MASSACHUSETTS INSTITUTE OF TECHNOLOGY

REPORT ON THE AUDIT OF FEDERAL FINANCIAL ASSISTANCE PROGRAMS IN ACCORDANCE WITH THE OMB Uniform Guidance

FOR THE YEAR ENDED JUNE 30, 2016

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Reports on the Audit of Federal Financial Assistance Programs in Accordance with the OMB Uniform Guidance For the Year Ended June 30, 2016

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SECTION I

FINANCIAL REPORTS

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Report of Independent Auditors

To the Risk and Audit Committee of the Massachusetts Institute of Technology:

Report on the Consolidated Financial Statements

We have audited the accompanying consolidated financial statements of Massachusetts Institute of Technology (the "Institute"), which comprise the consolidated statements of financial position as of June 30, 2016 and 2015, and the related consolidated statement of activities for the year ended June 30, 2016, and statements of cash flows for the years ended June 30, 2016 and 2015, 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 audits. We conducted our audits 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 Institute'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 Institute's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Massachusetts Institute of Technology as of June 30, 2016 and 2015, and the changes in their net assets for the year ended June 30, 2016, and their cash flows for the years ended June 30, 2016 and 2015 in accordance with accounting principles generally accepted in the United States of America.

Other Matters

We previously audited the consolidated statement of financial position as of June 30, 2015, and the related consolidated statement of activities, and cash flows for the year then ended (not presented herein), and in our report dated September 11, 2015, 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, 2015 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 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 September 9, 2016 on our consideration of Massachusetts Institute Technology's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Institute's internal control over financial reporting and compliance.

PricewaterhouseCoopers LLP

September 9, 2016

Massachusetts Institute of Technology

Consolidated Statements of Financial Position

at June 30, 2016 and 2015

(in thousands of dollars)	2016	2015
Assets		
Cash	$ 449,008	$ 317,682
Accounts receivable, net	201,012	172,522
Pledges receivable, net, at fair value	609,065	558,095
Contracts in progress, principally US Government	80,803	66,440
Deferred charges, inventories, and other assets	136,065	136,275
Student notes receivable, net	42,137	45,678
Investments, at fair value	17,478,438	17,754,155
Noncontrolling interests	205,421	232,415
Land, buildings, and equipment (at cost of $4,572,257 for June 2016; $4,186,490 for June 2015), net of accumulated depreciation	3,092,429	2,822,312
Total assets	**$ 22,294,378**	**$ 22,105,574**
Liabilities and Net Assets		
Liabilities:		
Accounts payable, accruals, and other liabilities	528,688	436,288
Liabilities due under life income fund agreements, at fair value	145,216	141,946
Deferred revenue and other credits	136,426	151,933
Advance payments	435,220	422,675
Borrowings, net of unamortized issuance costs	2,892,093	2,904,559
Government advances for student loans	36,173	35,561
Accrued benefit liabilities	496,029	53,233
Liabilities associated with investments	490,031	220,391
Total liabilities	**5,159,876**	**4,366,586**
Net Assets:		
Unrestricted net assets controlled by the Institute	6,634,100	7,071,258
Unrestricted net assets attributable to noncontrolling interests	205,421	232,415
Total unrestricted net assets	6,839,521	7,303,673
Temporarily restricted	7,210,822	7,553,447
Permanently restricted	3,084,159	2,881,868
Total net assets	**17,134,502**	**17,738,988**
Total liabilities and net assets	**$ 22,294,378**	**$ 22,105,574**

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

Massachusetts Institute of Technology

Consolidated Statement of Activities

for the year ended June 30, 2016

(with summarized financial information for the year ended June 30, 2015)

