemistry and aerosols over the eastern US, and to increase the value of related satellite observations	43.001	NNX14AP42G		73,494	-
UV Absorption Cross Sections and Equilibrium Constant of ClOOCl Determined from New Laboratory Spectroscopy Studies of ClOOCl and ClO	43.001	NNX15AF60G		61,192	-
Validation and Application of OCO-2 data in the Northeastern United States	43.001	NNX15AG91G		70,148	-
Total for CFDA 43.001				6,551,159	757,166
Crowd Innovation Laboratory at Harvard University NASA Open Innovation Research	43.003	NNX16AC77A		261,235	-
Total for CFDA 43.003				261,235	-
Physics of Colloids in Space	43.007	NNX13AQ48G		162,678	-
Total for CFDA 43.007				162,678	-
Innovative undergraduate flight instrument design and build linking science and engineering to explore coupling between climate and atmospheric chemistry	43.008	NNX16AI72A		44,559	-
Pulsed Laser Spectroscopies for Investigating Questions of Astrobiology	43.008	NNX13AM67H		6,836	-
Total for CFDA 43.008				51,395	-

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A Year in the Whirlpool	43.RD	HST-GO-14704.001-A		133,296	-
Augmentation of the Glue Visualization System, with Special Emphasis on Spectral-Line Data Cubes	43.RD	NAS5-03127		124,901	-
Atmospheric Escape from the Closest Super-Earth	43.RD	HST-GO-14461.002-A		13,359	-
Constraining the Late-Time Light Curve Behavior of Three Diverse Superluminous Supernovae	43.RD	HST-GO-15162.002-A		36,054	
Cycle 21 Program GO-13401: A 3D view of the SN 1987A Ejecta	43.RD	HST-GO-13401.001-A		24,472	-
Cycle 22 program: Understanding the Progenitor Systems, Explosion Mechanisms, and Cosmological Utility of Type Ia Supernovae	43.RD	HST-GO-13646.003-A		25,360	
Cycle 23 Program GO-14216: RAISIN2: Tracers of cosmic expansion with SN IA in the IR	43.RD	HST-GO-14216.001-A		70,455	-
Establishing a Network of Next Generation SED standards with DA White Dwarfs	43.RD	HST-GO-13711.010-A		885	-
Going gently into the night: constraining Type Ia supenova nucleosynthesis using late-time photometry	43.RD	HST-GO-14611.008-A		40,464	-
Initial Reconnaissance of a Transiting Rocky Planet in a Nearby M-Dwarf's Habitable Zone.	43.RD	HST-GO-14888.002-A		5,440	-
Measuring the Star Formation History of the Local Universe	43.RD	HST-AR-14557.001-A		112,791	-
Quantifying the Impact of High-Energy Electrons on Low-Temperature Dwarfs	43.RD	HST-GO-14897.003-A		19,827	-
SAINTS: Images of SN 1987A	43.RD	HST-GO-13405.001-A		6,327	-
STUDY OF LOW-TEMPERATURE SHAPE MEMORY ALLOYS USING COMBINATORIAL NANOCALORIMETRY	43.RD	NNX17ED02P		43,077	-
The Evaporating Exosphere of a Young Planet	43.RD	HST-GO-14615.002-A		44,690	-
Ultraviolet Flashers in M87: Rapidly Recurring Novae as SNIa Progenitors	43.RD	HST-GO-14618.007-A		4,024	-
Total for CFDA 43.RD				705,422	-
Total for NASA Direct Award R & D				**7,731,889**	**757,166**
National Endowment for the Humanities					
Medicine at Ground Level: State Medical Societies, State Medical Journals, and the Development of American Medicine.	45.149	PW-228226-15		2,360	2,290
Women's Worlds in Qajar Iran (NEH HCRR)	45.149	PW-234647-16		93,526	-
Total for CFDA 45.149				95,886	2,290
Total for National Endowment for the Humanities Direct Award R & D				**95,886**	**2,290**
National Science Foundation					
I/UCRC: Collaborative Research: Center for Spatiotemporal Thinking Computing and Applications	47.041	CNS-1338914		82,889	
Alan T. Waterman Award	47.041	CMMI-1251729		89,143	-
CAREER: Optimization, Control, and Incentive Design for Power Networks with High Levels of Distributed Energy Resources	47.041	ECCS-1553407		91,535	-
Casting Inorganic Nanostructure Arrays with 3D DNA Crystal Molds	47.041	CMMI-1333215		(4,508)	-
Collaborative Research: A Combustion Powered, Flapping, Wing Micro Air Vehicle	47.041	CMMI-1537715		106,571	-
Collaborative Research: Approximate Computing on Real World Data Using Representation and Coding	47.041	ECCS-1609605		68,714	-
Collaborative Research: Mechanics of fusion of dissimilar lipid bilayers and multi-lamellar vesicles	47.041	CBET-1705775		77,461	-
Collaborative Research: Mechanistic and Predictive Genotoxicity Assessment of Nanomaterials	47.041	CBET-1437209		10,216	-
Collaborative Research: Quantum cascade laser sources of high-power, coherent frequency combs	47.041	ECCS-1614631		149,960	-
Collaborative Research: Towards Communication-Cognizant Voltage Regulation and Energy Management for Power Distribution Systems	47.041	ECCS-1608509		76,360	-
Data-Driven Management of Post-Transplant Medications	47.041	CMMI-1562645		116,895	32,585

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E2CDA: Type II: Collaborative Research: Nanophotonic Lithium Niobate platform for next generation energy efficient and ultrahigh bandwidth optical interconnect	47.041	ECCS-1740296		60,242	-
EAGER: Deterministic Placement of Qubits in Cavities for Strongly Coupled Quantum Repeaters	47.041	ECCS-1748106		128,097	-
EAGER: Limited Communications Demand Control in Power Grid	47.041	ECCS-1548204		51,940	-
EFRI 2-DARE: Quantum Optoelectronics, Magnetolectronics and Plasmonics in 2-Dimensional Materials Heterostructures	47.041	EFMA-1542807		582,237	-
EFRI NewLAW: Topological Mechanical Metamaterials Science	47.041	EFMA-1741685		342,134	209,732
Experimental Electro-Mechanics of Dielectric Elastomers	47.041	CMMI-1333835		77,791	-
GOALI: Stable Nanomechanical Oscillators with Large fQ Product	47.041	ECCS-1507508		66,840	-
NNCI: The Center for Nanoscale System (CNS) at Harvard University	47.041	ECCS-1541959		959,635	-
NRI: Achieving selective kinematics and stiffness in flexible robotics	47.041	CMMI-1637838		252,641	-
NSF 15-022 Fate of aerosolized Nanoparticles: the influence of surface active substances on lung deposition and respiratory effects (NANOaers)	47.041	1530767		95,785	-
NSF EAGER: High-Throughput Bioprinting of Vascularized Living Tissues	47.041	CMMI-1548261		6,528	-
OP Collaborative Research: Taking lithium-niobate to the nanoscale: shaping revolutionary material onto photonic microchips for developing next-generation light sources	47.041	ECCS-1609549		106,808	-
PFI:AIR - TT: High-Reliability Robot Grasping for Per-Item Distribution	47.041	IIP-1500178		38,895	-
Principles of DNA-Like Self-Assembly at Macroscopic Scales	47.041	CMMI-1434560		19,578	-
Stretchable, Tough, Water-Retaining Hydrogels for Non-Traditional Applications	47.041	CMMI-1404653		(18,902)	-
SUSCHEM: Aquous organic redox chemistry for renewal energy storage	47.041	CBET-1509041		122,556	-
Thermal Decomposition/incineration of Nano-Enabled Productos (NEPs): Environmental Health and Safety Implications	47.041	1436450		42,493	-
Understanding How Motile Cells Make Decisions When Subject to Multiple Chemical and Physical Cues	47.041	CMMI-1536616		166,980	-
Total for CFDA 47.041				3,967,514	242,317
Collaborative Research: ITEST Strategies: Girl ARTs (Augmented-Reality Targeting Science)	47.046	DRL-1657017		21,731	-
Total for CFDA 47.046				21,731	-
Algebraic geometric approaches to biological complexity	47.049	DMS-1462629		343,292	-
Analysis, Geometry and Mathematical Physics	47.049	DMS-1607871		233,088	-
Antihydrogen and Antiproton Studies	47.049	PHY-1310079		436,074	-
Arithmetic Geometry	47.049	DMS-1601054		121,340	-
ATD: Collaborative Research: Spectral Interpretations of Essential Subgraphs for Threat Discoveries	47.049	DMS-1737873		48,019	-
CAREER: Adapting the fluid projection method to model elasto-plastic materials	47.049	DMS-1753203		5,000	-
CAREER: Chemically-Enabled Strategies for the Discovery and Characterization of Novel Enzymatic Function	47.049	CHE-1454007		167,422	-

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CAREER: Quantum field theory in diverse dimensions, supersymmetry, and quantum gravity	47.049	PHY-1352084		116,260	-
CDS and E: Collaborative Research: Computational Design of Topological Superconductors and Weyl - Dirac Semimetals	47.049	DMR-1827925		54,879	-
Center for Integrated Quantum Materials	47.049	DMR-1231319		3,406,185	1,444,539
Charge Tunneling in Organic Matter	47.049	CHE-1506993		178,355	-
Chiral Molecular Beams, Quantum Tunneling and Improved Microwave Spectroscopy	47.049	CHE-1506868		210,765	-
Classical and Quantum Aspects of Black Holes, Horizons and Asymptotic Symmetries	47.049	PHY-1606536		10,612	-
Classical and Quantum Aspects of Black Holes, Horizons and Asymptotic Symmetries	47.049	PHY-1707938		65,910	-
Collaborative Research: Abacus: A New State-of-the-Art Cosmological N-body Code	47.049	AST-1313285		24,883	-
Collaborative Research: Biophysical Analysis of Magnetosome Development in Magnetotactic Bacteria Under Ambient Conditions	47.049	PHY-1504610		33,349	-
Collaborative Research: Combined Theoretical/Experimental approach to understanding irradiation-induced morphology evolution	47.049	DMR-1409700		43,250	-
Collaborative Research: Connecting Atomistic and Continuum Amorphous Solid Mechanics via Non-equilibrium Thermodynamics	47.049	DMR-1409560		36,863	-
Collaborative Research: DMREF: Designing, Understanding and Functionalizing Novel Supercondutors and Magnetic Derivatives	47.049	DMR-1435487		(4,130)	-
Collaborative Research: Geometric Analysis for Computer and Social Networks	47.049	DMS-1418252		40,469	-
Collaborative Research: Institute for Theoretical, Atomic, Molecular and Optical Physics	47.049	PHY-1205635		(5,733)	-
Collaborative Research: Perception and Use of Infrared Radiation by Insects	47.049	PHY-1411123		21,809	-
Collaborative Research: Principled Science-Driven Methods for Massive, Intricate, and Multifaceted Data in Astronomy and Astrophysics	47.049	DMS-1513492		18,789	-
Collaborative Research: Theoretical and Methodological Frameworks for Causal Inference of Peer Effects	47.049	DMS-1712714		37,144	-
Collective Ecophysiology and Physics of Social Insects	47.049	PHY-1606895		130,954	-
Colloids as Models for Crystals and Glasses	47.049	1611089		194,305	-
Compact wave function methods for chemical systems	47.049	CHE-1464862		227,049	-
Complex Dynamics and Moduli Spaces	47.049	DMS-1305116		231	-
Complex Dynamics and Moduli Spaces	47.049	DMS-1608432		163,044	-
Concluding conference of the Special Program on Nonlinear Equations: Progress and Challenges in Nonlinear Equations	47.049	DMS-1600414		3,682	-
Criticality and Order in Quantum Matter	47.049	DMR-1360789		31,156	-
Current Developments in Mathematics Conference	47.049	DMS-1443462		12,102	-
Designer Soft Microparticles for a Changing Environment	47.049	DMR-1708729		156,251	-
Detecting hydrogen in early universe using the Large Aperture Experiment to Detect the Dark Age (LEDA) telescope	47.049	AST-1616709		323,248	-
DMREF: Biologically Inspired Optimized Materials And Technologies Transformed by Evolutionary Rules (BIOMATTER)	47.049	DMR-1533985		461,207	153,007
DMREF: Self Assembly with DNA-Labeled Colloidal Particles and DNA Nanostructures	47.049	DMR-1435964		183,132	23,596
DMREF/Collaborative Research: Graphene Based Origami and Kirigami Metamaterials	47.049	DMR-1435999		121,120	-

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DMREF/GOALI/Collaborative Research: High-Throughput Simulations and Experiments to Develop Metallic Glasses	47.049	DMR-1435820		35,490	-
Exploring the Galaxy: 3-Dimentional Structure and Stellar Streams	47.049	AST-1614941		108,527	-
Fiber-laser Astro-comb as a Robust Wavelength Calibrator for Astrophysical Spectrographs	47.049	AST-1310981		1,542	-
Fluctuations and Control in Cells	47.049	DMS-1517372		73,017	-
Fractional Quantum Hall Physics with Ultracold Atoms	47.049	PHY-1506203		171,079	-
FRG: Collaborative Research: Stability of Structures Large and Small	47.049	DMS-1564473		44,973	-
Fundamental Physics from Primordial Seeds	47.049	PHY-1650217		18,062	-
Gamma-Ray Bursts: From Progenitors to Probes	47.049	AST-1411763		21,387	-
Gamma-Ray Bursts: Physics, Progenitors, and Probes	47.049	AST-1714498		30,977	-
Gauge Theory and Spatial Graphs	47.049	DMS-1707924		68,209	-
Gauge theory and spatial graphs	47.049	DMS-1405652		40,560	-
Geometric PDEs and Algebraic Geometry	47.049	DMS-1506652		44,570	-
Geometric structures in field and string theory	47.049	PHY-1306313		434	-
Hydrogen at Ultra-High Pressure	47.049	DMR-1308641		99,193	-
In-sequence coding of stochastic gene expression via synonymous mutations	47.049	PHY-1409321		142,079	-
Induced Topological Superconductivity in Two Dimensional Systems	47.049	DMR-1708688		243,367	-
Institute for Theoretical, Atomic, Molecular and Optical Physics	47.049	PHY-1521560		760,387	352,186
Integrated photonic chips for generating entangled photon triplets	47.049	PHY-1415236		(159)	-
Interactions of Particles, Fields and Strings	47.049	PHY-1418114		37,473	-
Interactions of Particles, Fields and Strings	47.049	PHY-1719924		153,316	-
L-functions and Arithmetic	47.049	DMS-1601028		(246)	-
Lepton Magnetic Moments and Fine Structure Constant	47.049	PHY-1607565		215,969	-
Local and Global Geometric Langlands Correspondence	47.049	DMS-1707662		130,394	-
Mapping Dust in 3-D with Pan-STARRS	47.049	AST-1312891		21,540	-
Materials Research Science and Engineering Center	47.049	DMR-1420570		2,234,920	-
Mathematical methods to infer mechanisms from single cell data	47.049	DMS-1562497		86,208	-
Mechanistic Studies of the Photoactivation of Metal- Hydride, Halide and Oxo Bonds	47.049	CHE-1464232		301,690	-
Microfluidic Printing of Interspersed and Interpenetrating Multicomponent Ceramic Architectures	47.049	DMR-1305284		232,743	-
MINERVA: A dedicated observatory for exoplanet science	47.049	AST-1516242		108,919	-
MINERVA: Purchase of Kiwispec, a robotic precision RV spectrograph	47.049	AST-1608203		99,296	-
Nanoporous Hybrid Photo-catalysts for Sustainable Chemical Processes	47.049	CHE-1362616		30,365	-
New Algebraic Structures in Topology	47.049	DMS-1510417		262,728	-
Non- equilibrium dynamics of quantum many - body systems	47.049	DMR-1308435		135,461	-
Nonlinear Analysis on Sympletic, Complex Manifolds, General Relativity, and Graphs	47.049	DMS-1308244		591	-
NRAO Student Observing Award to Ryan Loomis	47.049	SOSPA4-011		22,203	-
NSF Frontiers of Experimental Condensed Matter Physics (CMP) Principal Investigators Workshop on Materials for the Quantum Revolution	47.049	DMR-1743724		9,672	-
Number Theory and Geometry	47.049	DMS-1100511		873	-
Number Theory and Geometry	47.049	DMS-1502161		56,103	-
Number Theory and Related Fields	47.049	DMS-1302409		2,983	-

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Observational Studies of Magnetic Fields in Very Low Mass Stars	47.049	AST-1614770		138,183	-
OP: Quantum Physics with Nanaophotonics Systems	47.049	PHY-1506284		206,628	-
Optimal Shrinkage Estimation for Heteroscedastic Data	47.049	DMS-1510446		92,654	-
Particle Physics in the Era of Data	47.049	PHY-1620806		180,005	-
Physics with New Molecular Systems: Quantum Interactions, Cooling and Applications	47.049	PHY-1505961		290,239	-
Quantitative Analysis of Higher Order Chromatin Interactions	47.049	DMS-1748175		32,857	-
Random Matrices and Disordered Systems	47.049	DMS-1307444		2,854	-
Random Matrix Theory and Applications	47.049	DMS-1606305		96,914	-
Research and Education in Physical Mathematics	47.049	DMS-1411694		73,132	-
REU Site Team Research in Computational and Applied Mathematics (TRiCAM)	47.049	DMS-1460870		103,108	-
REU Site: Biomaterials Research Initiative Dedicated to Gateway Experiences	47.049	DMR-1559890		152,679	-
SAVI: Student Research Network in the Physics of Living Systems (PoLS)	47.049	PHY-1219334		96,164	-
Scanning-releasing the full-sky-century database to DASCH for TDA	47.049	AST-1313370		377,112	-
Set Theory	47.049	DMS-1460238		62,308	-
Soft Materials: Synthesis and Properties	47.049	DMR-1310266		(13,574)	-
Special year workshops on Combinatorics and Complexity	47.049	DMS-1742283		88,851	-
State Space Models: A New Look at Smoothing, Parameter Inference, and Model Choice	47.049	DMS-1712872		61,500	-
Strongly Extended Superradiance in Diamond Meta-Materials	47.049	PHY-1720438		125,517	-
Structural transitions, energetics, and folding pathways of colloidal clusters	47.049	DMR-1306410		6,570	-
Study of Plasmon-Assisted Cell Transfection	47.049	PHY-1205465		59,291	-
SusChEM: Engineered protein-based biofilms as functional advanced materials	47.049	DMR-1410751		30,642	-
Synthesis of New Precursors for Vapor Deposition	47.049	1764338		28,999	-
The MEarth Project: An All Sky Survey of the Closest Low-mass Stars to Uncover the Very Best Terrestrial Exoplanets for Further Study	47.049	AST-1616624		213,800	159,472
The Ultimate L Project	47.049	DMS-1664764		91,221	-
Theoretical Problems in Soft Matter and Quantitative Biology	47.049	DMR-1608501		151,725	-
Theories of Metals with Correlated Electrons	47.049	DMR-1664842		128,521	-
Three-Dimensional Radiation GRMHD Simulations of Accretion Flows Around Black Holes	47.049	AST-1312651		69,236	-
Topology, Geometry and Physics	47.049	DMS-1401192		32,564	-
Topology, Geometry and Physics	47.049	DMS-1708310		81,678	-
Towards a Predictive Theory of Galaxy Formation: Cosmological Gas Accretion and Galactic Outflows	47.049	AST-1312095		29,900	-
Understanding Supernovae for Cosmology and for Themselves	47.049	AST-1516854		228,707	-
Variable Selection via Inverse Modeling for Detecting Nonlinear Relationships	47.049	DMS-1613035		44,491	-
Workshop on a Systematic Approach to Robustness, Reliability, and Rigor in Research February 24-26, 2017 in Atlanta, GA	47.049	PHY-1650892		48,664	-
Total for CFDA 47.049				17,111,410	2,132,800

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A Comprehensive Coupled Model for Tropospheric Halogen Chemistry: Evaluation of Impacts on Tropospheric Ozone, Hydroxyl Radical (OH), and Mercury	47.050	AGS-1643217		138,064	-
Anthropogenic Influence on Oxidative Capacity and BVOC Oxidation During GoAmazon 2014	47.050	AGS-1628491		41,492	-
Applying Statistical State Dynamics to Explain Spontaneous Shear/Buoyancy Layering in Stratified Turbulence	47.050	AGS-1640989		141,895	-
Atmospheric blocking: dynamics and responses to climate change	47.050	AGS-1552385		160,562	46,932
Beyond ocean temperature: Extracting new dimensions of paleoclimatic information from archaeal lipids and their isotopic compositions	47.050	OCE-1702262		197,061	-
Collaborative Proposal - PREEVENTS Track 2: Cascadia Scenario Earthquakes: Source, Path, and implications for Earthquake Early Warning	47.050	ICER-1663827		70,218	-
Collaborative Research: ICECAP (Ice Age Chemistry and Proxies) Phase 3: Investigating Fire Activity and its Implications for Climate Across Multiple Timescales	47.050	AGS-1702814		66,931	-
COLLABORATIVE RESEARCH: A multidimensional approach to understanding microbial carbon cycling beneath the seafloor during cool hydrothermal circulation	47.050	OCE-1635365		66,855	-
Collaborative Research: Characterization of Microbial Transformations in Basement Fluids, from Genes to Geochemical Cycling	47.050	OCE-1061934		(11,970)	-
Collaborative Research: Coupled Ocean-Atmosphere Recycling of Refractory Dissolved Organic Carbon in Seawater	47.050	OCE-1536608		38,706	-
Collaborative research: Deep eastern ocean boundary currents from local submesoscale potential vorticity dynamics to global climate implications	47.050	OCE-1535800		40,343	-
Collaborative Research: Developing a Three-Dimensional Seismic Reference Earth Model (REM-3D) in Collaboration with the Community	47.050	EAR-1345101		629	629
Collaborative Research: Do symmetric and asymmetric segments on the Mid-Atlantic Ridge have distinct geochemical signatures	47.050	EAR-1061264		25,827	-
Collaborative research: Dynamics of unsaturated downdrafts, cold pools, and their roles in convective initiation and organization	47.050	1649819		95,355	-
Collaborative Research: Ecosystem dynamics of Western Pacific hydrothermal vent communities associated with polymetallic sulfide deposits	47.050	OCE-1536653		63,331	-
Collaborative Research: Experimental and theoretical characterization of rapid Jurassic true polar wander	47.050	EAR-1723023		564	-
Collaborative Research: Experimental calibration of the isotopic content of marine sulfate	47.050	OCE-1536574		5,972	-
Collaborative Research: Functional evolution of the mammalian backbone; insights from the forerunners of mammals	47.050	EAR-1524523		67,053	-
Collaborative Research: Imaging the Beginning of Time from the South Pole: The next Stage of the BICEP Program	47.050	OPP-1638957		467,237	-
Collaborative Research: P2C2 - Reconstructing rates and sources of sea-level change over the last ~150 thousand years from a new coral database	47.050	OCE-1702684		29,575	-