(in thousands of dollars)	2016 Unrestricted	2016 Temporarily Restricted	2016 Permanently Restricted	2016 Total	2015 Total
Operating Activities					
Operating Revenues					
Tuition and similar revenues, net of discount of $295,419 in 2016 and $280,282 in 2015	$ 340,005	$ -	$ -	$ 340,005	$ 331,819
Research revenues:					
Campus	701,417	-	-	701,417	665,583
Lincoln	955,994	-	-	955,994	879,327
SMART	32,818	-	-	32,818	31,737
Total research revenues	1,690,229	-	-	1,690,229	1,576,647
Gifts and bequests for current use	162,257	-	-	162,257	221,820
Fees and services	183,020	-	-	183,020	160,962
Other programs	98,837	-	-	98,837	101,293
Support from investments:					
Endowment	588,708	-	-	588,708	545,861
Other investments	142,720	-	-	142,720	125,498
Total support from investments	731,428	-	-	731,428	671,359
Auxiliary enterprises	117,460	-	-	117,460	120,946
Net asset reclassifications and transfers	103,601	-	-	103,601	105,923
Total operating revenues	$ 3,426,837	$ -	$ -	$ 3,426,837	$ 3,290,769
Operating Expenses					
Salaries and wages	$ 1,335,024	$ -	$ -	$ 1,335,024	$ 1,253,353
Employee benefits	311,557	-	-	311,557	309,195
Supplies and services	1,084,219	-	-	1,084,219	956,078
Subrecipient agreements	139,913	-	-	139,913	140,417
Utilities, rent, and repairs	204,265	-	-	204,265	186,905
Depreciation	158,443	-	-	158,443	146,239
Interest expense	116,478	-	-	116,478	118,932
Total operating expenses	3,349,899	-	-	3,349,899	3,111,119
Results of operations	$ 76,938	$ -	$ -	$ 76,938	$ 179,650
Non-Operating Activities					
Pledge revenue	$ -	$ 125,872	$ 71,950	$ 197,822	$ 195,205
Gifts and bequests	-	-	109,083	109,083	76,665
Investment income	-	1,635	3,130	4,765	4,385
Net gain on investments and other assets	243,019	(22,908)	22,442	242,553	1,651,600
Distribution of accumulated investment gains	(216,306)	(373,096)	-	(589,402)	(516,793)
Net change in life income funds	(1,069)	(1,849)	(9,000)	(11,918)	(19,197)
Postretirement plan changes other than net periodic benefit cost	(503,732)	-	-	(503,732)	13,314
Net asset reclassifications and transfers	(36,008)	(72,279)	4,686	(103,601)	(105,923)
Total non-operating activities	(514,096)	(342,625)	202,291	(654,430)	1,299,256
(Decrease) increase in net assets controlled by the Institute	(437,158)	(342,625)	202,291	(577,492)	1,478,906
Change in net assets attributable to noncontrolling interests	(26,994)	-	-	(26,994)	(55,410)
Net assets at the beginning of the year	7,303,673	7,553,447	2,881,868	17,738,988	16,315,492
Net assets at the end of the year	**$ 6,839,521**	**$ 7,210,822**	**$ 3,084,159**	**$ 17,134,502**	**$ 17,738,988**

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

Massachusetts Institute of Technology

Consolidated Statements of Cash Flows

for the years ended June 30, 2016 and 2015

(in thousands of dollars)	2016	2015
Cash Flow from Operating Activities		
(Decrease) increase in net assets	$ (604,486)	$ 1,423,496
Adjustments to reconcile change in net assets to net cash used in operating activities:		
Net gain on investments and other assets	(242,553)	(1,651,600)
Change in accrued benefits liabilities	442,796	4,403
Depreciation	158,443	146,239
Donated securities received	(37,893)	(47,153)
Proceeds from sale of donated securities	23,448	34,226
Net gain (loss) on life income funds	8,580	(9,844)
Change in noncontrolling interests	26,994	55,410
Amortization of bond premiums and discounts and other adjustments	9,601	(2,101)
Change in operating assets and liabilities:		
Pledges receivable	(50,970)	(67,759)
Accounts receivable	(28,490)	23,022
Contracts in progress	(14,363)	(1,114)
Deferred charges, inventories, and other assets	210	(9,459)
Accounts payable, accruals, and other liabilities, excluding building and equipment accruals	84,768	10,981
Liabilities due under life income fund agreements	3,270	38,870
Deferred revenue and other credits	(15,507)	18,645
Advance payments	12,545	30,461
Reclassify investment income	(4,765)	(4,385)
Reclassify contributions restricted for long-term investment	(94,638)	(63,738)
Net cash used in operating activities	(323,010)	(71,400)
Cash Flow from Investing Activities		
Purchase of land, buildings, and equipment	(424,543)	(332,275)
Purchases of investments	(22,221,841)	(23,018,625)
Proceeds from sale of investments	23,001,121	23,409,764
Student notes issued	(17,941)	(19,024)
Collections from student notes	12,665	21,224
Net cash provided by investing activities	349,461	61,064
Cash Flow from Financing Activities		
Contributions restricted for investment in endowment	94,638	63,738
Proceeds from sale of donated securities restricted for endowment	14,445	12,928
Increase in investment income for restricted purposes	4,765	4,385
Proceeds from borrowings	-	518,500
Repayment of borrowings	(9,585)	(569,816)
Increase in government advances for student loans	612	524
Net cash provided by financing activities	104,875	30,259
Net increase in cash	131,326	19,923
Cash at the beginning of the year	317,682	297,759
Cash at the end of the year	**$ 449,008**	**$ 317,682**

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

Notes to Consolidated Financial Statements

A. Accounting Policies

Basis of Presentation

The accompanying financial statements have been prepared in accordance with generally accepted accounting principles (GAAP) in the United States of America. The consolidated financial statements (financial statements) include MIT and its wholly owned subsidiaries.

Net assets, revenues, expenses, and gains and losses are classified into three categories based on the existence or absence of donor-imposed restrictions. The categories are permanently restricted, temporarily restricted, and unrestricted net assets. Unconditional promises to give (pledges) are recorded as receivables and revenues within the appropriate net asset category.

Permanently restricted net assets include gifts, pledges, trusts and remainder interests, and income and gains that are required by donors to be permanently retained. Pledges, trusts, and remainder interests are reported at their estimated fair values.

Temporarily restricted net assets include gifts, pledges, trusts and remainder interests, and income and gains that can be expended but for which restrictions have not yet been met. Such restrictions include purpose restrictions where donors have specified the purpose for which the net assets are to be spent, or time restrictions imposed by donors or implied by the nature of the gift (capital projects, pledges to be paid in the future, life income funds), or by interpretations of law (net gains on permanently restricted gifts that have not been appropriated for spending). Gifts specified for the acquisition or construction of long-lived assets are reported as temporarily restricted net assets until the monies are expended and the buildings are put into use, at which point they are reclassified to unrestricted net assets. Net unrealized losses on permanently restricted endowment funds for which the book value exceeds market value are recorded as a reduction to unrestricted net assets.

Unrestricted net assets are all the remaining net assets of MIT. Donor-restricted gifts and unexpended restricted endowment income that are received and either spent, or the restriction is otherwise met within the same year, are reported as unrestricted revenue. Gifts of long-lived assets are reported as unrestricted revenue.

Net asset reclassifications and transfers consist primarily of payments on unrestricted pledges and use of building funds in accordance with donor restrictions for buildings put into use during the year. Expirations of temporary restrictions on net assets, release of permanent restrictions by a donor, and change of restrictions imposed by donors are also reported as reclassifications of net assets among unrestricted, temporarily, and permanently restricted net assets.

MIT administers its various funds, including endowments, funds functioning as endowments, school or departmental funds, and related accumulated gains in accordance with the principles of "Fund Accounting." Gifts are recorded in fund accounts and investment income is distributed to funds annually. Income distributed to funds may be a combination of capital appreciation and yield pursuant to MIT's total return investment and spending policies. Each year, the Executive Committee of the Corporation approves the rates of distribution of investment return to the funds from MIT's investment pools. (See Note J for further information on income distributed to funds.)

MIT's operations include tuition, research revenues, unrestricted gifts and bequests for current use, fees and services, other programs, endowment distribution and income from other investments, auxiliary revenues, net asset reclassifications and transfers, and operating expenditures. Results of operations are displayed in the Consolidated Statement of Activities.

Tax Status

MIT is a nonprofit organization that is tax-exempt under Section 501(c)(3) of the Internal Revenue Code, originally recognized in October 1926, with the most recent affirmation letter dated July 2001.

US GAAP requires MIT to evaluate tax positions taken by the Institute and recognize a tax liability (or asset) if the Institute has taken an uncertain position that more likely than not would not be sustained upon examination by the IRS. MIT has analyzed the tax positions taken and has concluded that as of June 30, 2016, there are no significant uncertain positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure in the financial statements.

Cash

Certain cash balances, totaling $122.3 million and $116.4 million at June 30, 2016 and 2015, respectively, are restricted for use under certain sponsored research agreements or are held on behalf of a related party.

The Institute had approximately $432.1 million and $316.1 million at June 30, 2016 and 2015, respectively, of its cash accounts with a single institution. The Institute has not experienced any losses associated with deposits at this institution.