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Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	Federal Expenditures	Passed to Sub-Recipients
Collaborative Research: P2C2--Recent Northeastern United States Temperature Records in the Context of the Late Holocene	47.050	AGS-1460795		21,347	-
Collaborative Research: P2C2: Re-assessing Pliocene and Miocene warm climates and identifying the 'missing physics' to explain them	47.050	OCE-1602864		65,244	-
Collaborative Research: Phylogenomics of palaeognathous birds and the genomic basis of flightlessness	47.050	1355343		(12,397)	-
Collaborative research: Sea level responses to sediment erosion and deposition over the past 3 million years	47.050	EAR-1527351		25,234	-
COLLABORATIVE RESEARCH: Testing proposed rapid true polar wander in the Neoproterozoic Zavkhan Volcanics of Mongolia and the Banxi Group of South China	47.050	EAR-1547537		78,267	-
COLLABORATIVE RESEARCH: The role of iron-oxidizing bacteria in the sedimentary iron cycle: ecological, physiological and biogeochemical implications	47.050	OCE-1459252		43,808	-
Collaborative Research: Understanding Multidecadal Changes in the Instrumental Mean Sea Level Record	47.050	OCE-1558939		20,904	-
Collaborative Research: Using a hierarchy of models to constrain the temperature dependence of climate sensitivity	47.050	AGS-1622985		64,272	-
CSEDI Collaborative Research: Anelastic properties of the Earth from seismic to tidal timescales	47.050	EAR-1464033		24,593	-
DESCEND2: A workshop to address the future of deep sea research	47.050	OCE-1551838		22,166	-
Dynamic Exchange and Reactivity in Secondary Organic Aerosol	47.050	AGS-1640378		85,055	-
EAGER: Development of a Novel Double-resonance Fiber-laser-induced Fluorescence Instrument for Long-term, High-sensitivity, Interference-free Measurements of Hydroxyl Radical (OH)	47.050	AGS-1625380		837	-
FESD Type I: VOICE - Volcano, Ocean, Ice, and Carbon Experiments	47.050	AGS-1338832		386,724	237,006
Field and Laboratory Study of Rural Volatile Organic Compounds (VOCs) Oxidation and Secondary Organic Aerosol (SOA) Formation Utilizing Measurements of Formaldehyde and Glyoxal	47.050	AGS-1628530		2,326	-
Hydrologic controls on temperature extremes in managed landscapes	47.050	EAR-1521210		136,048	-
Immunotoxicity in Humans with Lifetime Exposure in Ocean Pollutants	47.050	OCE-1321612		254,487	101,629
INSPIRE Track 1: Microbial Sulfur Metabolism and its Potential for Transforming the Growth of Epitaxial Solar Cell Absorbers	47.050	OCE-1344241		86,174	-
INSPIRE: Statistical State Dynamics of Turbulent Systems	47.050	AGS-1246929		16,112	-
Materials physics of rapidly sheared faults and consequences for earthquake rupture dynamics	47.050	EAR-1315447		129,048	-
Near-Surface Structure of the Continental US Using Distant Earthquakes	47.050	EAR-1735960		35,375	-
Petrogenetic Studies of Young Volcanic Rocks	47.050	OCE-1634421		139,710	-
RAPID: Ozone Loss Over the United States in Summer: Advancing Innovative Climate-Chemistry Research via In Situ Observations of ClO and BrO on Solar Powered Stratospheric Aircraft	47.050	AGS-1754785		58,171	-
The Eighth International GEOS-Chem Meeting (IGC8); Cambridge, Massachusetts; May 1-4, 2017	47.050	AGS-1659903		13,220	-
Thermo-Mechanics and Hydrology of Western Antarctic Ice Stream Margins	47.050	OPP - 1341499		69,944	-
Total for CFDA 47.050				3,472,369	386,196

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AF: Large: Collaborative Research: Algebraic Proof Systems, Convexity, and Algorithms	47.070	CCF-1565264		216,508	-
AF: Medium: Algorithmic Complexity in Computation and Biology	47.070	CCF-1509178		188,002	-
AF: Medium: Algorithmic Crowdsourcing Systems	47.070	CCF-1301976		74,054	-
AF: Medium: Collaborative Research: Exploiting Opportunities in Pseudorandomness	47.070	CCF-1763299		7,554	-
AF: Small: Algebraic Tools for Coding, Complexity and Combinatorics	47.070	CCF-1565641		87,229	-
AF: Small: Communication Amid Uncertainty	47.070	CCF-1715187		124,321	-
AF: Small: Data Synchronization : Theory, Algorithms, and Practice	47.070	CCF-1320231		208,042	-
AF: Small: Learning and Optimization with Strategic Data Sources	47.070	CCF-1718549		91,358	-
AF:Small:Pseudorandomness for Space-Bounded Computation and Cryptography	47.070	CCF-1420938		91,411	-
AitF: FULL: Collaborative Research: Better Hashing for Applications: From Nuts and Bolts to Asymptotics	47.070	CCF-1535795		12,432	-
BD Spokes: SPOKE: NORTHEAST: Collaborative Research: Integration of environmental factors and causal reasoning approaches for large-scale observational health research	47.070	IIS-1636870		99,235	-
BIGDATA: F: DKA: Randomized methods for high-dimensional data analysis	47.070	IIS-1447471		109,358	-
BIGDATA: IA: DKA: Collaborative Research: High-Throughput Connectomics	47.070	IIS-1447344		292,898	-
CAREER: Algorithmic Foundations for Social Data	47.070	CCF-1452961		81,075	-
Career: Evolutionary Data Systems	47.070	IIS-1452595		129,259	-
CAREER: Generative Models for Targeted Domain Interpretability with Applications to Healthcare	47.070	IIS-1750358		1,613	-
CAREER: Quantifying diffusion and dynamics on healthcare, innovation and communication networks	47.070	IIS-1149662		75,829	-
CAREER: Sketching Algorithms for Massive Data	47.070	CCF-1350670		97,602	-
CER: Factors Influencing College Success in Information Technology (FICSIT)	47.070	CNS-1339200		91,245	-
CIF: NeTS: Medium: Collaborative Research: Unifying Data Synchronization	47.070	CCF-1563710		12,432	-
CIF: Small: High-Dimensional Analysis of Stochastic Iterative Algorithms for Estimation and Learning	47.070	CCF-1718698		205,604	-
CIF: Small: Sampling and Inference Methods for Spatiotemporal Single-Photon Imaging	47.070	CCF-1319140		38,763	-
Citation++: Data citation, provenance, and documentation	47.070	ACI-1448123		100,423	-
Collaborative Research: Computational Photo-Scatterography: Unraveling Scattered Photons for Bio-imaging	47.070	IIS-1730326		39,508	-
Collaborative Research: Molecular Programming Architectures, Abstractions, Algorithms, and Applications	47.070	CCF-1317291		539,531	96,116
CPS: Synergy: Multi-Robot Cyberphysical System for Assisting Young Developmentally-Delayed Children in Learning to Walk	47.070	CNS-1329363		156,924	47,435
CPS: TTP Options: Synergy: Human-Machine Interaction with Mobility Enhancing Soft Exosuits	47.070	CNS-1446464		402,686	73,858
CRII: RI: Practical Algorithms for Robust Feedback Motion Planning Through Contact	47.070	IIS-1657186		17,002	-

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CSR: Medium: Collaborative Research: Fast and Simple Concurrency Through Data-Abstraction Transactions	47.070	CNS-1513416		193,705	-
CSR: Medium: Collaborative Research: Soup: Flexible Storage and Processing for On-Line Applications	47.070	CNS-1704376		2,954	-
CSR: Medium: Collaborative Research: The Commutativity Rule for Scalable System Software	47.070	CNS-1302359		(3,550)	-
CSR: Medium: Collaborative Research: Workload-Aware Storage Architectures for Optimal Performance and Energy Efficiency	47.070	CNS-1302334		25,625	-
CSR: SMALL: Virtualized accelerators for scalable, composable architectures	47.070	CNS-1718160		53,736	-
Deep Annotation: Measuring Human Vision to Improve Machine Vision	47.070	IIS-1409097		19,135	-
EAGER: Identifying Opportunities in Pseudorandomness	47.070	CCF-1749750		94,004	-
EAGER: Making with Understanding	47.070	IIS-1748093		117,628	-
EXP: Collaborative Research: Extracting Salient Scenarios from Interaction Logs (ESSIL)	47.070	IIS-1623124		63,778	-
III: Medium: Design and analysis of experiments on networked populations	47.070	IIS-1409177		102,896	-
InTrans: A virtualized SoC platform architecture for mini autonomous drones	47.070	IIS-1551044		46,230	-
NRI-Large: Collaborative Research: Soft Compliant Robotic Augmentation for Human-Robot Teams	47.070	IIS-1226075		510	-
NRI-Small: Rapid on site development of soft disposable robots	47.070	IIS-1317744		195,473	-
NRI: Instructional Materials for Soft Co-Robot Design to Improve Motivation and Learning in STEM Classrooms	47.070	IIS-1526327		97,322	-
RI: Large: Collaborative Research: Reconstructive Recognition: Uniting statistical scene understanding and physics-based visual reasoning	47.070	IIS-1212928		145,355	145,355
RI: Medium: Collaborative Research: Novel microLIDAR Design and Sensing Algorithms for Flapping-Wing Micro-Aerial Vehicles	47.070	IIS-1514306		72,778	-
RI: Small: Collaborative Research: Hidden Parameter Markov Decision Processes: Exploiting Structure in Families of Tasks	47.070	IIS-1718306		5,036	-
RI: Small: Collaborative Research: Structured Inference for Low-level Vision	47.070	IIS-1618227		64,954	-
RI: Small: Depth from Differential Defocus	47.070	IIS-1718012		68,508	-
RI: Small: Parallel Methods for Large-Scale Probabilistic Inference	47.070	IIS-1421780		(715)	-
RI: Small: Workshop for Women in Machine Learning	47.070	IIS-1649706		6,900	-
S and AS: INT: RoboBees 2.0 towards autonomous micro air vehicles	47.070	IIS-1724197		20,416	-
SHF: Small: Higher-order Contracts for Distributed Applications	47.070	CCF-1421770		13,665	-
SHF:Medium:A Cloudless Universal Translator	47.070	CCF-1704834		26,959	-
SI2-SSE: Collaborative Research: A Sustainable Future for the Glue Multi-Dimensional Linked Data Visualization Package	47.070	OAC-1739657		52,093	-
SI2-SSI: Collaborative Research: Bringing End-to-End Provenance to Scientists	47.070	ACI-1450277		373,743	-
STAR Metrics Workshop on Software and Data Citation and Attribution	47.070	ACI -1621324		(1,062)	-
Student Travel Support for the 30th IEEE Computer Security Foundations Symposium (CSF)	47.070	CNS-1740510		12,000	-
TWC: Frontier: Privacy Tools for Sharing Research Data	47.070	CNS-1237235		486,456	28,336
TWC: Large: Collaborative: Computing Over Distributed Sensitive Data	47.070	CNS-1565387		408,670	33,367
TWC: Medium: Collaborative: Privacy-Preserving Distributed Storage and Computation	47.070	CNS-1228598		133,890	-
TWC: SMALL: Complexity Assumptions for Cryptographic Schemes	47.070	CNS-1618026		144,024	-
TWC: Small: Language-level Control of Authority	47.070	CNS-1524052		254,384	-
US-Israel Collaboration: Collaborative Research: New Tools for Extracting Neuronal Phenotypes from a Volumetric Set of Cerebral Cortex Images	47.070	IIS-1607800		124,311	-
Women In Theory Conference 2018	47.070	CCF-1830899		26,756	-
XPS: FULL: CCA: Collaborative Research: Automatically Scalable Computation	47.070	CCF-1533737		53,108	-
Total for CFDA 47.070				7,093,573	424,467

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BRAIN EAGER: Functional dynamics of whole brain activity, behavior, and development from birth to adulthood	47.074	IOS-1452593		97,463	-
CAREER: Developmental network architecture underlies patterning precision and robustness	47.074	IOS-1452557		85,867	-
CAREER: The evolution of gene regulatory networks for regeneration	47.074	IOS-1652104		187,847	-
CAREER:Quantitative principles of multi-input signaling in eukaryotic cells	47.074	MCB-1349248		127,177	-
CNH-L:Assessing the potential for climate change and forest insects to drive land-use regime shifts	47.074	DEB-1617075		324,796	219,450
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		(1,105)	-
Collaborative Research and NEON: MSB Category 2: PalEON - a PaleoEcological Observatory Network to Assess Terrestrial Ecosystem Models	47.074	EF-1535623		27,117	19,653
Collaborative Research: A Functional Perspective on Adaptive Radiation: Explaining Differences in the Adaptive Radiations of Mainland and Island Anolis Lizards	47.074	IOS-1354620		170,714	-
Collaborative Research: ABI Development: Kurator: A Provenance-enabled Workflow Platform and Toolkit to Curate Biodiversity Data	47.074	DBI-1356438		282,398	-
Collaborative Research: ButterflyNet--an integrative framework for comparative biology	47.074	DEB-1541560		119,007	-
Collaborative Research: Digitization TCN: Fossil Insect Collaborative: A Deep-Time Approach to Studying Diversification and Response to Environmental Change	47.074	DBI-1304992		44,452	-
Collaborative Research: Digitization TCN: InvertEBase: Reaching Back to See the Future: Species-rich Invertebrate Faunas Document Causes and Consequences of Biodiversity Shifts	47.074	EF-1401450		16,495	-
Collaborative Research: Digitization TCN: Mobilizing New England Vascular Plant Specimen Data to Track Environmental Changes	47.074	DBI-1208835		3,640	-
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		4,173	-
Collaborative Research: Evolving the mammalian forelimb: modeling musculoskeletal transformation in the forerunners of mammals	47.074	DEB-1754459		25,214	-
Collaborative Research: IDBR: TYPE A: Development of Squishy Robot Hands for a Delicate, Effective and Non-Intrusive Approach to Studying Deep Coral Reefs	47.074	DBI-1556164		118,093	-
Collaborative Research: NSF/MCB: Kinetic Control of the Transcription Cycle Revealed by Synthetic Enhancers	47.074	1715184		171,216	-
Collaborative Research: Phylogeny and diversification of the orb weaving spiders (Araneae)	47.074	DEB-1457539		40,631	-
Collaborative Research: Physiology of Long Distance Assimilate Transport	47.074	IOS-1456845		23,937	-
Collaborative Research: The Aquilegia Petal as a Model for the Elaboration and Evolution of Organ Shape	47.074	IOS-1456217		46,165	-
Collaborative Research: The Opiliones of New Zealand: Revisionary synthesis and application of species delimitation for testing biogeographic hypotheses	47.074	DEB-1754278		25,214	-
Collaborative Research: Understanding the potential for a climate change-driven critical transition from forest to chaparral	47.074	DEB-1353301		55,844	-

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Designing and analyzing multi-generational switching in gene circuits for single cell biology	47.074	1615487		206,812	-
Digitization PEN: Facilitating a Shared Image Library and Occurrence Database for Ants of the Southwest as Part of the SCAN TCN	47.074	DBI-1305024		3,793	-
Digitization TCN: Collaborative Research: Lepidoptera of North America Network: Documenting Diversity in the Largest Clade of Herbivores	47.074	DBI-1601124		31,528	-
Digitization TCN: Collaborative Research: oVert: Open Exploration of Vertebrate Diversity in 3D	47.074	DBI-1702263		27,121	-
Digitization TCN: Collaborative Research: Using Herbarium Data To Document Plant Niches In The High Peaks And High Plains Of The Southern Rockies - Past, Present, And Future	47.074	DBI-1702322		56,263	-
Digitization TCN: Collaborative: The Microfungi Collections Consortium: A Networked Approach to Digitizing Small Fungi with Large Impacts on the Function and Health of Ecosystems	47.074	DBI-1502767		59,405	-
DIMENSIONS: COLLABORATIVE RESEARCH: The phylogenetic and functional diversity of extracellular electron transfer across all three domains of life	47.074	DEB-1542506		167,568	-
Discovering the Mechanistic Basis of Individual Differences in Sensory Representation and their Effects on Preference Behavior	47.074	IOS-1557913		274,734	-
DISSERTATION RESEARCH: Evaluating the role of thyroid hormone in embryonic limb development in direct-developing frogs	47.074	DEB-1701591		13,926	-
DISSERTATION RESEARCH: Evolution of Angiosperm Seed Development: perspectives from Nymphaea thermarum (Nymphaeales)	47.074	DEB-1500963		(424)	-
DISSERTATION RESEARCH: Integrative research in gastropods: Phylogeny and shell shape evolution	47.074	DEB-1701648		5,748	-
DISSERTATION RESEARCH: Macroevolutionary drivers of digit reduction in fossil horses	47.074	DEB-1701656		10,288	-
Dissertation Research: Molecular mechanisms underlying striking craniofacial variation in New World Leaf-Nosed bats (Phyllostomidae)	47.074	DEB-1501690		10,046	-
Dissertation Research: Mutant models reveal latent developmental potential with roles in evolutionary change	47.074	DEB-1600920		15,572	-
DISSERTATION RESEARCH: The Evolution of Crocodylian Cranial Development	47.074	DEB-1701745		3,294	-
Dissertation Research: The genetic and neurobiological basis of nesting behavior in two species of Peromyscus	47.074	IOS-1701805		19,085	-
DISSERTATION RESEARCH: The phylogenetic consequences of mutualism and antagonism in the coevolution of palm flower weevils	47.074	DEB-1601356		8,495	-
EAGER-NEON: Scaling up terrestrial plant phenology from individuals to Continental scale	47.074	DEB-1550740		124,180	-
EAGER: A novel mechanism regulating leaf water transport: Reversible collapse of xylem conduits	47.074	IOS-1659918		89,938	-
ERA SynBio: A Unified Nucleic Acid Computation System (UNACS) for Organisms	47.074	MCB-1540214		242,140	-
ERASynBio: Intensification of the Synthetic Biology Design Cycle	47.074	MCB-1445570		50,030	-
Functional significance of the competition between vapor and liquid transport in transpiring leaves	47.074	IOS-1456836		68,556	-
HFR LTER V: New Science, Synthesis, Scholarship, and Strategic Vision for Society	47.074	DEB-1237491		1,055,654	341,935
IDBR TYPE A: Definitive Chemical Analysis of Microbial Volatile Mixtures via Microwave Spectroscopy	47.074	DBI-1555781		10,890	5,614
Ideas Lab Collaborative Research: Using natural odor stimuli to crack the olfactory code	47.074	IOS-1555914		137,376	-
Inductive Mechanisms in Arthropod Germ Line Specification	47.074	IOS-1257217		62,048	-
NSF/MCB-BSF: Sub-cellular Localization and Small RNA Regulation of the Outer Membrane	47.074	MCB-1715212		266,127	-
PAPM EAGER: Identifying Small Molecule Inhibitors that Manipulate	47.074	MCB-1650086		140,533	-
Physiological Adaptations for a Deadly Diet: Bioaccumulation Mechanisms of Defensive Chemicals in a Poison Frog	47.074	IOS-1557684		77,650	-

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RCN-SEES: Integrating Land-Use Scenarios, Ecosystem Services, and Linkages to Society (Scenarios, Services, and Society - S3)	47.074	DEB-1338809		82,607	-
Recombination and the Dynamics of Adaptation in Experimental Saccharomyces Cerevisiae (yeast) Populations	47.074	DEB-1655960		282,474	-
Resources for mixed model association mapping of complex traits	47.074	1349449		113,966	-
REU Site: A forest full of Big Data: the Harvard Forest Summer Research Program in Ecology 2015-2019	47.074	DBI-1459519		147,882	-
Total for CFDA 47.074				5,861,660	586,652
2016 Cooperative Congressional Election Study	47.075	SES-1559125		196,956	141,782
A new history and geography of human genes informed by ancient DNA	47.075	BCS-1032255		246,601	246,601
Bargaining and Network Formation: Equilibrium Medical Provider Networks in Health Care Markets	47.075	SES-1730063		43,940	-
CAREER: Dynamic Decision Theory and Bounded Rationality	47.075	SES-1255062		52,728	-
CAREER: Engineering opportunity: Manipulating choice architecture to attenuate social bias	47.075	BCS-1653188		30,987	-
CAREER: Psychological and Neurodevelopmental Mechanisms of Social Influence on Adolescent Decision-Making	47.075	BCS-1452530		190,836	-
CAREER: Using Field Experiments to Identify Barriers to Labor Market Success and Human Capital Accumulation	47.075	SES-1454476		26,364	-
Collaborative Proposal: Friendships, Identity Development, and Adolescent Adjustment in High School	47.075	BCS-1745292		99,313	-
Collaborative Research: A New Design for Identifying Persuasion Effects and Selection in Media Exposure Experiments via Patient Preference Trials	47.075	SES-1526953		1,281	-
Collaborative Research: Experimental Research on Religious Scripture and Political Behavior in the Muslim World	47.075	SES-1324157		18,476	-
Collaborative Research: Increasing Tax Compliance: Experimental Evidence from Pakistan	47.075	1559419		57,122	29,194
Collaborative Research: Lay Deployment of Professional Legal Knowledge	47.075	SES-1423729		122,237	-
Collaborative Research: The Psychological Difficulties and Benefits of Deliberative Reflection	47.075	BCS-1423755		6,559	-
Collaborative Research: Typology and Theory of Anaphora	47.075	BCS-1424054		36,284	-
Community Policing, Governance, and Security	47.075	BCS-1728823		120,611	-
Detection and Impact of Industrial Subsidies: the Case of World Shipbuilding	47.075	SES-1701898		46,332	-
Doctoral Dissertation Research: An Ethnography of the Transition to College For Low-Income Students	47.075	SES-1702995		11,981	-
Doctoral Dissertation Research: Employment of Native Americans with Criminal Records	47.075	SES-1802576		1,174	-
Doctoral Dissertation Research: Market concentration, skill segregation, and rising wage inequality	47.075	SES-1702914		7,533	-
Doctoral Dissertation Research: The Cultural Significance of Informal American Commemorative Sites	47.075	BCS-1756776		1,512	-
Emergent Forms of Expression in Postsocialist Contexts	47.075	BCS-1420937		30,646	-
Erbil Plain Archaeological Survey	47.075	BCS-1261118		66,708	-
Falling Through the Cracks: Unaccompanied Homeless Adolescents in New York City	47.075	SES-1741918		10,993	-
IBSS: Global Urbanization and Housing Affordability: Poverty, Property, and the City	47.075	SMA-1520103		2,704	-
Identifying cross-disciplinary pathways to translational science	47.075	SMA-1360042		33,750	-
INSPIRE:Executive Function and Conceptual Change	47.075	BCS-1247396		4,144	-
Learning-based motivation of intergroup aggression	47.075	BCS-1551559		122,510	-
Preferences in Matching Market Design	47.075	SES-1459912		53,905	-
RAPID: Characterizing El Nino Runoff And Sedimentation in Small Drainage Basins: A Geoarcheological Study	47.075	BCS-1611881		6,864	

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RIDIR: Collaborative Research: Portal to Data and Analysis Tools: Enabling Data-Intensive Research in the Urban Sciences on Linked, Large-Scale Records	47.075	SES-1637136		235,793	-
Standard Research Grant: A Comparitive Study of Three Models of Innovation in Their Transnational Implementation	47.075	SES-1457011		18,465	-
Standard Research Grant: The Fukushima Disaster and the Politics of Nuclear Power in the United States and Japan	47.075	SES-1257117		13,387	-
Statistical decisions and policy choice	47.075	SES-1354144		693	-
Statistical Methods for Causal Inference in Geographic Regression Discontinuity Designs	47.075	SES-1461435		185,462	85,990
The Boston Reentry Study - Analysis and Preparation of Public Use Data	47.075	SES-1627693		10,771	-
The developmental genetic basis for evolutionary variation in the hominin shoulder	47.075	BCS-1518596		90,295	13,084
The Effects of Sadness Versus Gratitude on Economic Decision Making and Addictive Behavior	47.075	SES-1559511		168,604	-
The importance of confidence in predicting labor market outcomes	47.075	SES-1713752		72,702	-
We walk where the devil dances: Security and rescue on the U.S. - Mexico border	47.075	BCS-1724749		15,560	-
Workshop: Historical and Social Scientific Perspectives on Life and its Cycles	47.075	SES-1632300		21,847	-
Total for CFDA 47.075				2,484,630	516,651
Bringing Team-Based, Project-Based Learning to Scale	47.076	DUE-1504664		65,545	11,128
CAREER: Soft Robotics for Upper Extremity Rehabilitation	47.076	CBET-1454472		112,558	-
CAREER:Statistical Modeling of Single Cell States Informative	47.076	DBI-1452964		46,714	-
Collaborative Research: A Study of How Pre-College Informal Activities Influence Female Participation in STEM Careers	47.076	DRL-1612375		246,263	762
Collaborative Research: Embedding Public Engagement with Science at Long-Term Ecological Research Sites	47.076	DRL-1713307		101,741	-
Collaborative Research: From knowledge consumers to knowledge producers: A scalable experiential learning approach for psychology and related disciplines	47.076	DUE-1625130		126,626	22,312
Collaborative Research: Innovative Technology-Enabled Astronomy for Middle Schools II (TEAMS II)	47.076	DRL-1433431		159,569	103,864
Collaborative Research: Leveraging Comparison and Explanation of Multiple Strategies (CEMS) to Improve Algebra Learning	47.076	DRL-1561283		219,364	-
Collaborative Research: Thinking Spatially About the Universe- A Physical and Virtual Model for Middle School Science	47.076	DRL-1503395		334,555	165,964
Core Systems for Learning Mathematics	47.076	DRL-1348140		210,407	-
Developing Common Core Classrooms Through Rubric-Based Coaching	47.076	DRL-1348144		213,810	35,000
EAGER: Collaborative Research: Framing Learning for MOOC Student Success: Using Pre-Course Survey Interventions to Support Student Persistence and Performance in MOOCs	47.076	DUE-1646978		108,007	-
EcoXPT: Affordances for experimentation in an immersive world to support the learning of ecosystem science and complex causality	47.076	DRL-1416781		578,313	74,249
Effects of ADVANCE in the STEM Disciplines: Faculty Diversity, Women in Leadership, and Institutional Transformation	47.076	DGE-1444586		151,628	55,000
Graduate Research Fellowship Program	47.076	DGE-1144152		793,516	-
Graduate Research Fellowship Program	47.076	DGE-1745303		9,606,024	-

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Integrating Computational Thinking in Ecosystem Science Education via Modeling in Immersive Virtual Worlds	47.076	DRL-1639545		728,938	-
IUSE: A Pedagogical Framework for Undergraduate Project-Based Engineering Design Courses	47.076	DUE-1524902		116,339	-
MOSART HSLS: Misconceptions Oriented Standards-based Assessment Resource for Teachers of High School Life Science	47.076	DRL-1316645		335,489	-
MOSART HSPS: Misconceptions Oriented Standards-Based Assessment Resource for Teachers of High School Physical Sciences	47.076	DRL-1621210		664,062	-
Outcome Predictions of Students in Massive Open Online Courses (OPSMOOC)	47.076	DRL-1337166		40,203	9,219
Outreach Programs and Science Career Intentions (OPSCI)	47.076	DUE-1161052		(4,850)	-
Professional Development Models and Outcomes for Science Teachers (PDMOST)	47.076	DRL-1417438		393,389	51,959
Strengthening the Research Base that Informs STEM Workforce and Curriculum Improvement Efforts	47.076	DRL-1348669		39,853	-
SURVEY OF U.S. MIDDLE SCHOOL MATHEMATICS TEACHERS AND TEACHING	47.076	DRL-1417731		236,454	50,630
The Mathematical Knowledge for Teaching Measures: Refreshing the Item Pool	47.076	DRL-1620914		741,838	93,213
Total for CFDA 47.076				16,366,355	673,300
Collaborative Research: Imaging the Beginning of Time from the South Pole: Observations with the Full SPUD Array	47.078	OPP-1145172		161,001	6,274
Total for CFDA 47.078				161,001	6,274
CCSP Collaboration Plan: Development of a Unified Structural Representation for Central California	47.RD	95624796		50,000	-
PhenoCam Network proposal to archive, process, and serve NEON digital camera imagery	47.RD	4010-0392-000		57,127	41,382
Total for CFDA 47.RD				107,127	41,382
Total for National Science Foundation Direct Award R & D				**56,647,370**	**5,010,039**
Total for R&D Cluster Direct Award				**534,877,545**	**126,564,720**
Reseach and Development Cluster					
Subaward Received					
Agency for International Development					
Deloitte Consulting, LLP - Health Financing and Economics Course Curriculum Development with the Academy of Ukraine (HFEC)	98.001		101506	189	-
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	143,417	90,379
International Medical Corps - Building a Better Response: Strengthening Non-governmental organization Capacity and Engagement in the International Humanitarian Architecture	98.001		103443.100.51	196,072	-
Management Sciences for Health - Systems for Improved Access to Pharmaceuticals and Services (SIAPS)	98.001		SIAPS-2011-005	11,051	-
South Africa Partners, Inc. - Albertina Susulu Executive Leadership Program in Health (ASELPH)	98.001		AID-674-A-13-00002	56,627	-
South Africa Partners, Inc. - Albertina Susulu Executive Leadership Program in Health (ASELPH)	98.001		HSPH-USAID 2018-001	82,582	-
Tufts University - Feed the Future Innovation Lab for Collaborative Research on Nutrition - Africa	98.001		AID020	49,323	-
University Research Co., LLC - Applying Science to Strengthen and Improve Systems (ASSIST)	98.001		FY13-S04-8800-00	70,029	-
Total for CFDA 98.001				609,290	90,379
Total for Agency for International Development Subaward Received R & D				**609,290**	**90,379**

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Department of Agriculture					
Duke University - A pilot program to increase selection of frequently consumed healthier SNAP-eligible ready to heat foods	10.253		343-0550	997	798
Tufts University - The impact of the monthly SNAP issuance cycle on sugar-sweetened beverage purchasing and implications for policy change	10.253		101383-00001	38,409	-
Tufts University - Understanding the impact of changes to the Child and Adult Care Food Program on food expenditures, food quality, and young children¿s dietary intake in urban family child care homes.	10.253		101383-00001	33,781	-
Total for CFDA 10.253				73,187	798
Trustees of Boston University - Fragmentation effects on forest productivity across managed ecosystem gradients	10.310		4500002411	82,051	-
Woods Hole Research Center - Integrated Belowground Greenhouse Gas Flux Measurements and Modeling	10.310		WHRC-EGO566-01	6,577	-
Total for CFDA 10.310				88,628	-
Total for Department of Agriculture Subaward Received R & D				**161,815**	**798**
Department of Commerce					
Georgetown University - Formal Privacy Models and Title 13	11.016		AWD-7772402/GR205353	388,150	-
Total for CFDA 11.016				388,150	-
University of Texas - Austin - South West Academy of Nanoelectronics (SWAN) 2.0	11.RD		UTA13-000445	38,755	-
Total for CFDA 11.RD				38,755	-
Total for Department of Commerce Subaward Received R & D				**426,905**	-
Department of Defense					-
University of Pittsburgh - Stimuli Responsive, Reloadable, Drug Eluting, Smart Hydrogels for Graft Targeted Immunosuppression in Vascularized Composite Allotransplantation	12.240		0046763 (411417-1)	5,738	-
Total for CFDA 12.240				5,738	-
Columbia University - Imaging how a neuron computes	12.300		1 (GG008784)	232,746	-
Cornell University - Event-based Integrated Sensorimotor Planning and Control for Insect-scale Robots	12.300		80480-10878	82,586	-
Drexel University - Neuromechanics of sensory-mediated gait control in fish swimming	12.300		204135-Harvard	64,834	-
Naval Research Laboratory - Innervated Blood-Brain-Barrier Tissue for the Study of Neuroinvasion by VEEV	12.300		N00173-16-2-C007	160,415	-
Princeton University - MURI: Slippery Liquid-Infused Porous Surfaces (SLIPS) for Turbulent Drag Reduction at High Reynolds Number	12.300		2060	1,971	-

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Regents of the University of California - A Computational Cognitive Neuroscience Approach to Understanding Event Representation and Episodic Memory	12.300		A17-0260-S004	112,614	-
Regents of the University of California - Berkeley - Carbon-based Hierarchically Integrated Synthetic Electronics (CHISEL)	12.300		00009294	308,616	-
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	36,326	-
Trustees of Boston University - Utilizing Synthetic Biology to Create Programmable Micro-Bio-Robots	12.300		4500000551	61,951	-
University of Maryland, College Park - SEA-STAR: Soft Echinoderm-Inspired Appendages for Strong Tactile Amphibious Robots	12.300		43637-Z8665002	180,663	-
University of Pittsburgh - Nanoscale Terahertz, Infrared and Plasmonics Platform Using Graphene - Complex Oxide Heterostructures	12.300		0035700 (409185-1)	13,928	-
University of Virginia - EN-MAE Bio-Inspired Flexible Propulsors for Fast, Efficient Swimming: What Physics are we missing	12.300		GG13311 146905	129,014	-
Total for CFDA 12.300				1,385,664	-
Regents of the University of Michigan - Topobiological Targeting of the Blood Brain Barrier	12.351		3004717569	270,777	-
Total for CFDA 12.351				270,777	-
Brigham and Women's Hospital, Inc - Extremity regeneration of soft tissue lijury using growth factor impregnated gels	12.420		115662	331,636	-
Children's Hospital Boston - Development of novel local analgesics for management of acute tissue injury pain	12.420		GENFD0001351061	141,920	-
Dana-Farber Cancer Institute - Identify the metabolic dependencies of obesity- associated aggressive prostate cancer to develop tailored imaging and therapeutic approaches	12.420		3083201	10,643	-
Johns Hopkins School of Medicine - Developing a PTEN-ERG Signature to Improve Molecular Risk Stratification in Prostate Cancer	12.420		2003162452	9,018	-
Johns Hopkins University - Defining IL-4-Activated Monocytes as Viable Cellular Immunotherapy in Acute Lung Injury	12.420		2003770543	174,083	-
The Metis Foundation - A Platform for Burn Treatment and for Delayed Evacuation of Service Members	12.420		S-W81XWH-16-1-0784-001	171,528	-
Total for CFDA 12.420				838,828	-
Arizona State University - Translating Biochemical Pathways to Non-Cellular Environment	12.431		13-951	63,417	35,640
Board of Regents of the University of Wisconsin - Madison - OPTION 1: Qubits in Gate-Defined Silicon Quantum Dots	12.431		752K205	509,328	-
Board of Trustees of the University of Illinois - Adaptive Exploitation of Non-Commutative Multimodal Information Structure	12.431		078122-15626	216,521	-
California Institute of Technology - Nonlinearity beats Damping: A New Class of Soft Active Metamaterials for Mechanical Logic, Signal Processing, and Autonomous Systems	12.431		52-1097909	127,521	-
Duke University - Evolutionary Mechanics of Impulsive Biological Systems: Guiding Scalable Synthetic Design	12.431		313-0588	153,860	-
Massachusetts Institute of Technology - Managing Uncertainty: Principles for Robust and Dextrous Continuum Mechanics	12.431		5710003877	(10,100)	-
Massachusetts Institute of Technology - Multi- Qubit Enhanced Sensing and Metrology	12.431		5710003135	426,487	-
Massachusetts Institute of Technology - Novel States of Light and Matter Mediated by Collective Rydberg Excitations	12.431		5710003824	106,049	-

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Princeton University - The Physics of Surface States with Interactions mediated by Bulk Properties, Defects and Surface Chemistry	12.431		SUB0000145	71,390	-
Regents of the University of California - San Diego - Dynamic Artificial Cells Composed of Synthetic Bioorthogonal Membranes	12.431		28401353	316,948	-
Regents of the University of Minnesota - MURI: Multiscale Mathematical Modeling and Design Realization of Novel 2D Functional Materials	12.431		A004135001	1,019,026	-
Stanford University - Precision Measurements of Transverse Transport Coefficients by Torque Magnetometry	12.431		61651086-127442	45,790	-
Trustees of Boston University - Synthetic Mammalian Gene Regulatory Circuits for In Vivo Biomedical Applications	12.431		4500000572	(287)	-
University of Chicago - Fundamental Issues in Non-equilibrium Dynamics (MURI)	12.431		FP054294-B	97,546	-
University of Maryland, College Park - Center for Distributed Quantum Information	12.431		26234-Z8401003	459,594	-
University of Maryland, College Park - MURI:Atomtronics: Material and Device Physics of Quantum Gases	12.431		Z841802	130	-
University of Pittsburgh - Adaptive Self-assembled Systems: Exploiting Multifunctionality for Bottom-up Large-scale Engineering (ASSEMBLE)	12.431		0056411(413469-1)	208,428	-
University of Pittsburgh - Four-dimensional Printing: Design, Assembly, and Modeling of Responsive, Temporally Programmable Materials	12.431		0036744 (409347-1)	220	-
University of Southern California - Closed-Loop Multisensory Brain-Computer Interface for Enhanced Decision Accuracy	12.431		79575749	68,187	-
Yale University - High-Resolution Quantum Control of Chemical Reactions	12.431		C13J11491(CON-80000014)	9,099	-
Total for CFDA 12.431				3,889,154	35,640
Henry M. Jackson Fndn for the Advancement of Military Med - Army Study to Assess Risk and Resilience in Service Members (STARRS 2)	12.750		2878	2,150,163	30,000
Total for CFDA 12.750				2,150,163	30,000
Cornell University - Plant-mimetic functional materials for thermal management and suppression of freezing	12.800		70777-10397	27,170	-
Massachusetts Institute of Technology - Advanced Quantum Materials: A New Frontier for Ultracold Atoms	12.800		5710003646	407,442	-
Massachusetts Institute of Technology - FATE: Foldable and Adaptive Two-Dimensional Electronics	12.800		5710003988	244,582	-
Massachusetts Institute of Technology - Optimal Measurements for Scalable Quantum Technologies	12.800		5710003649	330,544	-
Rice University - Science and Emerging Technology of 2D Atomic Layered Materials and Devices	12.800		R18644	1,256	-
University of Illinois at Urbana - Champaign - TEMPLATE-DIRECTED DIRECTIONALLY SOLIDIFIED EUTECTIC METAMATERIALS	12.800		2012-02298-04 (A0080)	248,381	-
University of Maryland, College Park - Photonic Quantum Matter	12.800		42692-Z8183002	227,668	-
University of Pennsylvania - Geometry and Topology of Complex Networks	12.800		561009	83,363	-
University of Texas - Austin - Ultralow power, Ultrafast, Integrated Nano-Optoelectronics	12.800		UTA16-001252	446,635	-
Total for CFDA 12.800				2,017,041	-

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Board of Regents of the University of Arizona - Global Reading and Assembly for Semantic, Probabilistic World Models (GRASP)	12.910		431715	115,313	-
Columbia University - Development and Application of Silicon-Chip-Based Mid-infrared Frequency Combs	12.910		3-GG012379-03	332,788	-
Massachusetts Institute of Technology - Daisy drive systems for editing local populations.	12.910		S4473	19,334	-
Regents of the University of Michigan - Towards a Definition of Emergence	12.910		3004298846	90,627	-
University of Illinois at Urbana - Champaign - Cognitively-Based Unsupervised Grammar Induction for Low-Resource Languages	12.910		077825-15608	22,795	-
Total for CFDA 12.910				580,857	-
Allen Institute for Brain Science - The Functional Connectome: A Roadmap for Cortically Inspired Computational Architectures	12.RD		2016-0060	241,241	-
Applied Tissue Technologies LLC - Prolonged Field Care with Platform Wound Device	12.RD		S-W81XWH-18-2-0002	26,778	-
Charles River Analytics Inc. - Probabilistic Representation of Intent Commitments to Ensure Software Survival (PRINCESS)	12.RD		SC1512202	442,594	-
Charles Stark Draper Laboratory, Inc. - Microfluidic Optically-verified Oligomer Synthesis (MOOS)	12.RD		SC001-0000001153	305,626	-
Charles Stark Draper Laboratory, Inc. - Nano-Litz: Braided Nano-wires for High Performance RF Components	12.RD		SC001-0000000949	592,147	-
Charles Stark Draper Laboratory, Inc. - Nano-Litz: Braided Nano-wires for High Performance RF Components	12.RD		SC001-0000000950	333,122	-
HRL Laboratories, LLC - Hybrid Forecast Competition	12.RD		16102-172910-QS	417,546	-
Institute for Systems Biology - PTSD Inflammatory Mediators Testing	12.RD		2017.0003	58,138	-
International Business Machines Corporation - DARPA-BAA-12-24, Power Efficiency Revolution For Embedded Computing Technologies (PERFECT)	12.RD		A20314	557,730	-
Lincoln Laboratory - Covert Anomalous Network DIscovery and Detection	12.RD		7000299977	30,901	-
Lincoln Laboratory - Machine Learning applications to the classical processing challenges of quantum error correction	12.RD		7000381754	70,494	-
Lincoln Laboratory - Materials Development for 3D Printing of Low-Loss RF Devices	12.RD		7000297417	16,711	-
Massachusetts General Hospital - SPECIES INSPIRED RESEARCH FOR INNOVATIVE TREATMENTS (SPIRIT)	12.RD		227668	75,547	-
Nano Terra - A Novel Strategy for Treating Peripheral Nerve Injury	12.RD		20160229	1,842	-
Nano Terra - Multiplexed Biofiltration of Volatile Organic Compounds	12.RD		No Awrd Nmbr	39,977	-
Nano Terra - Using Magnetic Levitation for Non-Destructive Detection of Defective and Counterfeit Material	12.RD		No Awrd Nmbr	479	-
NVIDIA Corporation - MATCH: Modular Approach To Circuits and Hardware	12.RD		No Awrd Nmbr	165,875	-
Radiation Monitoring Devices, Inc. - Atomic Layer Deposition of One-Dimensional Metal-Dielectric Photonic Bandgap Structures	12.RD		C18-05	45,000	-
Regents of the University of California - Santa Barbara - Task 27: Bio-Inspired Synchronization and Sensors for Distributed Mobile Gunfire Detection Enhancing Situational Awareness	12.RD		KK1635	2,789	-
Regents of the University of Michigan - ADA Jump	12.RD		3004811120	41,932	-
Regents of the University of Michigan - Unlocking the Promise of Near-memory Computing with Rapid Co-design of Data/Hardware Systems	12.RD		3004212102	134,131	-
Southern Methodist University - Obtaining Multipath and Non-line-of-sight Information by Sensing Coherence and Intensity with Emerging Novel Techniques	12.RD		G001534-7510	64,498	-

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UES, Inc. - Soft Responsive Structures Enabled by AM Direct Ink Writing	12.RD		S-111-021-004	8,043	-
University of Southern California - FluQS: Flux-based Quantum Speedup	12.RD		90375056	138,935	-
Total for CFDA 12.RD Subaward Received				3,812,076	-
Total for Department of Defense Subaward Received R & D				**14,950,298**	**65,640**
Department of Education					
Manpower Demonstration Research Corporation - Supporting Early Learning from Preschool Through Elementary School Grades: Research Network Proposal	84.305		No Awrd Nmbr	333,075	-
Regents of the University of California - Berkeley - Investigating How and Under What Conditions Effective Professional Development Increases Student Achievement in Elementary Science	84.305		8819	35,018	-
Total for CFDA 84.305				368,093	-
Florida State University - Efficacy of the Core Knowledge Language Arts Listening and Learning Read Aloud Program in Kindergarten through Second Grade Classrooms	84.305A		R01972	18,115	-
New York University - Improving the odds of college readiness for low-income students in Chicago Public Schools: The respective roles of child self-regulation and preschool vs. high school intervention	84.305A		F7816-02	30,403	-
Northwestern University - Contexts Inside and Outside of School Walls as Predictors of Differential Effectiveness in Preschool Professional Development	84.305A		SP0034839-PROJ0009316	83,081	-
Total for CFDA 84.305A				131,599	-
Brown University - Using Teacher Evaluation Data to Drive Instructional Improvment: Evidence from the Evaluation Partnership Program in Tennessee	84.305E		815	52,259	-
Total for CFDA 84.305E				52,259	-
Tennessee Department of Education - Setting Students Up for Success	84.372A		33145-01417	112,504	-
Total for CFDA 84.372A				112,504	-
Manpower Demonstration Research Corporation - Impact Evaluation of Multi-tiered Systems of Support for Behavior	84.RD		No Awrd Nmbr	102,091	-
University of Colorado at Boulder - Center for the Study of Interactive Knowledge Utilization	84.RD		1551538	55,280	-
Total for 84.RD				157,371	-
Total for Department of Education Subaward Received R & D				**821,826**	-
Department of Energy					
Regents of the University of Minnesota - Predictive Hierarchical Modeling of Chemical Separations and Transformations in Functional Nanoporous Materials: Synergy of Electronic Structure Theory, Molecular Simulations and Machine Learning	81.000		A006801501	11,212	-
Total for CFDA 81.000				11,212	-
Board of Regents of the University of Arizona - The utility of multiple ecological data streams in constraining the Community Land Model	81.049		173307	8,749	-
California Institute of Technology - DOE EFRC: Light-Materials Interactions in Energy Conversion	81.049		67N-1095805	276,492	-
Johns Hopkins University - Systems Biology of Autotrophic-Heterotrophic Symbionts for Bioenergy	81.049		2002373313	8,468	-
Massachusetts Institute of Technology - Center for Excitonics	81.049		5710003733	286,991	-
National Renewable Energy Laboratory - Center for Next Generation of Materials by Design: Incorporating Metastability	81.049		ZGJ-4-42246-01	236,430	-
Northwestern University - Center for Bio-Inspired Energy Science (CBES)	81.049		SP0027267-PROJ0007134	221,011	-
Pacific Northwest National Laboratory - Aqueous Soluble Organic Molecule and Electrode Development	81.049		304500	135,198	-
Total for CFDA 81.049				1,173,339	-