Advance Payments

Amounts received by MIT from the US Government, corporations, industrial sources, foundations, and other non-MIT sponsors under the terms of agreements that generally require the exchange of assets, rights, or privileges between MIT and the sponsor are recorded as advance payments. Revenue is recognized as MIT fulfills the terms of the agreements.

Land, Buildings, and Equipment

Land, buildings, and equipment are shown at cost when purchased or at fair value as of the date of a gift when received as gifts, net of accumulated depreciation. When expended, costs associated with the construction of new facilities are shown as construction in progress until such projects are completed and put into use. Depreciation is computed on a straight-line basis over the estimated useful lives of 25 to 50 years for buildings, 3 to 25 years for equipment, and 4 to 6 years for software.

Fully depreciated assets were removed from the financial statements in the amount of $39.4 million and $34.3 million during 2016 and 2015, respectively. Land, buildings, and equipment at June 30, 2016 and 2015 are shown in Table 1 below.

Table 1. Land, Buildings, and Equipment

(in thousands of dollars)	2016	2015
Land	$ 83,610	$ 78,528
Land improvements	64,434	64,525
Educational buildings	3,737,492	3,382,438
Equipment	289,980	271,326
Software	56,021	44,711
Total	4,231,537	3,841,528
Less: accumulated depreciation	(1,479,828)	(1,364,178)
Construction in progress	336,033	337,018
Software projects in progress	4,687	7,944
Net land, buildings, and equipment	**$ 3,092,429**	**$ 2,822,312**

Depreciation expense was $158.4 million in 2016 and $146.2 million in 2015. Net interest expense of $9.5 million and $6.6 million was capitalized during 2016 and 2015, respectively, in connection with MIT's construction projects.

Tuition and Student Support

Tuition and similar revenues, shown in Table 2 below, include tuition and fees in degree programs as well as tuition and fees for executive and continuing education programs at MIT.

Table 2. Tuition and Similar Revenues

(in thousands of dollars)	2016	2015
Undergraduate and graduate programs	$ 590,415	$ 569,982
Executive and continuing education programs	45,009	42,119
Total	635,424	612,101
Less: tuition discount	(295,419)	(280,282)
Net tuition and similar revenues	**$ 340,005**	**$ 331,819**

Tuition support is awarded to undergraduate students by MIT based on need. Graduate students are provided with tuition support in connection with research assistance, teaching assistance, and fellowship appointments. Tuition support from MIT sources is displayed as tuition discount. Total student support granted to students was $520.5 million and $498.5 million in 2016 and 2015, respectively. Of that amount, $163.5 million in 2016 and $161.4 million in 2015 was aid from sponsors. Components of student support are detailed in Table 3 below.

Table 3. Student Support

	2016			2015		
(in thousands of dollars)	Institute Sources	External Sponsors	Total Student Support	Institute Sources	External Sponsors	Total Student Support
Undergraduate tuition support	$ 97,262	$ 15,640	$ 112,902	$ 92,488	$ 14,660	$ 107,148
Graduate tuition support	198,157	60,287	258,444	187,794	59,567	247,361
Fellow stipends	22,718	16,013	38,731	21,469	17,290	38,759
Student employment	38,876	71,516	110,392	35,417	69,844	105,261
Total	**$ 357,013**	**$ 163,456**	**$ 520,469**	**$ 337,168**	**$ 161,361**	**$ 498,529**

A. Accounting Policies (continued)

Sponsored Research

Direct and indirect categories of research revenues are shown in Table 4 below.

Table 4. Research Revenues

(in thousands of dollars)	2016	2015
Direct:		
Campus	$ 513,991	$ 482,563
Lincoln	908,506	844,588
SMART	32,416	31,620
Total direct	1,454,913	1,358,771
Indirect:		
Campus	$ 187,426	$ 183,020
Lincoln	47,488	34,739
SMART	402	117
Total indirect	235,316	217,876
Total research revenues	**$ 1,690,229**	**$ 1,576,647**

Revenue associated with contracts and grants is recognized as related costs are incurred. The capital costs of buildings and equipment are depreciated over their estimated life cycle, and the sponsored research recovery allowance for depreciation is treated as indirect research revenue. MIT has recorded reimbursement of indirect costs relating to sponsored research at negotiated fixed billing rates. The revenue generated by the negotiated rates is adjusted each fiscal year to reflect any variance between the negotiated fixed rates and rates based on actual cost. The actual cost rate is audited by the Defense Contract Audit Agency (DCAA) and a final fixed-rate agreement is signed by the US Government and MIT. The variance between the negotiated fixed rate and the final audited rate results in a carryforward (over- or under-recovery). The carryforward is included in the calculation of negotiated fixed billing rates in future years. Any adjustment in the rate is charged or credited to unrestricted net assets.