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Clemson University - All-Digital Plug and Play Passive RFID Sensors for Energy Efficient Building Control	81.086		1883-219-2021621	80,327	-
Total for CFDA 81.086				80,327	-
Battelle Memorial Institute - Mid-Atlantic Offshore Carbon Storage Resource Assessment Project	81.089		516545	61,305	-
Total for CFDA 81.089				61,305	-
California Institute of Technology - Real-time optimization and control of next-generation	81.135		81-1097358	124,089	-
International Business Machines Corporation - An Intelligent Multi-modal CH4 Measurement System (AIMS)	81.135		4915012643	217,338	-
Massachusetts Institute of Technology - Engineering high yield pathways for methane activation and conversion to liquid fuels	81.135		5710003630	(16,905)	-
United Technologies Research Center - Synergistic Membranes and Reactants for Transformational Flow-Battery System	81.135		1231122	336,328	-
Total for CFDA 81.135				660,850	-
Argonne National Laboratory - Femtosecond Fabrication	81.RD		7F-30138	56,000	-
Brookhaven National Laboratory - ATLAS ITk Upgrade Strip Stave Assembly	81.RD		336319	15,120	-
Brookhaven National Laboratory - ATLAS Phase II Upgrade: ITk Strip Stave Assembly	81.RD		340452	22,705	-
Brookhaven National Laboratory - LSST Science Rafts	81.RD		270164	52,121	-
Brookhaven National Laboratory - Upgrade Construction Project for WBS 1.2 New Small Wheel Subsystem	81.RD		241383	8,461	-
Brookhaven National Laboratory - Upgrade Construction Project for WBS 1.2.4.1 New Small Wheel Subsystem	81.RD		319134	144,616	-
Brookhaven National Laboratory - WBS 1.2.1 NSW ATLAS Phase I upgrade project	81.RD		304913	74,394	-
Fermi National Accelerator Laboratory - NOvA Experiment Operations	81.RD		621383	3,313	-
Lawrence Berkeley National Lab - Investigating the Nature of Dark Energy using Type Ia Supernovae with the WFIRST-AFTA Space Mission	81.RD		7341745	5,371	-
Lawrence Berkeley National Lab - Operation of the Harvard Forest Core Site in the AmeriFlux Network Management Project (ANMP)	81.RD		7086573	234,851	-
Lawrence Berkeley National Lab - Scalable Statistics and Machine Learning for Data-Centric Science	81.RD		7086227	(22,316)	-
Lawrence Livermore Laboratory - Development of a Virtual Human Heart to Predict the Pharmacology of Novel Drugs	81.RD		B618243	25,850	-
Lawrence Livermore Laboratory - Fabrication and Scale-up of Capsules for Carbon Capture	81.RD		B612803	112,250	-
Lawrence Livermore Laboratory - Guiding the design of vaccination strategies aimed toward generating broadly neutralizing antibodies against highly mutable pathogens: HIV and Influenza as case studies	81.RD		B620984	173,641	-
SLIPS Technology - Fuel Saving SLIPS Non-Toxic Foul Impede Coating on Ship Hulls	81.RD		STI DE-AR0000759-01	187,577	-
Stanford Linear Accelerator Center - LSST Corner Rafts and Integration and Testing	81.RD		150854	134,961	-
UChicago Argonne, LLC - Joint Center for Energy Storage Research (JCESR)	81.RD		3F-31143	129,340	-
Total for 81.RD				1,358,255	-
Total for Department of Energy Subaward Received R & D				**3,345,288**	-

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Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	Federal Expenditures	Passed to Sub-Recipients
Department of Homeland Security					-
Skidmore College - Understanding and Preventing SCD in the Fire Service	97.044		32164-6121-01	32,402	-
Total for CFDA 97.044				32,402	-
Total for Department of Homeland Security Subaward Received R & D				**32,402**	-
Department of Housing & Urban Development					-
Neighborhood Reinvestment Corporation - The Edward M. Gramlich Fellowship in Community and Economic Development Summer Fellowship Program - Summer 2017	14.RD		No Awrd Nmbr	23,500	-
Total for CFDA 14.RD				23,500	-
Total for Department of Housing & Urban Development Subaward Received R & D				**23,500**	-
Department of the Interior					-
Southern California Earthquake Center - SCEC5	15.807		91255207	65,000	-
Total for CFDA 15.807				65,000	-
Total for Department of the Interior Subaward Received R & D				**65,000**	-
Department of Transportation					-
Massachusetts Institute of Technology - Recreating Livable Communities after Catastrophe: Managing the Recovery from Japans Earthquake, Tsunami, and Nuclear Disaster of 2011	20.701		5710003789-003	23,604	-
Massachusetts Institute of Technology - The Experience with Managed Toll Lanes	20.701		5710003788	53,895	
Massachusetts Institute of Technology - Transforming Urban Transport, a Set of Case Studies	20.701		5710003791	64,627	-
Total for CFDA 20.701				142,126	-
Total for Department of Transportation Subaward Received R & D				**142,126**	-
Department of Health and Human Services (DHHS)					
Jos University Teaching Hospital - Reaching 90 percent target of HIV viral suppression: The role of point of care VL monitoring in resources constrained settings	93.067		SPH	78,159	-
Total for CFDA 93.067				78,159	-
Health Research, Inc. - Models for Tobacco Product Evaluation	93.077		100-05	10,033	-
Total for CFDA 93.077				10,033	-
Harvard Pilgrim Health Care, Inc - Epicenter IV: CLUSTER Trial for Outbreak Detection and Response	93.084		No Awrd Nmbr	87,275	-
University of Utah - Modeling and Simulation to Support Antibiotic Stewardship and Epidemiological Decision-Making in Healthcare Settings	93.084		10044546-01	77,954	-
Total for CFDA 93.084				165,229	-
Weill Medical College of Cornell University - Creating National Surveillance Infrastructure for Priority Medical Devices	93.103		170529	101,840	-
Total for CFDA 93.103				101,840	-

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Board of Trustees of the University of Illinois - Phthalate and Hot Flashes in Women	93.113		086885-16438	55,931	-
Boston University School of Public Health - Development and testing of response surface methods for investigating the epidemiology of exposure to mixtures	93.113		4500002635	5,276	-
Boston University School of Public Health - Endocrine Disrupting Chemicals and Risk of Uterine Fibroids: A Prospective Study	93.113		4500001944	22,563	-
Boston University School of Public Health - Validation of Portable XRF for Invivo Measurement of Heavy Metal Exposures	93.113		4500002203	76,009	-
Brigham and Women's Hospital, Inc - Cardiovascular Response to CAP Microbial Components in Controlled Human Exposures	93.113		111789	8,449	-
Brigham and Women's Hospital, Inc - Environmental Risk Factors for Autistic Behaviors in a Cohort Study	93.113		112900	1,166	-
Brigham and Women's Hospital, Inc - The effects of environmental exposures on semen quality and the sperm epigenome	93.113		118582	64,645	-
Brown University - Ambient Air Pollution and Incident Stroke	93.113		545	19,062	-
Children's Hospital Boston - Does Arsenic Increase Risk of Neural Tube Defect in a Highly-exposed Population	93.113		RSTFD0000689034	46,953	-
Columbia University - BPA, Phthalates and Stress: Mechanisms and Interactions for Childhood Obesity	93.113		3(GG010656-01)	32,979	-
Columbia University - Circulating microRNAs in Extracellular Vesicles, Air Particulate Pollution, and Lung Function in an Aging Cohort	93.113		1(GG010691-01)	39,893	-
Columbia University - Early Exposure to Persistent Organic Pollutants, Breast Milk Extracellular Vesicles and Abnormal Cardiometabolic Programming	93.113		1(GG010657-01)	6,914	-
Harvard Pilgrim Health Care, Inc - Longitudinal Associations of PFCs with Obesity Diabetes, and Metabolic Syndrome	93.113		PH000552C	18,070	-
Icahn School of Medicine at Mount Sinai - Neurologic Function in Children Exposed to Ambient Manganese	93.113		0255-0182-4609	26,383	-
Icahn School of Medicine at Mount Sinai - Stress-Chemical Interactions and Neurobehavior in School Age Children	93.113		0255-5545-4609	11,911	-
Mount Sinai Medical Center - Novel Biomarker to Identify Critical Windows of Susceptibility to Metal Mixtures: Resubmission	93.113		0255-1871-4609	17,068	-
Northeastern University - Impact of Air Pollution, Weather and Lifestyle on Health in Older Americans	93.113		500323	3	-
Oregon State University - Developmental Exposure to Arsenic, PAHs, and Immune Function in Children	93.113		P0388A-B	38,874	-
Silent Spring Institute - Data Sharing and Privacy Protection in Digital-Age Environmental Health	93.113		7511-SEAS	62,713	-
Washington State University - The UGT2A and 3A Metabolizing Enzymes and Tobacco-Related Cancer Risk	93.113		124336G003759	14,870	-
Yale University - Indoor Nitrogen Dioxide Exposure and Children with Asthma: An Intervention Trial	93.113		M15A11946-A09959	(30,090)	-
Total for CFDA 93.113				539,642	-
Regents of the University of California - San Francisco - Evaluating Standardized Preventive Care to Reduce Dental Disparities in Children	93.121		9027sc	8,779	-
Regents of the University of Michigan - Michigan-Pittsburgh-Wyss Resource Center: Supporting Regenerative Medicine in Dental Oral and Craniofacial Technologies	93.121		3004400289	195,397	-
University of South Florida - The Oral Microbiome in Type 1 Diabetes and Sub-Clinical Cardiovascular Disease	93.121		6403-1081-00-A	4,298	-
University of Texas Health Science Center at Houston - Implementing Dental Quality Measures in Practice	93.121		0010816A	36,639	-
Total for CFDA 93.121				245,113	-

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Association of Schools of Public Health, Inc. - The Evidence Based Preparedness Project - Synthesis and Translation of I	93.136		S5045	2,810	-
Association of Schools of Public Health, Inc. - Translation, Dissemination and Implementation of Evidence-Based Public	93.136		S5052	317,014	-
City of Springfield - Baystate Springfield evaluation. (MDPH 1422 grant, City of Springfield, Massachusetts)	93.136		No Awrd Nmbr	15,000	-
Franklin Regional Council of Governments - Mass in Motion Chronic Disease Prevention Program	93.136		No Awrd Nmbr	15,000	-
Massachusetts General Hospital - Clinic and Community Approaches to Healthy Weight	93.136		229250	12,374	-
Stanley Street Treatment and Resources, Inc. - Memorandum of Agreement for Evaluation of 1422 grant State and Lo	93.136		1422	15,000	-
Total for CFDA 93.136				377,198	-
Indiana University - NIEHS Worker Trainer Grant	93.142		BL-4645510-HARV	57,567	-
Total for CFDA 93.142				57,567	-
University of Rhode Island - Impacts of geochemistry and transport on PFAS exposures from drinking water and fish	93.143		0006745-11317	178,455	2,049
University of Rhode Island - Sources, Transport, Exposure and Effects of Perfluoroalkyl Substances (STEEP) Center	93.143		0006660-11117	9,709	-
University of Rhode Island - Sources, Transport, Exposure and Effects of Perfluoroalkyl Substances (STEEP) Center	93.143		0006746-11217	212,389	122,926
Total for CFDA 93.143				400,553	124,975
University of Miami - Environmental Risk Factors and Gene-Environment Interactions in ALS Risk and Progression	93.161		668328	163,000	-
Total for CFDA 93.161				163,000	-
California Institute of Technology - WormBase: a core data resource for C. elegans and other nematodes	93.172		18B-1097519	506,432	-
Columbia University - An Integrated System for Single Molecule Electronic Sequencing by Synthesis	93.172		1(GG007874-03)	(10,693)	-
Dana-Farber Cancer Institute - Computational Methods for Genome-Wide CRISPR Screens	93.172		1283801	83,093	-
Dana-Farber Cancer Institute - Overcoming Bias and Unwanted Variability in Next Generation Sequencing	93.172		1228007	139,033	-
Lawrence Berkeley National Lab - Systematic, Genome-Scale Functional Characterization of Conserved smORFs	93.172		7374618	200,029	-
Regents of the University of California - Los Angeles - Integrative approaches for mapping the genetic risk of complex traits	93.172		1625GUE724	84,758	-
The Broad Institute - A Catalog of Cell Types and Genomic Elements in Tissues, Organoids and Disease	93.172		5000311-5500000958	127,572	-
The Jackson Laboratory - An Integrative Analysis of Structural Variation for the 1000 Genomes Project	93.172		207322	119,923	-
University of Pittsburgh - Center for Causal Discovery	93.172		0053374 (129456-1)	387,975	-
University of Pittsburgh - Center for Causal Modeling and Discovery of Biomedical Knowledge from Big Data	93.172		0049345 (127588-1)	121,555	
Total for CFDA 93.172				1,759,677	-
Brigham and Women's Hospital, Inc - Risk Factors for Hearing Loss	93.173		116975	53,291	-
Massachusetts Eye and Ear Infirmary - Cochlear Synaptopathy: Prevalence, Diagnosis and Functional Consequences	93.173		2300175-01	64,932	-
San Diego State University Research Foundation - The Association of Perinatal HIV Infection and Hearing Loss in Children of Cape Town, South Africa	93.173		SA0000594	49,509	-
Total for CFDA 93.173				167,732	-

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Beth Israel Deaconess Medical Center - Coupling technology and mind-body exercise to facilitate physical activity in chronic cardiopulmonary disease	93.213		1R34AT009354-01	22,909	-
Beth Israel Deaconess Medical Center - Tai Chi after Pulmonary Rehabilitation in Patients with COPD: A Randomized Trial	93.213		1029129	36,650	-
Washington State University - Investigation of a shipworm endosymbiont compound with activity against the AIDS-associated pathogens Cryptosporidium and Toxoplasma	93.213		131398 G003748	21,098	-
Total for CFDA 93.213				80,657	-
Brigham and Women's Hospital, Inc - Identifying Cascades of Low-Value Care and the Organizational Practices that Prevent them	93.226		117961	9,095	-
Children's Hospital Boston - Improving Child Health and Healthcare through Dissemination and Implementation of Pediatric Quality Measures	93.226		GENFD0001358192	12,539	-
Harvard Pilgrim Health Care, Inc - Decision Making Challenges and Needs for Health Insurance Exchange Enrollees	93.226		No Awrd Nmbr	50,496	-
Massachusetts General Hospital - Federally Qualified Health Centers and Care for Vulnerable Polpulations	93.226		231035	17,014	-
Massachusetts General Hospital - Medicaid Payment Policy and Access to Care for Dual-Eligible Beneficiaries	93.226		229188	20,376	-
National Bureau of Economic Research - Measuring the Clinical and Economic Outcomes Associated with Delivery Systems	93.226		41610.01.13.00-HMS	944,687	-
National Bureau of Economic Research - The Impact of Direct-to-Consumer, Video Telehealth	93.226		41740	57,920	-
Rand Corporation - Understanding the role of organizational integration in PCOR implementation	93.226		9920160048	10,949	-
Regents of the University of Minnesota - Medical reversals: De-implementing ineffective and unsafe treatments	93.226		P006920953	1,668	-
Trustees of Dartmouth College - Accelerating the Use of Evidence-based Innovations in Healthcare Systems	93.226		R816-Project 1	153,717	-
University of Chicago - Effects of Ambulance, Transport Distance, and Hospital Destination on Health Outcomes of Out of Hospital Medical Emergencies	93.226		FP066242	16,523	-
Yale University - Consumer Assessment of Healthcare Providers and Systems (CAHPS IV)	93.226		M13A11549 (A09063)	34,561	-
Yale University - Consumer Assessment of Healthcare Providers and Systems (CAHPS V)	93.226		GR101547 (CON-80001087)	53,027	-
Total for CFDA 93.226				1,382,572	-
Beth Israel Deaconess Medical Center - Mechanisms of Arousal in Sleep Apnea	93.233		1029792	246,819	-
Beth Israel Deaconess Medical Center - Neuronal Control Mechanisms of the Ascending Sleep Arousal Pathway	93.233		127157	(416)	-
Total for CFDA 93.233				246,403	-

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Allen Institute for Brain Science - A comprehensive whole-brain atlas of cell types in the mouse	93.242		2017-0570	667,614	-
Beth Israel Deaconess Medical Center - A Psychobiological Follow-up Study of Transition from Prodrome to Early Psychosis	93.242		1029400	55,577	-
Beth Israel Deaconess Medical Center - Predictors and Mechanisms of Conversion to Psychosis	93.242		1060041	7,975	-
Board of Trustees of the University of Illinois - Identifying Social Processes Implicated in Remitted Recurrent Depression	93.242		16400	5,679	-
Brigham and Women's Hospital, Inc - Rare and common variants in complex disease	93.242		117943	109,717	-
Brigham and Women's Hospital, Inc - Statistical methods for studies of rare variants	93.242		114559	1,978	-
Butler Hospital - Behavioral and Ecological Suicide Tracking: Attention, Interpretation and Memory	93.242		9026-8331	31,828	-
Children's Hospital Boston - ¿ Somatic mosaicism and autism spectrum disorder	93.242		GENFD0001412050	730,709	-
Children's Hospital Boston - Admin Core: Complement regulation and critical periods in diverse CNS cell types	93.242		GENFD0001311277	10,345	-
Children's Hospital Boston - Complement regulation and critical periods in diverse CNS cell types	93.242		GENFD0001311378	457,795	-
Children's Hospital Boston - Neural-immune mechanisms and synaptic connectivity in psychiatric illness	93.242		GENFD0001311278	126,930	-
Children's Hospital Boston - Research Support Core: Complement regulation and critical periods in diverse CNS cell types	93.242		GENFD0001311379	164,689	-
Cold Spring Harbor Laboratory - A Comprehensive Center for Mouse Brain Cell Atlas	93.242		64580121 / 64580129	1,562,235	-
Cold Spring Harbor Laboratory - Genetic Targeting of Cortical Pyramidal Neuron Subtypes	93.242		55310512	191,168	-
Desmond Tutu HIV Foundation - Design and delivery of combination HIV prevention in young South African women	93.242		NIH-3P-HC-01	11,828	-
DRVision Technologies LLC - An automated and adaptive 3D particle tracking tool for next generation neuroscience microscopy	93.242		DRV002	1,132	-
Icahn School of Medicine at Mount Sinai - Somatic Mosaicism in Schizophrenia and Control Brains	93.242		0255-0422-4609	161,943	-
Johns Hopkins University - Mixed Methods Research Training Program	93.242		2002362059	6,702	-
Luxel Corporation - Grid-Tape: A High-Throughput Platform for Brain Connectomics and Nanoscale Structural Analysis	93.242		16827	20,457	-
Massachusetts General Hospital - 2/7 Psychiatric Genomics Consortium: Finding actionable variation	93.242		228900	33,242	-
Massachusetts General Hospital - Real-World Adherence to HIV PrEP In Serodiscordant African Couples	93.242		227997	157,210	-
Massachusetts Institute of Technology - A Molecular and Cellular Atlas of the Marmoset Brain	93.242		104668	521,776	-
Massachusetts Institute of Technology - Ultra-Multiplexed Nanoscale In Situ Proteomics for Understanding Synapse Types	93.242		5710004146	(2,982)	-
Princeton University - CRCNS: Representational foundations of adaptive behavior in natural and artificial agents	93.242		SUB0000110	193,076	-

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Rand Corporation - Improving Value of Publicly Funded Mental Health Care	93.242		9920160099	229,304	-
Regents of the University of California - San Diego - Efficacy of ART to interrupt HIV transmission networks	93.242		58328838	20,843	-
Regents of the University of California - San Diego - Psychiatric Genomics Consortium for PTSD	93.242		78931958	63,455	-
Rehabilitation Institute of Chicago - Recording Neural Activities onto DNA	93.242		3024	(27,480)	-
San Diego State University - Enhanced Linkage to HIV Care and Treatment following Home-Based HIV testing in Rural Uganda	93.242		SA0000486	33,735	-
The Broad Institute - Genetic neuroscience: How human genes and alleles shape neuronal phenotypes	93.242		5000481-5500001103	434,470	-
The Broad Institute - Genetic neuroscience: How human genes and alleles shape neuronal phenotypes	93.242		500481-5500001075	685,047	-
The Broad Institute - Methods for linking GWAS peaks to function in psychiatric disease	93.242		5216293-5500000809	90,631	-
The Broad Institute - Network-based prediction and validation of causal schizophrenia genes and variants	93.242		5000310-5500000861	49,773	-
The Broad Institute - Network-based prediction and validation of causal schizophrenia genes and variants	93.242		5000310-5500000909	44,944	-
University of Hawaii - Maraviroc and NeuroAIDS Pathogenesis	93.242		KA1082	25,050	-
University of North Carolina - Chapel Hill - Longitudinal Assessment of Post-traumatic Syndromes	93.242		5106105	576,316	-
University of North Carolina - Chapel Hill - Longitudinal Assessment of Post-traumatic Syndromes	93.242		5106113	184,242	-
University of North Carolina - Chapel Hill - Multilevel Biomarkers for Suicidal Behavior: From Interpersonal Stress to Gene Expression in a Longitudinal Study of Adolescent Girls	93.242		5101900	139,758	-
University of Pennsylvania - Recording Neural Activities onto DNA	93.242		573341	668,350	-
University of Rochester - Neurocircuitry of OCD: Effects of Modulation - Core C and Project 3	93.242		416629-G	462,510	-
University of Washington - HIV self-testing and PrEP to increase testing and prevention uptake among male partners and improve postpartum ART use in PMTCT B+ programs in Uganda	93.242		UWSC10153	2,350	-
University of Washington - Integrated PrEP and ART delivered in Ugandan public health clinics to improve HIV and ART outcomes for HIV serodiscordant couples	93.242		UWSC10102	1,407	-
Washington University - Mapping the Human Connectome During Typical Development	93.242		WU-18-2	764,318	-
Total for CFDA 93.242				9,677,646	-
Children's Hospital Boston - Refugee Trauma and Resilience Center at Boston Children¿s Hospital: A Treatment and Service Adaptation Center for Refugee Children and Families	93.243		GENFD0001161521	2,061	-
Total for CFDA 93.243				2,061	-
Brigham and Women's Hospital, Inc - Novel Circadian Exposure Metrics for Shift Workers	93.262		115367	15,508	-
Brigham and Women's Hospital, Inc - Testing Novel Interventions to Protect Workers from Airborne Infections	93.262		111069	10,352	-
Dana-Farber Cancer Institute - Organizational Approaches to Total Worker Health for Low-Income Workers	93.262		1282702	17,845	-
Total for CFDA 93.262				43,705	-

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Beth Israel Deaconess Medical Center - The Moderate Alcohol and Cardiovascular Health Trial (Harvard Biostatistical and Biospecimen Core)	93.273		1029990	256,037	-
International Agency for Research on Cancer - A pooling project on alcohol use and risk of cancers with inconsistent prior evidence, with an emphasis in non-smokers	93.273		CRA/NMB/2017/2	449,159	-
San Diego State University Research Foundation - Administrative Core of the CIFASD (U24)	93.273		SA0000604	25,732	-
Wayne State University - Dose and Pattern of Adverse Effects in the Diagnosis of Fetal Alcohol Spectrum Disorders: A Secondary Analysis of Data from Five Cohorts	93.273		WSU18048	44,883	-
Total for CFDA 93.273				775,811	-
Brandeis University - Center to Improve System Performance of Substance Use Disorder Treatment: Administrative Core	93.279		403416 (formerly 403202)	25,039	-
Brandeis University - Center to Improve System Performance of Substance Use Disorder Treatment: Research Core	93.279		403417 (formerly 403203)	190,009	-
Brigham and Women's Hospital, Inc - The Impact of Prescription Opioid Use on Pregnancy Outcomes	93.279		117817	23,244	-
California Institute of Technology - Deciphering the function and mechanisms of lncRNA-mediated organization of nuclear compartments	93.279		18B-1096549	340,826	-
Children's Hospital Boston - Finding the projection-specific dopaminergic synaptic organizers	93.279		GENFD0001322916	24,255	-
Pennsylvania State University - NIDA Innovative Methods for Constructing Just-In-Time Adaptive Interventions	93.279		5692-HU-DHHS-9838	290,824	-
Total for CFDA 93.279				894,197	-
Brigham and Women's Hospital, Inc - Using mHealth technology to identify and refer surgical site infections in Rwanda	93.286		115533	34,111	-
Columbia University - Integrated heart-liver-vascular systems for drug testing in human health and disease	93.286		2(GG012366-07)	86,816	-
Columbia University - Multi-tissue platform for modeling systemic pathologies	93.286		2(GG008687)	143,703	-
Regents of the University of California - San Diego - Rapid 3D bioprinting of biomimetic vascularized tissue constructs	93.286		76644261	277,773	88,383
The University of Memphis - Mobile Sensor Data Knowledge MD2K	93.286		5-40604	62,588	-
University of North Carolina - Chapel Hill - QuBBD: Statistical and Visualization Methods for PGHD to Enable Precision Medicine	93.286		5108991	9,162	-
Total for CFDA 93.286				614,153	88,383
Massachusetts General Hospital - Mechanisms underlying racial/ethnic disparities in mental disorders	93.307		227351	41,721	-
Massachusetts General Hospital - Mechanisms underlying racial/ethnic disparities in mental disorders	93.307		227351	183,318	-
Massachusetts General Hospital - Medicare Policy Effects on Mental Health Care Disparities	93.307		230084	40,755	-
Rand Corporation - Improving Minority Health by Monitoring Medicaid Quality, Disparities and Value	93.307		9920180018	68,846	-
University of Illinois at Urbana - Champaign - Epigenomic Predictors of PTSD and Traumatic Stress in an African American Cohort	93.307		088353-16584	41,542	-
Yale University - Environmental Health Disparities in an Older Population	93.307		GR101389 (CON-80001010)	47,615	-
Total for CFDA 93.307				423,797	-

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Board of Regents of the University of Wisconsin - Madison - U.S. Childhood Respiratory and Environment Workgroup (CREW)	93.310		775K504	87,692	-
Harvard Pilgrim Health Care, Inc - Common and distinct early environmental influences on cardiometabolic and respiratory health: Mechanisms and methods	93.310		PH000615C	261,052	-
Icahn School of Medicine at Mount Sinai - ECHO Consortium on Perinatal Programming of Neurodevelopment	93.310		0255-2292-4609	60,481	-
Massachusetts General Hospital - Designer probiotics for the treatment of intestinal infection and inflammation	93.310		229595	38,815	-
Mount Sinai Medical Center - CHEAR Center for Data Science	93.310		0255-0241-4609	131,574	-
Optical Wavefront Laboratories - High-resolution, parallelized imaging of freely swimming zebrafish with a gigapixel microscope	93.310		No Awrd Nmbr	34,342	-
Regents of the University of California - Los Angeles - Comprehensive Structural and Functional Mapping of the Mammalian Cardiac Nervous System	93.310		1553 G UC339	311,015	-
Regents of the University of California - San Diego - Single-cell sequencing and in situ mapping of transcriptional activities in human brains	93.310		33972980	(177)	-
The Broad Institute - Isogenic human pluripotent stem cell-based models of human disease mutations	93.310		5210841-5500000509	(1,103)	-
The University of Sheffield - H3ABioNet: a sustainable African Bioinformatics Network for H3Africa	93.310		No Awrd Nmbr	(1,895)	-
University of North Carolina - Chapel Hill - Illuminating Function of the Understudied Druggable Kinome	93.310		5108813	330,475	-
Total for CFDA 93.310				1,252,271	-
Boston Public Health Commission - Boston Partners in Community Health (PICH)	93.331		1U58DP005788-01	91,789	-
Total for CFDA 93.331				91,789	-
Brigham and Women's Hospital, Inc - Kidney Microphysiological Analysis Platforms (MAP) to Optimize Function and Model Disease	93.350		118085	149,386	-
Johns Hopkins University - Institute for Clinical and Translational Research	93.350		2003175163	33,078	-
Massachusetts Institute of Technology - Cartilage-Bone-Synovium MPS: Musculoskeletal Disease Biology in Space	93.350		66383	65,880	-
Ohio State University - N-lighten	93.350		60060045	247,447	-
University of Pittsburgh Medical Center - ACT Supplement	93.350		0055353 (129324-1)	531,633	-
University of Washington - A Tissue Engineered Human Kidney Microphysiological System	93.350		UWSC7799	15	-
Total for CFDA 93.350				1,027,439	-
Brigham and Women's Hospital, Inc - A Community Zebrafish Resource for Modeling GWAS Biology	93.351		110560	202,512	-
The Jackson Laboratory - Teaching the Genome Generation: Professional Development for Genomics Instruction in Rural and Urban High Schools	93.351		208009	8,688	-
Total for CFDA 93.351				211,200	-
Northeastern University - Nurse Education, Practice, Quality and Retention (NEPQR) Program Interprofessional Collaborative Practice	93.359		500538-78050	34,194	-
Total for CFDA 93.359				34,194	-
Massachusetts General Hospital - Cerebrovascular Contributions to Brain Aging and Dementia	93.361		228190	13,066	-
Regents of the University of California - San Francisco - Interventions for Symptom Management in Older Patients with HAND	93.361		8591sc	28,213	-
Total for CFDA 93.361				41,279	-

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	Brigham and Women's Hospital, Inc - A prospective analysis of peripheral blood cytokines and nonoHodgkin lymphoma	93.393		107288	694	-
	Brigham and Women's Hospital, Inc - Comprehensive characterization of prostate stromal gene expression and association with lethal prostate cancer	93.393		118830	4,424	-
	Brigham and Women's Hospital, Inc - Long term multidisciplinary study of cancer in women: The Nurses Health Study	93.393		111048	124,323	-
	Brigham and Women's Hospital, Inc - Mammographic Density and Texture features in relation to breast cancer risk	93.393		114918	4,691	-
	Brown University - Inference and Validation of Chromosomes 3D Structure via Statistical Shape Analysis of Elastic Curves Models	93.393		1158	26,079	-
	Brown University - Psoralens and melanoma	93.393		809	7,359	-
	Dana-Farber Cancer Institute - Accelerating Transdisciplinary Epidemiology: Colorectal Cancer Omics and Immunity	93.393		1261103	91,153	-
	Dana-Farber Cancer Institute - Tools for genomic analysis of tumor and stromal pathways in cancer	93.393		1217105	19,217	-
	Dartmouth-Hitchcock Medical Center - Integrative Analysis of Lung Cancer Etiology and Risk	93.393		R966	41,545	-
	Emory University - A Pooled Analysis of 25-hydroxyvitamin D and Colorectal Cancer Survival	93.393		T253589	(203)	-
	H. Lee Moffitt Cancer Center and Research Institute - (PQA4) Molecularly Targeted Chemoprevention for Preneoplastic Squamous	93.393		10-18701-99-01-S5	77,724	-
	Health Research, Inc. - Consortium on Methods Evaluating Tobacco (COMET): Filter Ventilation and Product Standards	93.393		289-01	13,877	-
	Lawrence Berkeley National Lab - Structural Cell Biology of DNA Repair Machines	93.393		7337766	56,528	-
	Massachusetts General Hospital - Inflammation and Colorectal Neoplasia	93.393		226172	160,562	-
	Mayo Clinic - Risk and penetrance of mutations from breast cancer testing panels	93.393		HAR-195385-06	98,995	-
	Regents of the University of California - San Diego - Elucidating the role of nascent RNA in enhancer-promoter communication and three-dimensional genome organization	93.393		92851495	219,016	39,946
	Regents of the University of Michigan - Linking State Registry and All Payer Claims Data to Study Cancer Care	93.393		3002831917	34,596	-
	St. Jude Children's Research Hospital - Analysis of the role of the SWI/SNF complex in tumor suppression	93.393		112260060-7786669	84,210	-
	St. Jude Children's Research Hospital - The Function of Snf5, an Epigenetic Tumor Suppressor	93.393		112261140-7786668	45,460	-
	Trustees of Boston University - A Prospective Investigation of the Oral Microbiome and Pancreatic Cancer	93.393		4500002423	108,378	-
	University of North Carolina - Resolving the obesity paradox in kidney cancer	93.393		5106676	13,972	-
	University of Southern California - Genome wide Sequencing of Prostate Cancer in Men of African Ancestry	93.393		34968337	1,129	-
x	University of Washington - Quantifying and Characterizing the shared genetic contribution to common cancers	93.393		UWSC9239	187,905	-
	Vanderbilt University Medical Center - Effects of Expanded Coverage on Access, Health Care and Health in the South	93.393		VUMC56386	(151,586)	-
	Vanderbilt University Medical Center - Effects of Expanded Coverage on Access, Health Care and Health in the South	93.393		VUMC56386	266,664	-
	Total for CFDA 93.393				1,536,712	39,946

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Brigham and Women's Hospital, Inc - MRI-guided focused ultrasound for drug delivery and ablation of brain tumors (Project 3)	93.394		114165	31,353	-
Brigham and Women's Hospital, Inc - MRI-guided focused ultrasound for drug delivery and ablation of brain tumors - Project 3	93.394		114167	30,353	-
Brigham and Women's Hospital, Inc - MRI-guided focused ultrasound for drug delivery and ablation of brain tumors (project 1)	93.394		114166	33,854	-
Dana-Farber Cancer Institute - Circulating Biomarker Consortium for Pancreatic Cancer Early Detection	93.394		1283202	42,593	-
Emory University - Emory/Harvard/Univ of Washington Prostate Cancer Biomarker Center	93.394		T787698	47,001	-
Fred Hutchinson Cancer Research Center - Proteogenomic studies aimed at understanding ovarian tumor responses to agents targeting the DNA damage response and translating this knowledge into clinical benefit	93.394		911770	277,068	-
Massachusetts Institute of Technology - Optical Biopsy Using Optical Coherence Tomography	93.394		5710003780	53,840	-
University of Massachusetts Medical School - Weight Management Counseling in Medical School: A Randomized Controlled Trial	93.394		OSP2016161	22,349	-
Total for CFDA 93.394				538,411	-
Auburn University - Proteasome inhibitors for the treatment of Solid Tumors	93.395		17-PHAR-201318-HMS	28,335	-
Massachusetts General Hospital - Dietary sulfur, the gut microbiome, and colorectal cancer	93.395		227950	254,853	-
Total for CFDA 93.395				283,188	-
Beth Israel Deaconess Medical Center - A multi-faceted approach to identifying K-Ras synthetic lethal relationships	93.396		1060144	203,564	-
Beth Israel Deaconess Medical Center - Basic and translational studies of Ras-mutant colorectal cancer	93.396		AT RISK	15,471	-
Beth Israel Deaconess Medical Center - Modeling KRAS genetic heterogeneity in mouse models	93.396		1028632	13,371	-
Beth Israel Deaconess Medical Center - Molecular wiring and therapeutic targeting of EGFR and PDGFR signaling	93.396		1029110	142,131	-
Brigham and Women's Hospital, Inc - Molecular Pathogenesis of the Hamartoma Syndromes	93.396		114746	49,891	-
Brigham and Women's Hospital, Inc - Molecular Pathogenesis of the Hamartoma Syndromes P01 Project 1: Molecular wiring and therapeutic targeting of the TSC-Rheb signaling network	93.396		114746	(2,625)	-
Cleveland Clinic Lerner College of Medicine of CWRU - CryoPen: An Innovative Treatment Cervical Pre-cancer in Low-Resource Settings	93.396		890-SUB	14,449	-
Dana-Farber Cancer Institute - Cyclin-dependent kinases in oncogenesis	93.396		1032615	(1)	-
Massachusetts General Hospital - Highly Multiplexed FISH for In Situ Genomics	93.396		226226	6,040	-
Regents of the University of California - San Francisco - Genetic Models of exRNA Communication	93.396		7798sc	574,418	-
Whitehead Institute for Biomedical Research - Mechanisms of Breast Development and Carcinogenesis	93.396		11-1786-1904	349,499	-
Total for CFDA 93.396				1,366,208	-

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Beth Israel Deaconess Medical Center - DF/HCC Kidney Cancer SPORE	93.397		1060128	81,347	-
Dana-Farber Cancer Institute - A programmatic Intervention to Improve Access to Timely Oncology Care for HIV-Inf	93.397		1274054	1,497	-
Dana-Farber Cancer Institute - Cancer Center Support Grant	93.397		HSPH-53	268,351	-
Dana-Farber Cancer Institute - Circadian rhythm disruption and advanced prostate cancer	93.397		1058015	34,341	-
Dana-Farber Cancer Institute - Dana-Farber/Harvard Cancer Center Support Grant	93.397		HMS-53	1,067,207	-
Dana-Farber Cancer Institute - DF-HCC SPORE in Prostate Cancer - Project 1	93.397		1225415	216,246	-
Dana-Farber Cancer Institute - Measuring and Modeling DNA Repair-Driven Cancer Therapy Resistance Mechanisms	93.397		1271703	146,162	-
Dana-Farber Cancer Institute - SPORE: Dana-Farber/Harvard SPORE in Breast Cancer	93.397		1230005	19,782	-
Dana-Farber Cancer Institute - Synthetic screening to identify novel drug targets within the NF1 signaling network	93.397		1276154	44,314	-
Instituto Nacional De Salud Publica - Mesoamerican Center for Population Health Research on Non-Communicable Disease	93.397		1	51,190	-
Total for CFDA 93.397				1,930,437	-
Beth Israel Deaconess Medical Center - A National Curriculum in Cancer Genomics for Pathology Residents	93.398		1029309	1,239	-
Total for CFDA 93.398				1,239	-
Association of State and Territorial Health Officials - Medical Countermeasure Distribution- State Level	93.424		63-10134	73,503	60,000
Association of State and Territorial Health Officials - Technical Assistance for State, Territorial, and Federal Communication during Public Health Emergencies - Zika Virus	93.424		63-11754	232,990	217,000
Total for CFDA 93.424				306,493	277,000
Partners in Health - Policy, System and Environmental Change for Health Navajo Communities	93.738		0040	14,615	-
Total for CFDA 93.738				14,615	-
Beth Israel Deaconess Medical Center - Mechanisms of Prosthetic Arterial Graft Failure	93.837		1029633	87,511	-
Beth Israel Deaconess Medical Center - Use of Registries, Claims and Health System Data to Enhance the Evaluation of Cardiovascular Therapies in Clinical Trials	93.837		1029815	47,053	-
Boston Biomedical Innovation Center - Silencing airway nociceptors for treatment of cough and airway inflammation	93.837		116096	189,232	-
Boston University School of Medicine - Epigenenomic and transcriptomic networks in normal and defective lung development	93.837		4500001945	(11)	-
Brigham and Women's Hospital, Inc - Adipose Dependent Mechanisms of Dietary Protein Restriction Protective Effects on Vein Graft	93.837		115081	16,424	-
Brigham and Women's Hospital, Inc - Adult Tissue Morphogenesis: Functional Regulation of Intussuceptive Angiogenesis	93.837		114207	29,217	-
Brigham and Women's Hospital, Inc - Boston Biomedical Innovation Center	93.837		114756	66,333	-
Brigham and Women's Hospital, Inc - Disease and Health: Asthma Resilience through MicroRNA Attributes (DHARMA)	93.837		113158	73,872	-
Brigham and Women's Hospital, Inc - Genetics of gene expression in human left ventricular myocardium	93.837		113965	15,359	-
Brigham and Women's Hospital, Inc - MicroRNAs in Circulation: Ontologies of Asthma Severity and Treatment (microCOAST)	93.837		113090	191,010	-

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Brigham and Women's Hospital, Inc - Optimizing Revascularization of Coronary Artery Disease in Chronic Kidney Disease	93.837		110015	42,464	-
Brigham and Women's Hospital, Inc - Pre-DETERMINE: Biologic Markers and MRI SCD Cohort Study	93.837		116706	13,338	-
Brigham and Women's Hospital, Inc - Protection of the heart by PD-1 and PD-L1	93.837		110259	88,633	-
Brigham and Women's Hospital, Inc - RISK FACTORS FOR CVD IN WOMEN	93.837		110620	15,050	-
Brigham and Women's Hospital, Inc - Risk Factors for Ischemic Stroke in Women	93.837		113892	41,090	-
Brigham and Women's Hospital, Inc - Shear-Activated Nanothrombolytic-Nanovasodilation	93.837		116979	151,289	-
Brigham and Women's Hospital, Inc - Targeting erythropoietin-based therapeutics	93.837		116479	144,651	-
Children's Hospital Boston - Megakaryocyte Transcription Factor Activation to Enhance In Vitro Platelet Production from Human IPSCs	93.837		GENFD0001358806	3,975	-
Cincinnati Children's Hospital Medical Center - Administrative Coordinating Center: Cardiovascular Development and Pediatric Cardiac Genomics Consortia.	93.837		138275	29,215	-
Cincinnati Children's Hospital Medical Center - CVDC Steering Committee Chair Support	93.837		138275 CHAIR	7,925	-
Duke University - Novel Mechanisms and Therapies in Heart Failure	93.837		2034806	82,558	-
Emory University - Worksite lifestyle program for reducing diabetes and CVD risk in India	93.837		T801942	46,530	-
Joslin Diabetes Center - Metabolic Pathways of Increased Cardiovascular Risk in Type 2 Diabetes	93.837		100046	22,432	-
Massachusetts General Hospital - Does Exercise Induce Cardiomyogenesis	93.837		227636	247,554	-
Massachusetts General Hospital - Mechanisms of Cardiac Dysfunction in HIV and the Effect of Statins	93.837		230744	20,271	-
Massachusetts General Hospital - Primary prevention of vascular events in HIV	93.837		224846	116,146	-
Massachusetts General Hospital - Promoting employee health through the worksite food environment	93.837		226216	23,224	-
Massachusetts General Hospital - The Impact of anti-inflammatory treatment with low dose methotrexate	93.837		224883	35,146	-
Northeastern University - Comparative Assessment of Modifying Social Determinants to Reduce Cardiovascular Disease Burden and Disparities	93.837		500537-78050	20,398	-
Regents of the University of California - San Francisco - Effect of low dose methotrexate on endothelial function and inflammation on HIV	93.837		7455sc	12,139	-
Regents of the University of Minnesota - Diffusion of Clinical Evidence into Practice: Physician Networks, Delivery Organizations, and Markets	93.837		P006001153	28,286	-
Stanford University - Statistical Methods for Optimizing Personalized Treatment Selection	93.837		60552401-44738	86,363	-
Tufts University - Diet and Metabolic Risks: Joint Drivers of Global Epidemiologic Transition	93.837		101467-00001	14,005	-

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Tulane University - Genome-wide interactions with diet patterns on long-term weight change	93.837		553979-15/16	3,802	-
University of Maryland, Baltimore - Bioinformatics Core Proposal for the NHBLI Progenitor Cell Biology Consortium	93.837		101330A	4,445	-
University of Massachusetts - Amherst - Statistical methods for large-scale, prospective, epidemiologic studies	93.837		15-008650-A00	4,309	-
University of Massachusetts Medical Center - Pediatric Practice-based Obesity Intervention to Support Families: FITLINE	93.837		OSP2017060	33,671	-
University of Pittsburgh - The Role of Physician Networks in the Adoption of New Prescription Drugs	93.837		0034064 (127352-3)	51,370	-
Vanderbilt University - Outcome Dependent Sampling Studies of Longitudinal Data: Design and Analysis	93.837		VUMC58615	89,716	-
Wayne State University - Cardiac Toxicity in Perinatally HIV-infected Adolescents and Young Adults, a Longitudinal Study	93.837		WSU17134	14,230	-
Total for CFDA 93.837				2,210,225	-
Brigham and Women's Hospital, Inc - Genetic Epidemiology of COPD (2 of 2)	93.838		117868	235,680	-
Brigham and Women's Hospital, Inc - Genetic Epidemiology of COPD: Genome-Wide Analysis	93.838		114739	36,686	-
Brigham and Women's Hospital, Inc - Identifying Genetic Determinants of Severe Early Onset COPD	93.838		113837	29,095	-
Brigham and Women's Hospital, Inc - Leveraging Family Data to Identify Genetic Variants for Sleep Apnea	93.838		113855	61,120	-
Brigham and Women's Hospital, Inc - Systems Biology of Airway Disease	93.838		115975	156,954	-
Children's Hospital Boston - Environmental Risk Factors for Pediatric Sleep Disordered Breathing	93.838		GENFD0001340533	52,614	-
Emory University - Household air pollution and health: a multi-country LPG intervention trial	93.838		T846263 (GY01T702541)	56,327	-
University of Colorado Denver - Data Fusion-A Self-Scaling, Open Source Registry Advancing Pediatric Pulmonary Vascular Disease Research	93.838		FY18.369.003	147,749	-
University of Colorado Denver - Pulmonary Hypertension Data Fusion: Regulatory Science	93.838		FY17.369.009	372,218	-
University of Pennsylvania - CEBPD - Medicated Mechanisms of Glucocorticoid Insensitivity in Severe Asthma	93.838		571226	62,744	-
Total for CFDA 93.838				1,211,187	-
Beth Israel Deaconess Medical Center - In Situ Regeneration of Bioactive Surfaces: Rechargeable Anti-thrombogenic Films	93.839		1026762	(15,061)	-
Beth Israel Deaconess Medical Center - Targeting the Endothelium in Sepsis	93.839		1027662	131,557	-
Brigham and Women's Hospital, Inc - Cytoskeletal Mechanisms of Platelet Formation	93.839		116938	11,034	-
Brigham and Women's Hospital, Inc - Genetic and Environmental Risk Factors for Venous Thromboembolism	93.839		113440	74,755	-
Case Western Reserve University - Platelet-inspired Delivery System for Targeted Thrombolytic Therapy	93.839		RES512743	70,201	-
Daktari Diagnostics, Inc. - Self-assembling Density Gradients for Sickle Cell Diagnosis in Low Resource Areas	93.839		No Awrd Nmbr	(2,430)	-
Massachusetts General Hospital - Functional dissection of clonal hematopoiesis	93.839		230441	432,794	-
University of Massachusetts Medical School - Novel Growth Factor Regulators of Early Erythropoieisis	93.839		OSP2018073	61,554	-
Total for CFDA 93.839				764,404	-