Gifts and Pledges

Gifts and pledges are recognized when received. Gifts of securities are recorded at their fair value at the date of contribution. Donated securities received totaled $37.9 million and $47.2 million in 2016 and 2015, respectively, and are shown separately in the Consolidated Statements of Cash Flows. Gifts of equipment received from manufacturers and other donors are put into use and recorded by MIT at fair value. Gifts of equipment totaled $0.4 million in 2016 and $0.3 million in 2015. Pledges in the amount of $609.1 million and $558.1 million were recorded as receivables at June 30, 2016 and 2015, respectively, with the revenue assigned to the appropriate classification of restriction. Pledges consist of unconditional written promises to contribute to MIT in the future and are recorded after discounting the future cash flows to the present value.

MIT records items of collections as gifts at nominal value. They are received for educational purposes and most are displayed throughout MIT. In general, collections are not disposed of for financial gain or otherwise encumbered in any manner.

Life Income Funds

MIT's life income fund agreements with donors consist primarily of irrevocable charitable gift annuities, pooled income funds, and charitable remainder trusts for which MIT serves as trustee. Assets are invested and payments are made to donors and other beneficiaries in accordance with the respective agreements. MIT records the assets that are associated with each life income fund at fair value and records as liabilities the present value of the estimated future payments at current interest rates to be made to the donors and beneficiaries under these agreements. A rollforward of liabilities due under life income fund agreements is presented in Table 5 below.

Table 5. Liabilities Due Under Life Income Funds

(in thousands of dollars)	2016	2015
Balance at the beginning of the year	$ 141,946	$ 103,076
Addition for new gifts	8,592	14,612
Termination and payments to beneficiaries	(14,993)	(14,984)
Net investment and actuarial gain	9,671	39,242
Balance at end of the year	**$ 145,216**	**$ 141,946**

Accounts Payable, Accruals, and Other Liabilities

MIT's accounts payable, accruals, and other liabilities totaled $528.7 million and $436.3 million at June 30, 2016 and 2015, respectively. These totals included accrued vacation of $81.6 million at June 30, 2016 and $62.5 million at June 30, 2015.

Recently Adopted Accounting Standards

On July 1, 2015, MIT early adopted new guidance related to *Presentation of Debt Issuance Costs*. This guidance requires MIT to present unamortized debt issuance costs as an offset to borrowings within the liabilities section of the balance sheet, rather than as other assets within the assets section of the balance sheet, and must be applied retrospectively. As a result, $17.7 million has been reclassified from the Deferred charges, inventories, and other assets line to the Borrowings line in the 2015 comparative results column for MIT's Consolidated Statements of Financial Position. The change in presentation has also been appropriately reflected in the Borrowings table shown in Footnote F.

A. Accounting Policies (continued)

On July 1, 2014, MIT early adopted new guidance about *Fair Value Measurement and Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent).* This guidance requires MIT to show investments that use net asset value (NAV) as a practical expedient for valuation purposes separately from other investments categorized in the fair value hierarchy described in Footnote B. This disclosure change can be seen in the investment leveling tables shown in Footnotes B and I for both fiscal years 2016 and 2015.

Noncontrolling Interests

MIT is the general partner for several private equity funds and has displayed the noncontrolling interests on the Consolidated Statements of Financial Position.

Non-Cash Items

Non-cash transactions excluded from the Consolidated Statements of Cash Flows include $7.6 million and $13.3 million of accrued liabilities related to plant and equipment purchases for 2016 and 2015, respectively.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Reclassifications

Certain June 30, 2015 balances and amounts previously reported have been reclassified to conform to the June 30, 2016 presentation.

Subsequent Events

In July 2016, MIT issued $500.0 million of taxable bonds, Series E, with a fixed interest rate of 3.885 percent and a maturity date of July 1, 2116. The new taxable debt will be used to further advance MIT's ongoing campus renewal and development program, including academic and research capital projects within the MIT 2030 framework.

MIT has evaluated subsequent events through September 9, 2016, the date on which the financial statements were issued. There were no subsequent events other than the above debt issuance that occurred after the balance sheet date that have a material impact on MIT's financial statements.