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Brigham and Women's Hospital, Inc - Sociodemographic Disparities in SLE Incidence: Behavioral and Psychosocial Factors	93.846		113176	48,347	-
Brigham and Women's Hospital, Inc - VERIFY: Value and Evidence in Rheumatology using bioInformaTics, and advanced analytics	93.846		118064	3,479	-
Brigham and Women's Hospital, Inc - Xanthine oxidase inhibitors and risks of myocardial infarction and diabetes	93.846		114235	5,957	-
Maine Medical Center - Cellular Mechanisms of PTH1R Activation with Osteoporosis Treatments	93.846		ROSEN-111071-A	23,465	-
Massachusetts General Hospital - Identifying gene and regulatory networks underlying postnatal tendon growth	93.846		230508	75,878	-
Massachusetts General Hospital - Impact of Cardiovascular and Weight Loss Diets on Uric Acid and Gout Risk	93.846		224821	6,970	-
University of Louisville - Interplay of androgens, microbiota and immunoregulation in lupus	93.846		ULRF 15-0685-01	4,280	-
University of North Carolina - Ethnic differences in outcomes and treatment barriers after sexual assault /Admin Supplement	93.846		5110056	211	-
Total for CFDA 93.846				168,587	-
Beth Israel Deaconess Medical Center - Memory Advancement by Intranasal Insulin in Type 2 Diabetes (MemAiD)	93.847		1028191	6,717	-
Beth Israel Deaconess Medical Center - Role of Macrophages in Impaired Wound Healing in Diabetes	93.847		1028521	386,645	-
Boston Medical Center - Anti-Inflammatory diet and gene expression on type 2 diabetes progression in overweight/obese adults	93.847		5756	6,813	-
Boston Medical Center - Boston Obesity Nutrition Research Center	93.847		2137	98,123	-
Boston Medical Center - Feeding America¿s Bravest: Mediterranean Diet-Based Interventions to change Firefighters¿ Eating Habits and Improve Cardiovascular Risk Profiles	93.847		475501	915	-
Brigham and Women's Hospital, Inc - Circulating plasma metabolites, diet, and risk of type 2 diabetes	93.847		1R01DK112940-01A1 REVISED	18,587	-
Brigham and Women's Hospital, Inc - Human Studies on Blood Levels of Glycated CD59 as a Biomarker in Diabetes	93.847		110959	2,362	-
Brigham and Women's Hospital, Inc - Physiology of Thyroid Hormone-Dependent Gene Expression	93.847		114846	22,597	-
Brigham and Women's Hospital, Inc - Risk Factors for and Tissue Biomarker Expression in Primary Hyperparathyroidism	93.847		110397	26,833	-
Brown University - Impact of Medicaid Expansion on Racial and Socioeconomic Disparities in ESRD	93.847		1181	10,336	-
Children's Hospital Boston - Customized Stem Cells for Clinical Applications in Blood Disorders	93.847		GENFD0001332334	288,154	-
Children's Hospital Boston - Development of Silk Fibroin Grafts for Reconstruction of Esophageal Defects	93.847		RSTFD0000704338	23,448	-
Children's Hospital Boston - Development of small molecule inhibitors of gut bacterial bile salt hydrolases	93.847		GENFD0001258271	31,250	-
Children's Hospital Boston - The neuropilin 2 axis in smooth muscle contractility	93.847		RSTFD0000708636	58,150	-
Children's Hospital Boston - Transcriptional Reprogramming in Podocyte Injury	93.847		GENFD0001216039	62,049	-
Children's Hospital Corporation - Chemosensory intestinal tuft cells and mucosal immunity	93.847		GENFD0001258270	26,526	-
Dana-Farber Cancer Institute - Control of Adipocyte Gene Expression and Physiology	93.847		1032935	3,963	-
Duke University - Microbial regulation of host nutrient metabolism	93.847		2034784	80,138	-

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Emory University - Association of persistent organic pollutants with incident diabetes in India	93.847		T623046	48,586	-
Harvard Pilgrim Health Care, Inc - Impact of Emerging Health Insurance Designs on Diabetes Complications	93.847		AH000527	53,881	-
Joslin Diabetes Center - Regulation of human brown and beige adipocyte differentiation and function by genetic and secreted factors	93.847		14-897-02	4,371	-
Kaiser Foundation Health Plan of Washington - Long-Term Benefits and Risks of Bariatric Surgery in Integrated Care Systems	93.847		2017138478	17,320	-
Massachusetts General Hospital - A Human-Centered Pharmacogenomic Screen of Metformin Action	93.847		225209	(5,705)	-
Massachusetts General Hospital - Deconvoluting the hematopoietic niche under stress	93.847		227794	160,172	-
Massachusetts General Hospital - Examining Sleep Disparities in a Birth Cohort	93.847		229046	63,702	-
Massachusetts General Hospital - Infant Sleep Characteristics and Accelerated Growth Trajectories from Birth to 24 months	93.847		227074	242,130	-
Massachusetts General Hospital - Inflammation and Risk of Diverticulitis	93.847		224804	178,361	-
Massachusetts General Hospital - Nutrition Obesity Research Center at Harvard	93.847		231130	6,418	-
Massachusetts General Hospital - Obesity over the adult life course and late-life subjective cognitive function	93.847		231091	8,732	-
Massachusetts General Hospital - Psychological, cognitive, and genetic factors in a behavioral intervention to prevent weight gain	93.847		231761	22,922	-
Regents of the University of California - Santa Barbara - Ambulatory Artificial Pancreas: merging physiology, behavior and control design	93.847		KK1648-a	52	-
Regents of the University of California - Santa Barbara - An Implanted Intraperitoneal (IP-IP) Artificial Pancreas: A Quantum Leap Forward	93.847		KK1651	70,380	-
San Diego State University Research Foundation - Type 2 Diabetes and Sexual Orientation Disparities in Women	93.847		SA0000379	(3)	-
Symbiotix Biotherapies, Inc. - Therapeutics for Inflammatory Bowel Disease from the Microbiome	93.847		SYMBI-04	393,829	-
The Broad Institute - A comprehensive platform for novel therapy development from the microbiome	93.847		5000471-5500001054	362,313	-
Tulane University - Nutrigenetics and Nutrigenomics for Precision Weight-Loss Diet Interventions	93.847		TUL-HSC-556076-17-18	3,012	-
Tulane University - Weight-Loss Diet Intervention on Cardiometabolic Factors of Gut Microbiota	93.847		TUL-HSC-55400-16-17	32,289	-
University of Alabama - Effect of Pitavastatin on Kidney Function in HIV-infected Persons	93.847		000509533-005	41,941	-
University of Massachusetts Medical School - Humanized Mouse Avatars for T1D	93.847		WA00239846-RFS2015105	101,004	-
University of Southern California - 3D bioprinting of vascularized, convoluted renal proximal tubules	93.847		84071314	146,344	-
University of Virginia - MD-PSCH Clinical Acceptance of the Artificial Pancreas: The International Diabetes Closed Loop (iDCL) Trial	93.847		GB10282 151300	592,933	333,776
Xeris Pharmaceuticals, Inc. - Closed-Loop Glucagon Pump for Treatment of Post-Bariatric Hypoglycemia	93.847		123953	256,410	-
Yale University - On-body ecosystem for automated insulin delivery in type 1 diabetes	93.847		GR100945 (CON-80000948)	98,716	-
Total for CFDA 93.847				4,053,716	333,776

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Brigham and Women's Hospital, Inc - Identification of Presenilin downstream targets in neuronal survival	93.853		116846	115,206	-
California Institute of Technology - Functional Mapping of Pathways for Sensory-Motor Integration	93.853		21B-1095833	71,186	-
California Institute of Technology - Project 4- Neural Basis of Behavioral Sequence Loops	93.853		21B-1098369	103,646	18,346
Children's Hospital Boston - Cell Identity Determination In Human Brain: Somatic mutation and cell lineage	93.853		GENFD0001325365	192,792	-
Columbia University - CRCNS: Refining computational models of motor sequence learning and execution	93.853		1(GG012952-01)	145,156	-
Columbia University - Project 2-Neural Basis of Motor Pattern Control	93.853		GG012999	47,195	-
Johns Hopkins School of Medicine - Targeting a SMN antisense transcript for the treatment of SMA	93.853		2002916726	74,485	-
Massachusetts General Hospital - Micro-Coil Implants for Cortical Activation	93.853		229585	136,224	-
Massachusetts General Hospital - mRNA Splicing Modulation in Familial Dysautonomia	93.853		228844	168,397	-
Massachusetts General Hospital - Phase 3 trial of inosine for Parkinson's disease CCC	93.853		226396	26,728	-
New York University School of Medicine - Development and Function of 5HT3aR-Expressing Cortical GABAergic Interneurons (Project 1 Trx Yr 5 The role of genetic and activity dependent cues in the generation of 5HT3aR interneuron diversity)	93.853		12-00 33	275,912	-
Stanford University - Project 3- Neural Basis of Sensory-Guided Actions	93.853		61745076-130506	10,021	-
University of Massachusetts - Lowell - The Gut Microbiome In Parkinson Disease	93.853		S51110000036435	153,877	-
University of Pittsburgh - Integrating EHR and Genomics to Predict Multiple Sclerosis Drug Response	93.853		0055152(128815-3)	24,039	-
Total for CFDA 93.853				1,544,864	18,346
Beth Israel Deaconess Medical Center - Combined Immunologic Approaches to Cure HIV-1	93.855		1029871	75,097	-
Beth Israel Deaconess Medical Center - SLAM gene family controlled pathways to SLE	93.855		1029191	69,309	-
Beth Israel Deaconess Medical Center - Viral dynamics of rebound and control following early treatment of HIV/SIV	93.855		1060289	15,339	-
Beth Israel Deaconess Medical Center - Viral dynamics of rebound and control following early treatment of HIV/SIV	93.855		1060292	27,682	-
Board of Regents of the University of Wisconsin - Madison - Antimicrobial Drug Discovery from Coevolved Symbiotic Communities	93.855		732K745	421,310	-
Boston University School of Medicine - Phase 2 Pharmacodynamic Study of High-Dose Levofloxacin In MDR-TB Treatment	93.855		4500002132	11,784	-
Brandeis University - Unraveling the polymodal behavior of sensory transduction receptors	93.855		403164	97,876	-
Brigham and Women's Hospital, Inc - A Pilot Clinical Trial for HIV-1 Eradication	93.855		114094	17,216	-
Brigham and Women's Hospital, Inc - ACTG Leadership and Operations Center	93.855		110298	648,556	-
Brigham and Women's Hospital, Inc - AIDS Clinical Trials Group (ACTG)	93.855		115113	2,033	-
Brigham and Women's Hospital, Inc - Antiretroviral Drug Resistance in KwaZulu Natal	93.855		114727	1,311	-
Brigham and Women's Hospital, Inc - Core A: Metabolic factors that control the spectrum of human tuberculosis [TBRU]	93.855		111846	68,563	-
Brigham and Women's Hospital, Inc - Core B: Metabolic factors that control the spectrum of human tuberculosis [TBRU]	93.855		111896	49,799	-
Brigham and Women's Hospital, Inc - Finding and Treating TB to Reduce Transmission in Hospitals	93.855		111945	22,541	-
Brigham and Women's Hospital, Inc - Finding and Treating Unsuspected and Resistant TB to Reduce Hospital Transmission	93.855		111945	21,952	-

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Brigham and Women's Hospital, Inc - Project 1: Metabolic Factors that control the spectrum of Human Tuberculosis [TBRU]	93.855		111899	20,942	-
Brigham and Women's Hospital, Inc - Project 3: Metabolic factors that control the spectrum of human tuberculosis [TBRU]	93.855		111903	20,645	-
Brigham and Women's Hospital, Inc - Protection of organ transplant from ischemia reperfusion injuries	93.855		115242	19,827	-
Brigham and Women's Hospital, Inc - Relationships Between Adipose Tissue (AT) Density and Cardiometabolic Outcomes in A5260s	93.855		117360	23,393	-
Brigham and Women's Hospital, Inc - Role of SPM's on Markers of Inflammation in HIV-infected Adults	93.855		117360	429	-
Brigham and Women's Hospital, Inc - Role of tuberculosinyl metabolites in M. tuberculosis virulence	93.855		111839	68,870	-
Brigham and Women's Hospital, Inc - The Fetal and Childhood Environment, Oxidative Balance, Inflammation and Asthma	93.855		114196	62,583	-
Brigham and Women's Hospital, Inc - TIM Family of Genes: Role in T Cell Immunity and Tolerance (Core C)	93.855		112676	98,470	-
Case Western Reserve University - Resetting Immune Homeostasis: A Non-Invasive Approach Towards HIV Eradication	93.855		RES512471	17,088	-
Children's Hospital Boston - Molecular mechanisms of the RAG recombinase in V(D)J recombination and disease	93.855		RSTFD0000702034	197,125	-
Children's Hospital Boston - Novel Therapeutics targeting the membrane proximal external region of HIV-1 Env	93.855		GENFD0001349063	79,517	-
Children's Hospital Boston - Optimization and preclinical development of a TB Multiple Antigen Presenting System (MAPS) vaccine	93.855		GENFD0001394794	27,527	-
Children's Hospital Boston - School Inner-City Asthma Intervention Study	93.855		GENFD0001389988	285,669	-
Children's Hospital Boston - Structural Basis of Coreceptor Recognition by HIV-1 Envelope Spike	93.855		GENFD0001465861	923	-
Children's Hospital Boston - Structure-function analysis of infection- and vaccine-induced B-cell repertoire	93.855		GENFD0001341530	33,433	-
Children's Hospital Boston - Structure-function studies of the membrane-interacting domains of HIV-1 Env spike	93.855		GENFD0001164272	339,419	-
Dana-Farber Cancer Institute - Targeting Immunogenicity to the MPER Hinge and C-helix for BNAb Elicitation	93.855		1282102	208,001	-
Duke University - Antibacterial Resistance Leadership Group (ARLG)	93.855		2037694	1,109,808	-
Family Health International - The role of religious involvement, social support, and excessive alcohol use on antiretroviral therapy (ART) adherence among HIV-infected individuals across diverse international regions.	93.855		PO16002757	2,565	-
FHI Development 360 - HPTN 081 A phase 2b study to evaluate the safety and the efficacy of VRC01	93.855		PO15004266	889,060	889,060
FHI Development 360 - HPTN084 A Phase 3 Double Blind Safety and Efficacy Study of Long-Acting Injectable Cabotegravir Compared to Daily Oral TDF/FTC for Pre-Exposure Prophylaxis in HIV-Uninfected Women	93.855		PO17003036	84,410	69,660

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Health Research, Inc. - A Community Mycobacterial Systems Resource	93.855		4468-01	41,452	-
Johns Hopkins University - International Maternal Pediatric Adolescent AIDS Clinical Trials Group	93.855		2002419394	26,732	-
Johns Hopkins University - Johns Hopkins University Kampala-Nanning Clinical Trial Unit	93.855		2003241705	31,179	-
Johns Hopkins University - Statistical Designs and Methods for Double-Sampling for HIV/AIDS	93.855		2002962625	158,774	-
Massachusetts Eye and Ear Infirmary - Compounds and Strategies for Treating MRSA and VRE	93.855		2300158-01	530,993	-
Massachusetts General Hospital - Cardiovascular Disease Risk in HIV-infected Women: Sex-Specific Mechanisms of Risk and Risk Reduction among REPRIEVE Trial Participants	93.855		227111	55,266	-
Massachusetts General Hospital - Cost Effectiveness of Preventing HIV Complications	93.855		226292	75,633	-
Massachusetts General Hospital - Evolution of Gut Flora in HIV-exposed Uninfected Infants	93.855		226820	16,066	-
Massachusetts General Hospital - Gut microbiome evolution among HIV-exposed uninfected infants in Botswana	93.855		226820	229	-
Massachusetts General Hospital - Immune responses to Vibrio cholerae Infection and vaccination in Haiti	93.855		228579	2,913	-
Massachusetts General Hospital - Inflammation and the Vaginal Microbiome in HIV Acquisition	93.855		224082	129,106	-
Massachusetts General Hospital - Novel Methods to Inform HIV/TB Clinical Trial Development	93.855		226434	41,237	-
Massachusetts General Hospital - Optimizing HIV Care in Less Developed Countries	93.855		224628	63,216	-
Regents of the University of California - San Diego - Data and Biostatistics Core : Amazon Center of Excellence in Malaria Research	93.855		94004692	119,807	-
Regents of the University of California - San Diego - Quantitative Methods Research Project	93.855		93420631	82,282	-
Regents of the University of New Mexico - Stimulating protective CD4+ T cell immunity to Chlamydia trachomatis	93.855		3RT66	543,104	-
Regents of the University of New Mexico - Stimulating protective CD4+ T cell immunity to Chlamydia trachomatis (Bryce)	93.855		3RT66 Project 2	65,101	-
Stanford University - Big Data Analysis of HIV Risk and Epidemiology in Sub-Saharan Africa	93.855		61499525-123298	77,113	-
The Broad Institute - Elucidating Genetic Determinants of Resistance to Lassa Hemorrhagic Fever	93.855		5700161-5500000755	(26,000)	-
The Broad Institute - Infectious Disease Genomics: Pathogen Evolution, Emergence and Host Interactions	93.855		5035423-5500000970	21,232	-
Tulane University - Population-based Approach to malaria Research and Control	93.855		TUL-HSC-554287-15/16	(31)	-
University of California, San Diego - Automation and Evaluation of Real-Time Transmission Network-Based HIV Prevention Services in New York City	93.855		99689314	6,321	-
University of California, San Diego - Primary Infection Resource Consortium (PIRC)	93.855		93599352	45,765	-

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University of Massachusetts Medical School - Systems Genetics of Tuberculosis	93.855		OSP2018035	238,624	-
University of Massachusetts Medical School - Tuberculosis and T cell recognition	93.855		OSP2016182	172,709	-
University of Pennsylvania - Molecular Basis for Activity by Membrane Bound O-Acyltransferases.	93.855		568945	59,263	-
University of Pittsburgh - Core D: Synergies among Inhibitory Receptors in Tolerance Cancer and Antiviral Immunity	93.855		9011704 (126208-1)	58,123	-
University of Pittsburgh - Exploring viral infection with single cell transcriptomics	93.855		0051361 (127755-1)	136,739	-
University of Pittsburgh - HIV-TB Co-infection: Tracking TB emergence after asymptomatic (latent) infection	93.855		0038654 (124296-1)	54,112	-
University of Pittsburgh - Project 1: Synergies among Inhibitory Receptors in Tolerance Cancer and Antiviral Immunity	93.855		9011705 (126209-1)	908,338	-
University of Pittsburgh - Simplified Assays of Latent But Inducible HIV	93.855		0040738-125128-1	(27)	-
University of Pittsburgh - The Consequences of Reinfection with M. tuberculosis	93.855		0046965 (126363-1)	230,627	-
University of Washington - A Point-of-Care Assay to Measure Tenofovir for Monitoring PrEP and ART Adherence	93.855		UWSC9214	25,986	-
University of Washington - Malaria Evolution in South Asia	93.855		UWSC7748	919	-
University of Washington - Malaria Evolution in South Asia	93.855		UWSC9952	208,970	-
Westat Corporation - P1081- A PHASE IV RANDOMIZED TRIAL TO EVALUATE THE VIROLOGIC RESPONSE AND PHARMACOKINETICS OF TWO…	93.855		6101-S073	61,736	-
Yale University - Costimulatory Mechanisms of Autoimmunity (Composite)	93.855		A08022 (M11A10892)	84,400	-
Yale University - Costimulatory Mechanisms of Autoimmunity (Composite)	93.855		GR100959 (CON-80001032)	275,966	-
Yale University - Evaluating health and economic effects of targeted strategies in TB/HIV	93.855		GK000461 (CON-80000341)	93,460	-
Total for CFDA 93.855				9,857,507	958,720
Baylor College of Medicine - A Comprehensive Resource for Manipulating the Drosophila Genome	93.859		5601104954	378,841	-
Brandeis University - Core Account : Genetic and Physiological Mechanisms of Temperature Detection and Compensation	93.859		403235	140,433	-
Brandeis University - Genetic and Physiological Mechanisms of Temperature Detection and Compensation	93.859		403233	107,951	-
Brandeis University - Genetic and Physiological Mechanisms of Temperature Detection and Compensation (Project 3)	93.859		403234	481,985	-
Brigham and Women's Hospital, Inc - Improving polygenic prediction using large next-generation data sets	93.859		110757	197,876	-
Brigham and Women's Hospital, Inc - New Methods and Enhanced Software for Predicting Functional SNPs	93.859		114832	22,222	-
Cornell University - MECHANISTIC INVESTIGATION OF RNA-MEDIATED GENE REGULATION AND IMMUNITY	93.859		76899-10744	54,333	-
Fred Hutchinson Cancer Research Center - Statistical Methods for Prospective Evaluation of Biomarkers	93.859		901695	40,870	-
Massachusetts General Hospital - Competitive Antagonists for General Anesthetics: Novel Drugs for Improving Patient Care and Advancing Scientific Research	93.859		230354	36,360	-

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Massachusetts General Hospital - Core C: Protein Chemistry	93.859		224991	322,925	-
Massachusetts General Hospital - Project 1: Locating General Anesthetic Binding Sites in GABAA and Glycine Receptors	93.859		224993	337,492	-
Northwestern University - Regulation and Function of Intermediate Filaments in Cell Mechanics	93.859		60029185 HC	(2,192)	-
Northwestern University - Regulation and Function of Intermediate Filaments in Cell Mechanics	93.859		60048379 HC	99,885	-
Regents of the University of California - Berkeley - Molecular Regulation of Choanoflagellate-Bacteria Signaling Interactions	93.859		7893	(2,937)	-
Regents of the University of California - San Diego - Microscopy and Image Analysis of Unstained Macromolecules	93.859		53926897	14,101	-
Regents of the University of Michigan - Translation frameshift and regulation	93.859		3004135043	16,910	-
Regents of the University of Michigan - Translational frameshifting and U5-PBS:tRNALys interaction	93.859		3004633964	211,131	-
Rockefeller University - A minimally invasive synthetic biology-driven approach for natural products discovery	93.859		5U01GM110714-03	431,221	-
Rosalind Franklin University of Medicine and Science - Structure and function of the ATP synthase	93.859		212159HMS MUELLER	164,599	-
Rutgers, The State University of New Jersey - Membrane Protein Structure Using Evolutionary Couplings and Sparse NMR Data	93.859		232	95,899	-
University of Georgia - Collaborative Research: Statistical Approaches for Deciphering the Regulatory Role of Small RNAs on Alternative Splicing	93.859		RR193-658/S001241	84,973	-
University of Georgia Research Foundation, Inc. - Novel statistical tools for cell line specific epigenetic analysis	93.859		RR193-157/4945416	64,568	-
University of Pennsylvania - Non-Parametric Bayesian Methods for Causal Inference	93.859		565220	4,365	-
University of Washington - Ribosomal DNA copy number variation as a source of missing heritability in complex traits	93.859		UWSC10049	119,129	-
Virginia Institute of Marine Science - The impacts of host vaccination and selective breeding for disease resistance on pathogen transmission and ecology in freshwater aquaculture	93.859		718792-712683	34,816	-
Total for CFDA 93.859				3,457,756	-
Boston College - Intergenerational Impact of War	93.865		5105371-2	55,623	-
Brigham and Women's Hospital, Inc - BMI-Based Prenatal Vitamins To Ameliorate Oxidative Stress In Obese Pregnancy	93.865		117984	16,059	-
Brigham and Women's Hospital, Inc - Causes and consequences of mitochondrial dysfunction in oocytes and cumulus cells	93.865		117986	219,053	-
Brigham and Women's Hospital, Inc - Ondansetron and risk of congenital malformations	93.865		117025	11,259	-
Children's Hospital Boston - Child Health Research Career Development Award	93.865		GENFD0001410733	2,273	-
Children's Hospital Corporation - The Hippocampus and Brainstem in the Sudden Infant Death Syndrome	93.865		GENFD0001358317	55,260	-
Harvard Pilgrim Health Care, Inc - Pre- and Peri- Natal Predictors of Childhood Health and Obesity	93.865		AH000630	23,506	-