Summarized Information

The Consolidated Statements of Activities includes certain prior year summarized comparative information in total but not by net asset class. Such information does not include sufficient detail to constitute a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with MIT's financial statements for the year ended June 30, 2015, from which the summarized information was derived.

B. Investments

Investment transactions are accounted for on the trade date. Dividend income is recorded on the ex-dividend date. Realized gains and losses are recorded by MIT using the average cost basis. For limited partnerships, the realized gain/loss is calculated once the entire cost basis is distributed back to MIT or using information provided by managers with respect to the character of a distribution as being a gain or return of capital.

MIT values its investments in accordance with the principles of accounting standards which establish a hierarchy of valuation inputs based on the extent to which the inputs are observable in the marketplace. Observable inputs reflect market data obtained from sources independent of the reporting entity. Unobservable inputs reflect the entity's own assumptions about how market participants would value an asset or liability based on the best information available. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. MIT follows a fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the last is unobservable.

The following describes the hierarchy of inputs used to measure fair value and the primary valuation methodologies used by MIT for financial instruments measured at fair value on a recurring basis. The three levels of inputs are as follows:

• Level 1 – Quoted prices in active markets for identical assets or liabilities. Market price data is generally obtained from relevant exchanges or dealer markets.

• Level 2 – Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the same term of the assets or liabilities. Inputs are obtained from various sources including market participants, dealers, and brokers.

• Level 3 – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

B. Investments (continued)

A financial instrument's categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. Market information is considered when determining the proper categorization of the investment's fair value measurement within the fair valuation hierarchy.

Table 6 presents MIT's investments at fair value as of June 30, 2016 and 2015, respectively, grouped by the valuation hierarchy as defined earlier in this note. Investments that use NAV as a practical expedient for valuation purposes are shown separately.

Transfers between levels are recognized at the beginning of the reporting period. The 2016 transfers from Level 1 to Level 2 totaled $60.0 million and transfers from Level 2 to Level 1 totaled $10.4 million. The 2015 transfers from Level 1 to Level 3 totaled $0.1 million, and transfers from Level 1 to Level 2 totaled $9.6 million.

Cash and cash equivalents include cash, money market funds, repurchase agreements, and negotiable certificates of deposit and are valued at cost, which approximates fair value. Instruments listed or traded on a securities exchange are valued at the last quoted price on the primary exchange where the securities are traded.

Investments in non-exchange-traded debt are primarily valued using independent pricing sources that use broker quotes or models using observable market inputs. Investments managed by external managers include investments in (i) absolute return; (ii) domestic, foreign, and private equity; (iii) real estate; and (iv) real asset commingled funds. The fair value of securities held in external investment funds that do not have readily determinable fair values are determined by the external managers based upon industry-standard valuation approaches that require varying degrees of judgment, taking into consideration, among other things, the cost of the securities, valuations and transactions of comparable public companies, the securities' estimated future cash flow streams, and the prices of recent significant placements of securities of the same issuer. Using these valuations, most of these external managers calculate MIT's capital account or NAV in accordance with, or in a manner consistent with, GAAP's fair value principles.

As a practical expedient, MIT is permitted under GAAP to estimate the fair value of its investments with external managers using the external managers' reported NAV without further adjustment unless MIT expects to sell the investment at a value other than NAV or the NAV is not calculated in accordance with GAAP.

Level 3 investments are valued by MIT based upon valuation information received from the relevant entity, which may include last trade information, third-party appraisals of real estate, or valuations prepared in connection with the administration of an employee stock ownership plan. MIT may also utilize industry standard valuation techniques, including discounted cash flow models. The significant unobservable inputs used in the fair value measurements of MIT's direct investments may include their cost of capital, and equity and industry risk premiums. Significant increases or decreases in these inputs in isolation may result in a significantly lower or higher fair value measurement, respectively. Split-interest agreements are generally valued at the present value of the future distributions expected to be received over the term of the agreement.

Over-the-counter positions, such as interest rate and total return swaps, credit default swaps, options, exchange agreements, and interest rate cap and floor agreements, are valued using broker quotes or models using market observable inputs. Because the swaps and other over-the-counter derivative instruments have inputs that can usually be corroborated by observable market data, they are generally classified within Level 2.