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Icahn School of Medicine at Mount Sinai - Advancing use of hair and salivary cortisol in stress-asthma research	93.865		0255-8001-4609	5,742	-
Institut de Recherche pour le Developpment-Program for HIV Prevention and Treatment - Antiviral prophylaxis to prevent perinatal transmission of HBV in Thailand	93.865		303223-3	(909)	-
Johns Hopkins University - Preterm Birth, Maternal and Cord Blood Metabolome, and Child Metabolic Risk	93.865		2003250340	197,347	-
Massachusetts General Hospital - Adolescent Medicine Trials Network for HIV/AIDS Intervention (ATN) Coordinating Center	93.865		231478	42,161	-
Massachusetts General Hospital - Improving Outcomes for HIV-infected children in South Africa and Cote d'Ivoire	93.865		224642	34,962	-
Massachusetts General Hospital - Long-term Impact of Fertility Treatments (LIFT) Study	93.865		231263	75,311	-
Massachusetts General Hospital - Natural Experiment of Value-Based Incentives for Preventative Services	93.865		228182	82,280	-
Massachusetts General Hospital - Tau/P-Tau as Biomarkers of Anesthesia- and Surgery-Induced Cognitive Impairment in Young Mice	93.865		228135	20,882	-
New York University - Type, timing, and turbulence of poverty-related risk: Long-term evidence from CSRP	93.865		P7479-03	103,084	-
Regents of the University of California - Los Angeles - Impact of HIV PMTCT Interventions on HBV Disease in HIV/HBV Co-infected Women and Infants	93.865		1560GUB041	61,061	-
Regents of the University of Michigan - Triggered escalating real-time adherence intervention to promote rapid HIV viral suppression among youth living with HIV failing first line antiretroviral therapy¿the TERA intervention	93.865		3004645883	97,445	-
Swedish Medical Center Foundation - Triggers of Abruptio Placentae - A Case Crossover Study of an Ischemic Placental Disorder	93.865		803033-C-Yr-1	1,268	-
Tulane University - Disparities in Recovery from Hurrican Katrina: NOLA@10	93.865		TUL-HSC-554776-16/17	233,958	17,016
Total for CFDA 93.865				1,337,625	17,016

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Boston University School of Medicine - Identifying epigenetic mechanisms underlying age-related disease risk in CHARGE	93.866		4500002101	4,782	-
Brigham and Women's Hospital, Inc - Boston OAIC: A Translational Approach to Function Promoting Anabolic Therapies	93.866		115900	12,602	-
Brown University - Changing Long-Term Care in America	93.866		669	24,453	-
Brown University - Which Post Acute Care Setting is best for Patients' Outcomes	93.866		1165	23,176	-
Hebrew SeniorLife - Cerebrovascular Mechanisms of Slow Gait and Falls	93.866		10.10.90072	82,682	-
Massachusetts General Hospital - Harnessing Diverse BioInformatic Approaches to Repurpose Drugs for Alzheimer's Disease	93.866		231367	203,534	-
National Bureau of Economic Research - Constructing U.S. Life Tables by Educational Status from 1990 through 2011	93.866		5R03AG050902-02	32,317	-
National Bureau of Economic Research - Evaluating Changes in Pharmaceutical Therapies for Medicare and Other Payers	93.866		41490 HMS	20,867	-
National Bureau of Economic Research - Improving Health Outcomes for an Aging Population	93.866		4135G.30.12.HMS	37,710	-
National Bureau of Economic Research - Improving Health Outcomes for an Aging Population	93.866		4135G.30.16.HKS	33,324	-
National Bureau of Economic Research - NBER Roybal Center for Behavior Change in Health and Savings: Reminders through Association	93.866		33-4121-07-02	33,955	-
National Bureau of Economic Research - The Effect of Medicaid Managed Care on the Health of Aging Individuals with Disabilities	93.866		4029E.24.00.15.HMS	12,564	-
National Bureau of Economic Research - Universal Health Care Insurance and the Adequacy and Efficiency of Health Care	93.866		4100A.01-HMS	133,852	-
National Bureau of Economic Research - What Does Health Insurance Do Evidence from the Oregon Health Insurance Lottery	93.866		4126B.HSPH	71,928	-
National Bureau of Economic Research - What Does Health Insurance Do Evidence from the Oregon Health Insurance Lottery	93.866		HSPH-33-4126A	33,386	-
Posit Science Corporation - Amplified Attention Training (AAT) for Age-related Cognitive Decline	93.866		PSC- 1006-14	(11,591)	-
Regents of the University of California - Cumulative Stress and Cardiovascular Risk in Middle Aged and Older Women	93.866		8783SC	(175)	-
Regents of the University of Michigan - Employment Trajectories Across the Life Course and Later-life Cognitive Health	93.866		3004315088	8,798	-
Regents of the University of New Mexico - Biodemography of Aging in Wild Chimpanzees	93.866		045446-87D7	95,339	-
Rush University Medical Center - MIND Diet Intervention to Prevent Alzheimers Disease	93.866		15052004-Sub04	1,342,645	-
Stanford University - Link between epigenetic and fat metabolism	93.866		61396029-122992	217,183	-
Syracuse University - Educational Attainment, Geography, and U.S. Adult Mortality Risk	93.866		29218-04806-S04	31,168	-
Trustees of Dartmouth College - Causes and Consequences of Health Care Efficiency	93.866		R140	6,168	-

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University of Colorado Denver - Pitavastatin to REduce Physical Function Impairment and FRailty in HIV (PREPARE)	93.866		2-5-A4588	58,129	-
University of Massachusetts - Amherst - Development and Application of a Metabolomic Profile of Chronic Distress to Diseases of Aging	93.866		18-010151B00	23,606	-
University of Massachusetts - Amherst - Treatment of randomly censored covariates in Alzheimer's disease studies	93.866		17-009565 A01	40,579	-
University of Southern California - Dietary Restriction, GH-IGF-1 and Mechanisms of Differential Cellular Protection	93.866		101993163	29,003	
University of Southern California - Dietary Restriction, GH/IGF-I and Mechanisms of Differential Cellular Protection	93.866		82275935	20,692	-
University of Southern California - Harmonized Diagnostic Assessment of Dementia (DAD) for Longitudinal Aging Study of India	93.866		66924119	3,751	-
University of Wisconsin - Integrative Pathways to Health and Illness Project 1 - Psychosocial Contributors	93.866		757K536	14,162	-
University of Wisconsin - Longitudinal Perspectives on Race and Health: Insights from Milwaukee	93.866		766K054	13,521	-
Total for CFDA 93.866				2,654,110	-
Massachusetts Eye and Ear Infirmary - The NEIGHBORHOOD: POAG Heritable Overall Operational Database	93.867		2300142-01-01	43,770	-
Northwestern University - The Mechanical Basis of Primary Open Angle Glaucoma	93.867		SP0028943-PROJ0007599	230,378	-
University of Rochester - Accelerating vision restoration through in-vivo cellular imaging of inner and outer retina	93.867		416635-G	121,535	-
University of Rochester - CRCNS Research Proposal: Perceptual decision-making in a probabilistic inference framework	93.867		417154G/UR FAO GR510693	138,092	-
Total for CFDA 93.867				533,775	-
Brigham and Women's Hospital, Inc - Building capacity for chronic kidney disease research in Guatemala	93.989		117983	19,401	-
Brigham and Women's Hospital, Inc - Innovative Interdisciplinary Approaches to Sustainable Airborne Infection Control	93.989		114925	5	-
College of Medicine of the University of Lagos - Building Research And Innovation in Nigeria's Science - (BRAINS)	93.989		Harvard-TW010134	159,260	-
Institute for Clinical Effectiveness and Health Policy - Promoting Capacity Building in Chronic Diseases Research in South America	93.989		E0047	70,468	-
Johns Hopkins School of Public Health - Multilevel Program and Policies to Reduce Chronic Disease for American Indians	93.989		2003231673	10,929	-
Northwestern University - Fogarty HIV Research Training Program for Low and Middle Income Country Institution	93.989		60042025	4,215	-
Universidad Peruana Cayetano Heredia - Planning to establish a regional center of NCD research training in Peru	93.989		No Awrd Nmbr	4,293	-
University of Ibadan - Medical Education Partnership in Nigeria	93.989		Harvard-TW010140	66,480	-
University of Jos - Support of Training and Mentoring in Nigeria for Academics [STAMINA]	93.989		UJHVD-STAMINA-Y3	117,243	-
Total for CFDA 93.989				452,294	-

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Abt Associates, Inc. - Evaluation of the Oncology Care Model	93.RD		46244	730,597	-
CDC - Public Health Service - Chemical Exposures, Personal Protective Equipment Effectiveness, and Reproductive Health in Nurses	93.RD		200-217-M-94186	15,105	-
City of Northampton - Healthy Hospital Evaluation (MDPH 1422 grant, City of Northampton, Massachusetts)	93.RD		45-18	15,000	-
Commonwealth of Massachusetts/Department of Public Health - Commonwealth of Massachusetts Department of Public Health Hospital Preparedness Program 2014 Exercise Series	93.RD		502718	105,265	-
Commonwealth of Massachusetts/Department of Public Health - Joint Use Activity Toolkit Technical Assistance	93.RD		INTF4120HH25002240 45	15,643	-
Commonwealth of Massachusetts/Department of Public Health - Nutrition standards baseline data collection- (MDPH Healthy Hospitals Evaluation)	93.RD		INTF4120HH25002240 47	27,178	-
Dimagi, Inc - NASCare: A mobile tool for the assessment and treatment of Neonatal Abstinence Syndrome	93.RD		HHSN271201700065C	12,420	-
Georgetown University - Laboratory Assessment of Tobacco Use Behavior and Exposure to Toxins Among Users of New Tobacco Products	93.RD		RX 4400-185-HU	862	-
ICF International, Inc - Mapping Executive Function: Translating Research Evidence for Application	93.RD		15JTPO0217	4,290	-
J. Craig Venter Institute - Bioinformatics Resource Centers for Infectious Diseases - Viral	93.RD		JCVI-14-003	19,678	-
Johns Hopkins University - Johns Hopkins Center of Excellence for Influenza Research and Surveillance	93.RD		121623	(17,013)	-
Kaiser Permanente - Evidence-based Practice Centers (EPCs) IV Program	93.RD		HHSA290201200015i	55,030	34,400
Leidos Biomedical Research, Inc - Conditionally replicating strains of BCG	93.RD		18X058Q1	5,497	-
MITRE Corporation - Model Portfolio Plan (ACO Regulations)	93.RD		120686	375,084	-
PPD Development, L.P. - CDISC Standards for HIV	93.RD		No Award Number	17,574	-
Rand Corporation - Implementation of the CAHPS Surveys for the Medicare Shared Savings Program, Physician Quality Reporting System and Other Physician Quality Programs	93.RD		9920150141	165,946	55,886
Rand Corporation - Implementation of the Medicare PDP and MA Plan Disenrollment Reasons Survey	93.RD		9920140154	(1,155)	-
Rand Corporation - Implementation of the Medicare PDP and MA Plan Disenrollment Reasons Survey	93.RD		9920180022	82,837	-
Rand Corporation - National Implementation of Medicare Advantage and Prescription Drug Plan CAHPS Surveys	93.RD		9920140165	298,398	121,497
Rand Corporation - National Implementation of Medicare Advantage and Prescription Drug Plan CAHPS Surveys	93.RD		9920180001	381,756	-
Rand Corporation - National Implementation of the CAHPS Hospice Survey	93.RD		400076	14,396	-

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Social + Scientific Systems, Inc. - A Randomized Double Blind Study Comparing Oseltamivir versus Placebo for the Treatment of Influenza in Low Risk Adults	93.RD		CRB-SSS-S-16-004788	113,893	-
Social + Scientific Systems, Inc. - IRC002: A Randomized, Open-Label, Phase 2, Multicenter Safety and Exploratory Efficacy Study of Investigational anti-Influenza Immune Plasma for the Treatment of Influenza and IRC003: A Randomized D	93.RD		CRB-SSS-S-15-004750	84,633	-
Social + Scientific Systems, Inc. - IRC005 - Randomized Double-Blind Phase 3 Study Comparing Efficacy and Safety of Anti-Influenza Immune Plasma	93.RD		CRB-SSS-S-15-004704	73,267	-
The Broad Institute - Host Genetic Factors in Resistance to Lassa Hemorragic Fever	93.RD		6220074-5500000667	(5,563)	-
Vanderbilt University Medical Center - Opioid Use in Nursing Homes	93.RD		VUMC63498	13,676	-
Vanderbilt University Medical Center - Trends in Nursing Home-Hospice Contracting and Common Ownership Between Hospice Agencies and Nursing Homes	93.RD		VUMC63613	26,874	-
Westat Corporation - CDISC HIV Standards	93.RD		8989-PO027	3,621	-
Westat Corporation - NICHD International and Domestic Pediatric and Maternal HIV and Other High Priority Infectious Diseases Data Coordinating Center	93.RD		6579-S42	55,405	-
Westat Corporation - Prospective Cohort Study of HIV and Zika in Infants and Pregnancy Study (HIV-ZIPS)	93.RD		6101-S079	129,598	-
Westat Corporation - Prospective Cohort Study of HIV and Zika in Infants and Pregnancy Study (HIV-ZIPS)	93.RD		6579-S42	141,613	-
Total for 93.RD Subaward Received R & D				2,961,405	211,783
Total for DHHS Subaward Received R & D Cluster				**58,049,675**	**2,069,945**
EPA					
Environmental Protection Agency - Assessing the Potential Impact of Global Warming on Indoor Air Quality and Human Health at two US Cities: Boston, MA and Atlanta, GA	66.509		83575501-0	238,733	110,619
Total for CFDA 66.509				238,733	110,619
Drexel University - Susceptibility to Multiple Air Pollutants in Cardiovascular Disease	66.511		No Awrd Nmbr	7,115	-
Health Effects Institute - Assessing Adverse Health Effects of Long-Term Exposure to Low Levels of Ambient Air Pollution	66.511		4953-RFA14-3/16-4	598,893	53,203
Health Effects Institute - Chemical and Physical Characterization of Non-Tailpipe and Tailpipe Emissions at 100 Locations near Major Roads in the Greater Boston Area	66.511		4948-RFPA14-1-15-2	130,441	-
Total for CFDA 66.511				736,449	53,203
Total for EPA Subaward Received R & D				975,182	163,822
National Aeronautics and Space Administration (NASA)					
Jet Propulsion Laboratory - Consortium for Cold Atoms in Space	43.001		1592883	70,618	-
Lunar and Planetary Institute - Occurrence and Duration of Potentially Habitable Liquid Water Environments on a Cold Early Mars	43.001		02261-01	18,841	-
Massachusetts Institute of Technology - Foundations of Complex Life: Evolution, Preservation, and Detection on Earth and Beyond	43.001		5710003359	41,265	-
Regents of the University of California - Irvine - Quantifying and reducing uncertainty in future global and local sea-level estimates: linking physics, observations, and risk analysis to inform climate adaptation	43.001		2017-3520	22,128	-

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Regents of the University of California - San Diego - Gravitational Tests via Lunar Laser Ranging: APOLLO Analsys and Acquisition	43.001		10323360	54,780	-
Regents of the University of California - San Diego - Testing Gravity via Lunar Laser Ranging: Maximizing Data Quality	43.001		91028280	41,551	-
Smithsonian Astrophysical Observatory - Participation in CubeSat X-ray Telescope (CubeX) for Elemental Abundance Mapping of Airless Bodies and X-ray Pulsar Navigation	43.001		SV7-87017	40,565	-
Smithsonian Astrophysical Observatory - Resolving the High Energy Universe with Gravitational Lensing	43.001		PF5-160132	91,768	-
University Corporation for Atmospheric Research - Socioeconomic Benefits of Improved Forecasts on Decision-Making in Public Health and Air Quality	43.001		Z16-20895	65,816	-
University of Chicago - Ocean and cryosphere dynamics and the habitable zone: through thick and thin ice	43.001		FP062796-A	96,034	-
University of Colorado at Boulder - Airborne seasonal survey of CO2, CH4 and CO across the ABoVE Domain	43.001		1556305	69,540	-
WGBH Educational Foundation - Bringing the Universe to America's Classroom	43.001		K201701211	27,066	-
Total for CFDA 43.001				639,972	-
Arizona State University - High dimensional biology to understand the functional response of Salmonella to long-term multigenerational growth in the chronic stress of microgravity	43.007		17-034	294	-
Total for CFDA 43.007				294	-
Atmospheric and Environmental Research, Inc - Prototype regional carbon monitoring systems for urban regions	43.RD		P2088-003	126,649	-
Board of Regents of the University of Arizona - JWST Near Infrared Camera (NIRCam)	43.RD		152977	175,049	-
California Institute of Technology - Impacts of Droughts on Carbon Stocks and Fluxes of Amazonian Forest Ecosystems	43.RD		1598815	46,613	-
Jet Propulsion Laboratory - Breaking the Ultimate Barrier to Characterizing Other Earths	43.RD		1581003	90,691	-
Jet Propulsion Laboratory - CARVE Airborne Observations of Carbon Dynamics in the Vulnerable Arctic-Boreal Ecosystems of Northwestern Canada - CARVE-CAN	43.RD		1511969	14,819	-
Jet Propulsion Laboratory - EVI-2 Multi-Angle Image for Aerosols (MAIA) Proposal	43.RD		1587270	3,160	-
Jet Propulsion Laboratory - HCN emissions from explosive volcanic eruptions: Evidence for abiotic organic synthesis in subaerial volcanic-hydrothermal systems	43.RD		1578395	24,276	-
Jet Propulsion Laboratory - High Operational Temperature MWIR Detectors with Optical Concentrators	43.RD		1564182	22,885	-
Jet Propulsion Laboratory - New Tools for Understanding Exoplanet Atmospheres from Spectroscopy	43.RD		1557615	106,385	-
Jet Propulsion Laboratory - Science With the Euclid Mission	43.RD		1566700	28,800	-
Johns Hopkins University - Resolving the Milky Way and Nearby Galaxies with WFIRST	43.RD		2003064015	67,979	-
Massachusetts Institute of Technology - REXIS for OSIRIS-Rex Mission Phase E	43.RD		5923-003	347,067	-
Smithsonian Astrophysical Observatory - Participation in Tropospheric Emissions: Monitoring of Pollution (TEMPO) Program	43.RD		SV3-83020	28,024	-
Southwest Research Institute - Juno Project	43.RD		699042X	371,155	-
Total for 43.RD Subaward Received R & D				1,453,552	-
Total for NASA Subaward Received R & D				**2,093,818**	-

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Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	Federal Expenditures	Passed to Sub-Recipients
National Endowment for the Humanities					-
Columbia University - Relocating Heart Disease in the Tropics: Race, Risk and Modernization Post-Independence India	45.161		1(GG008407-01)	12,595	-
Total for CFDA 45.161				12,595	-
Total for National Endowment for the Humanities Subaward Received R & D				**12,595**	-
National Science Foundation					-
Boise State University - SNM: Atomically Precise, Defect Free, DNA Masks with Embedded Metrology	47.041		5923-A	193,262	-
Massachusetts Institute of Technology - DMREF: Computational Design of Next-generation Nanoscale DNA-based Materials	47.041		74850	19,447	-
Massachusetts Institute of Technology - DMREF: Computational Design Principles for Functional DNA-Based Materials	47.041		5710003576	71,424	-
Massachusetts Institute of Technology - EFRI ACQUIRE: Scalable Quantum Networks with Error-Corrected Semiconductor Qubits	47.041		5710004174	622,197	-
Massachusetts Institute of Technology - EFRI-ODISSEI: Programmable Origami for Integration of Self-assembling Systems in Engineered Structures	47.041		5710003264	1,871	-
Trustees of Boston University - Nanosystems Engineering Research Center for Directed Multiscale Assembly of Cellular Metamaterials with Nanoscale Precision: CELL-MET	47.041		4500002501	93,246	-
Total for CFDA 47.041				1,001,447	-
Association of Universities for Research in Astronomy, Inc. - LSST Atmospheric Calibration	47.049		N67177C-L	101,908	-
California Institute of Technology - Powering the Planet: A CCI Center for the Direct Conversion of Sunlight into Chemical Fuel	47.049		68D-1094592	189,029	-
Columbia University - Columbia MRSEC	47.049		2GG008600	72,293	-
Massachusetts Institute of Technology - Center for Ultracold Atoms	47.049		5710003095	272,493	-
Massachusetts Institute of Technology - NSF PFC Center for Ultracold Atoms Renewal	47.049		128237	1,745,361	-
National Radio Astronomy Observatory - NRAO Student Observing Award to Kate Alexander	47.049		SOSPA4-002	19,000	-
National Radio Astronomy Observatory - NRAO Student Observing Award to Ryan Loomis	47.049		SOSPA4-011	18,800	-
Northwestern University - Quantum Information and Quantum Computation for Chemistry: Challenges and Opportunities	47.049		SP0040115-PROJ0011214	(13,395)	-
Northwestern University - Surfaces of Secondary Organic Aerosol Particles	47.049		SP0036066-PROJ0009763	90,796	-
Rutgers, The State University of New Jersey - Design and Analysis of Optimization Experiments with Internal Noise to Maximize Alignment of Carbon Nanotubes	47.049		208	48,572	-
University of Nebraska at Lincoln - Mathematics Clusters Engaging Women (CREW)	47.049		185-4	670	-
Yale University - ACME: Advanced Cold Molecule Electron Electric Dipole Moment Search	47.049		C15D11959(D02087)	576,288	-
Total for CFDA 47.049				3,121,815	-

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Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	Federal Expenditures	Passed to Sub-Recipients
California Institute of Technology - MRI: Development of a 150 GHz Receiver for the BICEP Array CMB Polarimeter	47.050		44E-1098313	7,229	-
Center for Dark Energy Biosphere Investigations - Investigating the Bioavailability and Degradation of Sedimentary Organic Matter	47.050		76197013	112,784	-
Massachusetts Institute of Technology - INSPIRE: Search for Records of the Hadean Dynamo in Detrital Zircons	47.050		5710004192	117,529	-
Southern California Earthquake Center - SCEC5 Research Collaboration at Harvard University	47.050		91255067	38,371	-
Total for CFDA 47.050				275,913	-
Clemson University - Advanced Cyberinfrastructure - Research and Educational Facilitation: Campus-Based Computational Research Support	47.070		1997-206-2009949	52,418	-
Duke University - New Approaches for Ranking in Machine Learning NSF-CAREER IIS-1053407	47.070		333-2325	18,030	-
Massachusetts Institute of Technology - A Center for Brains, Minds, and Machines: The Science and the Technology of Intelligence	47.070		5710003525	581,929	111,338
Trustees of Boston University - CIF21 DIBBs: EI: North East Storage Exchange,	47.070		4500002550	182,512	-
University of Southern California - NeTS: Large: Collaborative Research: Programmable Inter-Domain Observation and Control	47.070		101504188	13,520	-
Total for CFDA 47.070				848,409	111,338
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	(701)	-
Cary Institute of Ecosystem Studies - Long-Term Ecological Research at the Hubbard Brook Experimental Forest	47.074		3298/200201814	(52)	-
Northern Arizona University - NSFDEB-NERC: Addressing the plant growth source-sink debate through observations, experiment, and modeling	47.074		1003391-01	17,551	-
Regents of the University of California - Berkeley - Synthetic biology for yeast	47.074		8319	172,267	-
Research Foundation of CUNY (City University of New York) - Dimensions US-BIOTA-Sao Paulo: A Multidisciplinary Framework for Biodiversity in the Brazilian Atlantic Hotspot	47.074		40D76-A	23,076	-
The University of Memphis - Phylogeny and diversification in the uniquely diverse beetle family Curculionidae (true weevils)	47.074		S-40300	11,480	-
University of New Hampshire - Collaborative Research: Digitization TCN: The Macroalgal Herbarium Consortium: Accessing 150 Years of Specimen Data to Understand Changes in the Marine/Aquatic Environment	47.074		14-014	17,977	-
Total for CFDA 47.074				241,598	-
Northeastern University - CRISP Type 2: Interdependent Network-based Quantification of Infrastructure Resilience (INQUIRE)	47.075		502536-78051	14,605	-
University of Maryland, College Park - Economic Mobility: The Impact of Individual, Parent and Spatial Factors using National Survey Data	47.075		53730-Z3111201	44,733	-
University of Texas - Austin - A Lifespan Conceptual Model of Ethnic-Racial Identity	47.075		UTA17-001098	7,179	-
Total for CFDA 47.075				66,517	-

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Carnegie Mellon University - Collaborative Research: Using Educational Data Mining Techniques to Uncover How and Why Students Learn from Erroneous Examples	47.076		1122530-383320	34,469	-
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	31,896	-
Total for CFDA 47.076				66,365	-
CRDF Global - Assessing the burden of non-communicable diseases for people living with HIV in Uganda	47.079		OISE-17-62965-1	205,154	29,527
University of Chicago - PIRE: International Partnership for Cirrus Studies	47.079		FP065300-A	19,633	-
Total for CFDA 47.079				224,787	29,527
National Radio Astronomy Observatory - The NRAO Student Observing Support Award to Ryan Loomis	47.RD		No Awrd Nmbr	2,640	-
Smithsonian Astrophysical Observatory - The Event Horizon Telescope Experiment (MSIP)	47.RD		SV5-85010	39,079	-
Total for CFDA 47.RD				41,719	-
Total for National Science Foundation Subaward Received R & D				**5,888,570**	**140,865**
Social Security Administration					
National Bureau of Economic Research - Disability Insurance and Treatment for Pain	96.007		51010.05:DRC17-15	34,245	-
National Bureau of Economic Research - Geographic Variation in SSDI Receipt: The Role of Claimants Representatives - Continued	96.007		51010.05:DRC17-18	14,327	-
National Bureau of Economic Research - The Effect of the Great Recession on the Flow of SSDI Claims to ALJ's	96.007		51010.04-HMS	(95)	-
National Bureau of Economic Research - The Effects of Medicaid Policy on the Health Care Utilization and Health of SSI Beneficiaries	96.007		51010.06:DRC18-13	9,611	-
Total for CFDA 96.007				58,088	-
Total for Social Security Administration Subaward Received				**58,088**	-
Total for R & D Cluster Subaward Received				**87,656,378**	**2,531,449**
Total for R & D Cluster				**622,533,923**	**129,096,169**

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Student Financial Assistance Cluster					
Direct Awards					
Department of Education					
Federal SEOG 2017-2018	84.007	P007A171874		2,213,859	-
Total for CFDA 84.007				2,213,859	-
Federal Work-Study Program (On Campus)	84.033	P033A171874		1,355,319	-
Federal Work-Study Program (Off Campus)	84.033	P033A171874		1,042,579	-
Total for CFDA 84.033				2,397,898	-
Federal Pell Grant 2017-2018	84.063	P063P170187		5,601,702	-
Total for CFDA 84.063				5,601,702	-
Teacher Education Assistance for College and Higher Education Grant (TEACH) 2017-2018	84.379	P379T170187		7,472	-
Total for CFDA 84.379				7,472	-
Federal Family Education Loans	84.032L				
Outstanding Loans as of July 1, 2017	84.032L			364,990	-
Total for CFDA 84.032L				364,990	-
Federal Perkins Loans	84.038				
Outstanding Loans as of July 1, 2017	84.038			59,869,288	-
New Loans Issued During 2017-2018	84.038			177,250	-
Total for CFDA 84.038				60,046,538	-
Federal Direct Student Loans	84.268			136,266,504	-
Total for CFDA 84.268				136,266,504	-
Total for Department of Education Direct Award				206,898,963	-
Department of Health and Human Services (DHHS)					
Health Professions Student Loans, Primary Care Loans and Loans for Disadvantaged Students (HPSL/PCL/LDS)	93.342				
Outstanding Loans as of July 1, 2017	93.342			12,040,881	-
New Loans Issued During 2017-2018	93.342			1,182,948	-
Total for CFDA 93.342				13,223,829	-
Total for DHHS Direct Award				13,223,829	-
Total for Student Financial Assistance Cluster Direct Award				220,122,792	-
Total for Student Financial Assistance Cluster				220,122,792	-
Other Programs					
Direct Awards					
Agency for International Development					
The Lower Mekong Public Policy Initiative	98.U01	AID-OAA-A-13-00033		417,068	275,222
Total for CFDA 98.U01				417,068	275,222
Total for Agency for International Development Other Programs Direct Award				**417,068**	**275,222**

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Department of Defense					
Pass-through to BWH: 2015 DURIP: Real-time Analysis of Breath Biomarkers Using Selected Ion Flow Tube Mass Spectrometry for Research on the Restorative Effects of Sleep	12.300	N00014-16-1-2965		3,198	3,198
Total for CFDA 12.300				3,198	3,198
Equipment for Ultracold Molecular Assembly	12.431	W911NF1810194		80,408	-
Total for CFDA 12.431				80,408	-
STARTALK: Bridges to Russia	12.900	H98230-17-1-0075		65,702	-
STARTALK: Bridges to Russia	12.900	H98230-18-1-0219		18,317	-
Total for CFDA 12.900				84,019	-
Curriculum Development for the National Guard Homeland Security Institute, Phase V	12.U01	W912SV-15-P-0143		114	-
Total for 12.U01				114	-
Driving Government Performance: Leadership Strategies that Produce Results	12.U02	SP4703-17-C-0024		186,687	-
Total for 12.U02				186,687	-
General and Flag Officer Homeland Security Executive Seminar	12.U03	W912SV-17-P-0033		(592)	-
Total for 12.U03				(592)	-
Leadership in Homeland Security	12.U04	W912SV-17-C-2004		141,105	-
Total for 12.U04				141,105	-
Total for Department of Defense Other Programs Direct Award				**494,939**	**3,198**
Department of Education					
Foreign Language and Area Studies Fellowships	84.015	P015B140085-16		242,707	-
Foreign Language and Area Studies Fellowships	84.015	P015B140089-17		281,136	-
Foreign Language and Area Studies for Davis Center for Russian and Eurasian Studies	84.015	P015B140087 - 17		252,823	-
National Resource Centers for the Committee on African Studies	84.015	P015A140089 - 17		288,536	-
Total for CFDA 84.015				1,065,202	-
Fulbright-Hays Doctoral Dissertation Research Abroad	84.022A	P022A170026		122,033	-
Total for CFDA 84.022A				122,033	-
Total for Department of Education Other Programs Direct Award				**1,187,235**	-
Department of Homeland Security					
Evaluation of the Greater Boston Countering Violent Extremism (CVE) Pilot Program	97.108	2015-ST-108-FRG005		242,411	-
Total for CFDA 97.108				242,411	-
Total for Department of Homeland Security Other Programs Direct Award				**242,411**	-
Department of State					
Development of Fulbright University Vietnam and Transition of Vietnam Fulbright School of Public Policy and Management	19.011	S-ECAGD-15-GR-1061		145,457	57
Total for CFDA 19.011				145,457	57
Crossroad of Empires: From the Monumental Lydian Gate to the Roman Road and Mosaics at Sardis	19.040	S-TU-150-17-GR-051		23,324	-
Total for CFDA 19.040				23,324	-
Disability Rights, Rule of Law, and Civil Society in China	19.345	S-LMAQM-17-GR-1102		314,774	-
Global Internet Censorship Measurement Consortium	19.345	S-LMAQM-17-GR-1069		402,946	68,352
Total for CFDA 19.345				717,720	68,352

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FY2016 Vietnam Fulbright Economics Teaching Program (FETP)	19.400	S-ECAGD-16-GR-1025		(1,717)	-
Total for CFDA 19.400				(1,717)	-
Total for Department of State Other Programs Direct Award				**884,784**	**68,409**
Department of the Treasury					
Low Income Taxpayer Clinic	21.008	17-LITC0231-02-02		35,941	-
Low Income Taxpayer Clinic	21.008	18-LITC0231-03-00		50,363	-
Total for CFDA 21.008				86,304	-
Total for Department of the Treasury Other Programs Direct Award				**86,304**	-
Department of Veterans Affairs					-
IPA - Cai, Tianxi	64.U01	6007023		3,460	-
Total for 64.U01				3,460	-
Total for Department of Veterans Affairs Other Programs Direct Award				**3,460**	-
Department of Health and Human Services (DHHS)					
Prevention Policy Modeling Lab	93.084	6NU38PS004644-04-04		1,825,233	620,865
Total for CFDA 93.084				1,825,233	620,865
Equitable Care For Elders	93.129	5 U30CS307880200		241,282	-
Total for CFDA 93.129				241,282	-
Participatory Mapping to Identify and Support at-Risk Populations in Emergency Preparedness	93.U01	200-2016-92417		390,980	-
Total for 93.U01				390,980	-
Total for DHHS Other Programs Direct Award				**2,457,495**	**620,865**
Institute of Museum and Library Services					-
Evaluation at HMSC: Capacity Building	45.301	MA-10-16-0200-16		4,709	-
Evolving Curricula: Collaborating with Middle School Teachers on the Next Generation Science Standards	45.301	MA-10-15-0039-15		53,347	-
Preserving an American Treasure: A New Storage System for the Mineral Collection at Harvard Universitys Mineralogical and Geological Museum	45.301	MA-30-15-0159-15		17,372	-
Total for CFDA 45.301				75,428	-
Building for Tomorrow: Collaborative Development of Sustainable Infrastructure for Architectural and Design Documentation	45.312	LG-73-17-0004-17		52,775	-
Scaling Up Perma. cc: Ensuring the Integrity of the Digital Scholarly Record	45.312	LG-70-16-0023-16		222,284	-
Total for CFDA 45.312				275,059	-
Foundations to Actions: Extending Innovations in Digital Libraries in Partnership with NDSR Learners	45.313	RE-40-16-0082-16		186,540	42,876
Testing the National Digital Stewardship Residency (NDSR) Model in Boston, MA	45.313	RE-06-13-0055-13		(2)	-
Total for CFDA 45.313				186,538	42,876
Total for Institute of Museum and Library Services Other Programs Direct Award				**537,025**	**42,876**
NASA					
The 8th International GEOS-Chem Meeting (IGC8)	43.001	NNX17AD86G		13,992	-
Total for CFDA 43.001				13,992	-
Total for NASA Other Programs Direct Award				**13,992**	-

The accompanying notes are an integral part of this schedule.

Harvard University
Schedule of Expenditures of Federal Awards
Year Ended June 30, 2018

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	Federal Expenditures	Passed to Sub-Recipients
National Endowment for the Humanities					
Nuremberg Tribunals Project - Trial 9	45.149	PW-253721-17		93,343	-
The Giza Project: Consolidated Archaeological Reference Database II	45.149	PW-234775-16		12,001	-
Total for CFDA 45.149				105,344	-
What Happened to the Civil Rights Movement	45.163	EH-250874-16		25,975	-
Total for CFDA 45.163				25,975	-
Animal-Shaped Vessels from the Ancient World: Feasting with Gods, Heroes, and Kings	45.164	GI-250140-16		5,766	-
Digital Giza	45.164	MN-258709-18		67,073	2,580
Total for CFDA 45.164				72,839	2,580
Total for National Endowment for the Humanities Other Programs Direct Award				**204,158**	**2,580**
Total for Other Programs Cluster Direct Award				**6,528,871**	**1,013,150**
Other Programs					
Subaward Received					
Agency for International Development					
Brigham and Women's Hospital, Inc - Health Advancement In Vietnam (HAIVN)	98.001		116036	4,543	-
Concern Worldwide U.S. Inc - Humanitarian Leadership Program: Developing the Next Generation of Humanitarian Leaders	98.001		BBE-HVD-001	196,443	-
Total for CFDA 98.001				200,986	-
Total for Agency for International Development Other Programs Subaward Received				**200,986**	-
Department of Agriculture					
University of New England - Supermarket Science: Multipronged Approaches to Increasing Fresh, Frozen and Canned Fruit and Vegetable Purchases	10.310		230060-05	109,607	-
Total for CFDA 10.310				109,607	-
Delta Regional Authority - Authentic Leadership: Delta Leadership Institute	10.U01		No Awrd Nmbr	127,699	-
Total for CFDA 10.U01				127,699	-
Total for Department of Agriculture Other Programs Subaward Received				**237,306**	-
Department of Energy					
Krell Institute - Krell Institute DOE Computational Science Graduate Fellowship	81.049		No Awrd Nmbr	17,212	-
Total for CFDA 81.049				17,212	-
Los Alamos National Laboratory - Genomics Capacity Building for Rapid Disease Detection and Diagnosis: Strengthened by Responsible Science, Bioethics, and Mentorship	81.U01		420632	15,534	-
Total for 81.U01				15,534	-
Total for Department of Energy Other Programs Subaward Received				**32,746**	-

The accompanying notes are an integral part of this schedule.

Harvard University
Schedule of Expenditures of Federal Awards
Year Ended June 30, 2018

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	Federal Expenditures	Passed to Sub-Recipients
Department of Housing & Urban Development					
Neighborhood Reinvestment Corporation - A Shared Future: Fostering Communities of Inclusion in an Era of Inequality - Neighborworks	14.U01		No Awrd Nmbr	28,393	-
Total for CFDA 14.U01				28,393	-
Neighborhood Reinvestment Corporation - Achieving Excellence in Community Development	14.U02		No Awrd Nmbr	346,522	-
Total for CFDA 14.U02				346,522	-
Neighborhood Reinvestment Corporation - THE EDWARD M. GRAMLICH FELLOWSHIP IN COMMUNITY AND ECONOMIC DEVELOPMENT SUMMER FELLOWSHIP PROGRAM - Summer 2018	14.U03		No Awrd Nmbr	10,000	-
Total for CFDA 14.U03				10,000	-
Total for Department of Housing & Urban Development Other Programs Subaward Received				**384,915**	-
Department of State					
Trust for University Innovation in Vietnam - Development for Fulbright University Vietnam	19.451		100002-1051	395,129	-
Total for CFDA 19.451				395,129	-
George Mason University - Spatiotemporal Innovation Centers for the Secondary Cities Project - I/UCRC	19.U01		E2041721	18,000	-
Total for 19.U01				18,000	-
Total for Department of State Other Programs Subaward Received				**413,129**	-
Department of Health and Human Services (DHHS)					
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	126,125	-
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-GH002098	379,969	-
Total for CFDA 93.067				506,094	-
Commonwealth of Massachusetts/Center for Health Information and Analysis - DPH-OPEM Infectious Disease Emergency Response Plan	93.074		INTF6208HH4300522160	37,417	-
Total for CFDA 93.074				37,417	-
Association of State and Territorial Health Officials - Essential Skills for Newly Appointed State and Territorial Health Officers	93.424		1584	73,784	-
Total for CFDA 93.424				73,784	-
Trustees of Boston University - Improving HIV Health Outcomes through the Coordination of Supportive Employment and Housing Services	93.928		4500002546	5,524	-
Total for CFDA 93.928				5,524	-
Commonwealth of Massachusetts/Center for Health Information and Analysis - MDPH Health and Medical Coalition Exercise Program	93.U01		INTF6208HH4183222192	389,825	-
Total for CFDA 93.U01 Subaward Received				389,825	
Total for DHHS Other Programs Subaward Received				**1,012,644**	-

The accompanying notes are an integral part of this schedule.

Harvard University
Schedule of Expenditures of Federal Awards
Year Ended June 30, 2018

Federal Grantor/Pass-through Grantor/Program or Cluster Title	CFDA Number	Award Number	Pass-through Entity Identification Number	Federal Expenditures	Passed to Sub-Recipients
Institute of Museum and Library Services					
New York Botanical Garden - BHL Expanding Access to Biodiversity Literature	45.312		NYBG-LG70-15-0138-02	58,319	-
Regents of the University of California - Cobweb: A Collaborative Collection Development Platform for Web Archiving	45.312		LG-70-16-0093-16-Harvard	18,428	-
Total for CFDA 45.312				76,747	-
Total for Institute of Museum and Library Services Other Programs Subaward Received				**76,747**	-
Library of Congress					
Waynesburg University - Teaching Curriculum: Furthering Teacher Learning of Effective Instructional Practices and Student Learning with Primary Sources	42.U01		No Awrd Nmbr	971	-
Total for CFDA 42.U01				971	-
Total for Library of Congress Other Programs Subaward Received				**971**	-
National Endowment for the Humanities					
Bryn Mawr College - College Women: Documenting the Student Experience at the Seven Sisters Colleges	45.149		43125	9,102	-
Total for CFDA 45.149				9,102	-
Total for National Endowment for the Humanities Subaward Received				**9,102**	-
Total for Other Programs Cluster Subaward Received				**2,368,546**	-
Total for Other Programs Cluster				**8,897,417**	**1,013,150**
Grand Total for SEFA				**$ 851,554,132**	**$ 130,109,319**

The accompanying notes are an integral part of this schedule.

Harvard University
Notes to Schedule of Expenditures of Federal Awards
Year Ended June 30, 2018

1. Basis of Presentation

The accompanying Schedule of Expenditures of Federal Awards (the "Schedule") summarizes the expenditures of Harvard University (the "University") under programs of the federal government for the year ended June 30, 2018. The information in this Schedule is presented in accordance with the Title 2 U.S. *Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). 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 in the normal course of business. 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 and agencies and departments of the Federal government and all subawards to the University by nonfederal or 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 the Uniform Guidance and OMB Circular A-21, *Cost Principles for Educational Institutions*, as applicable, wherein certain types of expenditures are not allowable or are limited to reimbursement.

3. Facilities and Administrative Costs

The University applies its predetermined approved facilities and administrative rate when charging indirect costs to federal awards rather than the 10% de minimis cost rate as described in Section 200.414 of the Uniform Guidance. 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, 2019. The School of Public Health has predetermined rates through June 30, 2023.

4. 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. Loans outstanding at the beginning of the year, the administrative cost allowance and loans made during the year are included in the federal expenditures presented in the Schedule. The balance of loans outstanding at June 30, 2018 consists of:

	CFDA #		Amount
Perkins	84.038	$	47,026,662
FFEL (includes FISL, Sub Stafford, Unsub Stafford, and SLS)	84.032		351,932
HPSL/LDS/PCL	93.342		12,350,290
Total Federal Student Loans		$	59,728,884

The University participated in the School as Lender program (CFDA# 84.032L) beginning in 1977 until the program was ended in June 2010. There were no new loans distributed to students in connection with this program during the year ended June 30, 2018.

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, 2018 are summarized as follows:

	CFDA #		Amount
Perkins	84.038	$	177,250
Direct Subsidized Stafford	84.268		860,514
Direct Unsubsidized Stafford	84.268		70,959,589
Direct PLUS	84.268		3,645,573
Direct Grad PLUS	84.268		60,800,828
HSPL/PCL/LDS	93.342		1,182,948
		$	137,626,702

Part II

Reports on Internal Control and Compliance

Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

To the Joint Committee on Inspection of the Governing Boards of Harvard University:

We have audited, 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, the consolidated financial statements of Harvard University (the "University"), which comprise the consolidated balance sheet as of June 30, 2018, 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, and have issued our report thereon dated October 25, 2018.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the University's internal control over financial reporting ("internal control") to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we do not express an opinion on the effectiveness of the University's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the University's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

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Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

PricewaterhouseCoopers LLP

October 25, 2018

Report of Independent Auditors 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 the Uniform Guidance

To the Joint Committee on Inspection of the Governing Boards of Harvard University:

Report on Compliance for Each Major Federal Program

We have audited Harvard University's (the "University") compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on each of the University's major federal programs for the year ended June 30, 2018. The University's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

Management's Responsibility

Management is responsible for compliance with federal statutes, regulations and the terms and conditions of its federal awards applicable to its federal programs.

Auditors' Responsibility

Our responsibility is to express an opinion on compliance for each of the University's major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the University's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of the University's compliance.

Opinion on Each Major Federal Program

In our opinion, the University complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2018.

Report on Internal Control Over Compliance

Management of the University is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the University's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the University's internal control over compliance.

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

PricewaterhouseCoopers LLP

December 11, 2018

Part III

Audit Findings and Questioned Costs

Harvard University
Schedule of Findings and Questioned Costs
Year Ended June 30, 2018

I. Summary of Auditors' Results

Financial statements

Type of audit report issued	Unmodified
Internal control over financial reporting:	
• Material weaknesses identified?	No
• Significant deficiency(ies) identified that are not considered to be material weaknesses?	None reported
• Noncompliance which is material to the financial statements noted?	No

Federal awards

Internal control over major programs:	
• Material weaknesses identified?	No
• Significant deficiency(ies) identified that are not considered to be material weaknesses?	None reported
Type of auditor's report issued on compliance for student financial assistance programs:	Unmodified
Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)?	No

Identification of major programs

CFDA Number	Name of Federal Program or Cluster
Various	Research and Development Cluster
93.084	Prevention Policy Modeling Lab
84.032L	Federal Family Education Loans – School as a Lender

Dollar threshold to distinguish between Type A and Type B programs	$3,000,000
Auditee qualifies as a low-risk auditee?	Yes

II. Financial Statement Findings

None noted.

III. Findings and Questioned Costs for Federal Awards

None noted.

Harvard University
Summary of Status of Prior Audit Findings
Year Ended June 30, 2018

There are no findings from prior years that require an update in this report.