MIT finances certain real estate investments to optimize the use of invested capital in support of the Institute's mission. These financings are shown as a separate line item called Liabilities associated with investments in the consolidated Statements of Financial Position. In prior years, they were netted into the line for Investments, at fair value. Amounts for all previous years shown throughout the full Report of the Treasurer have been reclassified to conform to the current year's presentation.

B. Investments (continued)

Table 6. Investments

(in thousands of dollars)	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	NAV as Practical Expedient (NAV)	Total Fair Value
Fiscal Year 2016					
Cash and cash equivalents	$ 939,555	$ -	$ -	$ -	$ 939,555
US Treasury	890,588	-	-	-	890,588
US Government agency	-	169,007	-	-	169,007
Domestic bonds	12,004	308,817	104,048	-	424,869
Foreign bonds	21	68,384	-	-	68,405
Common equity:					
Long domestic	221,868	-	95,120	-	316,988
Long foreign	423,752	60,044	-	-	483,796
Short foreign	(5)	-	-	-	(5)
Equity:**					
Absolute return	-	-	-	1,816,975	1,816,975
Domestic	-	-	-	1,561,519	1,561,519
Foreign	-	-	-	3,521,507	3,521,507
Private	-	-	-	3,190,794	3,190,794
Real estate*	6,446	-	2,495,176	840,443	3,342,065
Real assets**	-	-	275	680,566	680,841
Split-interest agreements	-	-	126,832	-	126,832
Other	4,925	-	2,809	-	7,734
Derivatives	33	(63,065)	-	-	(63,032)
Investments, at fair value	$ 2,499,187	$ 543,187	$ 2,824,260	$ 11,611,804	$ 17,478,438
Liabilities associated with investments:					
Real estate***	-	-	(490,031)	-	(490,031)
Net investments	**$ 2,499,187**	**$ 543,187**	**$ 2,334,229**	**$ 11,611,804**	**$ 16,988,407**
Fiscal Year 2015					
Cash and cash equivalents	$ 2,028,407	$ -	$ -	$ -	$ 2,028,407
US Treasury	795,335	-	-	-	795,335
US Government agency	-	70,493	-	-	70,493
Domestic bonds	11,917	84,072	101,763	-	197,752
Foreign bonds	21	24,582	-	-	24,603
Common equity:					
Long domestic	243,677	-	67,096	-	310,773
Long foreign	567,394	4,159	-	-	571,553
Short foreign	(6)	-	-	-	(6)
Equity:**					
Absolute return	-	-	-	1,734,169	1,734,169
Domestic	-	-	-	1,880,487	1,880,487
Foreign	-	-	-	3,504,707	3,504,707
Private	-	-	-	3,132,869	3,132,869
Real estate*	19	6,282	1,985,878	785,536	2,777,715
Real assets**	-	-	1,260	605,612	606,872
Split-interest agreements	-	-	146,405	-	146,405
Other	3,985	-	3,956	-	7,941
Derivatives	47	(35,967)	-	-	(35,920)
Investments, at fair value	$ 3,650,796	$ 153,621	$ 2,306,358	$ 11,643,380	$ 17,754,155
Liabilities associated with investments:					
Real estate***	-	-	(220,391)	-	(220,391)
Net investments	**$ 3,650,796**	**$ 153,621**	**$ 2,085,967**	**$ 11,643,380**	**$ 17,533,764**

** Real estate includes direct investments and investments held through commingled vehicles.*

*** Real assets and equity categories include commingled vehicles that invest in these types of investments.*

**** Interest rates range from 3.75% and 4.54%. Maturities range from calendar years 2023 and 2035. Principal payments range from $5.6 million in fiscal year 2017 to $3.4 million in fiscal year 2036.*

B. Investments (continued)

Table 7 below is a rollforward of the investments classified by MIT within Level 3 of the fair value hierarchy defined earlier in this footnote at June 30, 2016 and 2015.

Table 7. Rollforward of Level 3 Investments

(in thousands of dollars)	Fair Value Beginning	Realized Gains (Losses)	Unrealized Gains (Losses)	Purchases	Sales	Transfers	Fair Value Ending
Fiscal Year 2016							
Domestic bonds	$ 101,763	$ -	$ -	$ 12,040	$ (9,755)	$ -	$ 104,048
Common equity:							
Long domestic	67,096	-	28,024	7	(7)	-	95,120
Short domestic	-	-	-	119	(119)	-	-
Real estate	1,985,878	33,254	381,977	184,991	(90,924)	-	2,495,176
Real assets	1,260	(13,070)	12,085	-	-	-	275
Split-interest agreements	146,405	5,329	(10,750)	17,214	(31,366)	-	126,832
Other	3,956	179	32	-	(1,358)	-	2,809
Investments, at fair value	$ 2,306,358	$ 25,692	$ 411,368	$ 214,371	$ (133,529)	$ -	$ 2,824,260
Real estate liabilities	(220,391)	-	-	(269,640)	-	-	(490,031)
Net investments	**$ 2,085,967**	**$ 25,692**	**$ 411,368**	**$ (55,269)**	**$ (133,529)**	**$ -**	**$ 2,334,229**
Fiscal Year 2015							
Domestic bonds	$ 97,254	$ -	$ -	$ 13,276	$ (8,767)	$ -	$ 101,763
Common equity:							
Long domestic	178,921	402	(104,853)	600	(7,989)	15	67,096
Short domestic	-	-	-	-	-	-	-
Real estate	1,773,267	76,933	289,303	193,540	(347,265)	100	1,985,878
Real assets	10,464	-	(9,204)	-	-	-	1,260
Split-interest agreements	147,182	3,902	3,396	1,298	(9,373)	-	146,405
Other	9,721	(183)	78	3	(5,663)	-	3,956
Investments, at fair value	$ 2,216,809	$ 81,054	$ 178,720	$ 208,717	$ (379,057)	$ 115	$ 2,306,358
Real estate liabilities	(231,188)	-	-	(75,000)	85,797	-	(220,391)
Net investments	**$ 1,985,621**	**$ 81,054**	**$ 178,720**	**$ 133,717**	**$ (293,260)**	**$ 115**	**$ 2,085,967**

All net realized and unrealized gains and losses relating to financial instruments held by MIT shown in Table 6 are reflected in the Consolidated Statement of Activities. Cumulative unrealized gains related to Level 3 investments totaled $1,360.3 million and $948.9 million as of June 30, 2016 and 2015, respectively. The net change in unrealized gains (losses) related to Level 3 investments held by MIT at June 30, 2016, and June 30, 2015, are disclosed in Table 7.

MIT enters into short sales whereby it sells securities that may or may not be owned by MIT in anticipation of a decline in the price of such securities or in order to hedge portfolio positions. Cash collateral and certain securities owned by MIT were held at counterparty brokers to collateralize these positions and are included in investments on the Consolidated Statements of Financial Position.

B. Investments (continued)

Table 8 below sets forth a summary of valuation techniques and quantitative information utilized in determining the fair value of MIT's Level 3 investments as of June 30, 2016 and 2015.

Table 8. Level 3 Valuation Techniques

Asset Type *(in thousands of dollars)*	Fair Value at June 30, 2016	Fair Value at June 30, 2015	Valuation Technique	Unobservable Input	2016 Rates	2015 Rates
Real estate	$ 2,495,176	$ 1,985,878	Discounted cash flow	Discount Rate	5–8.5%	4.8–9.0%
Equity securities	78,727	50,653	Discounted cash flow	Discount Rate	13.5%	15.3%
Split-interest agreements	81,268	110,722	Net present value	Discount Rate	2.05%	2.25%
Real assets	275	1,260	Discounted cash flow	Discount	25.0%	20.0%
Other illiquid assets	505	426	Varies	Varies	Varies	Varies
Total assets	**$ 2,655,951**	**$ 2,148,939**				

Certain investments in real estate, equities, and private investments may be subject to restrictions that (i) limit MIT's ability to withdraw capital after such investment; and (ii) may limit the amount that may be withdrawn as of a given redemption date. Most absolute return, domestic equity, and foreign equity commingled funds limit withdrawals to monthly, quarterly, or other periods, and may require notice periods. In addition, certain of these funds are able to designate a portion of the investments as illiquid in "side-pockets," and these funds may not be available for withdrawal until liquidated by the investing fund. Generally, MIT has no discretion as to withdrawal with respect to its investments in private equity and real estate funds. Distributions are made when sales of assets are made within these funds and the investment cycle for these funds can be as long as 15 to 20 years. These restrictions may limit MIT's ability to respond quickly to changes in market conditions. MIT does have various sources of liquidity at its disposal, including cash, cash equivalents, marketable debt and equity securities, and lines of credit.

Details on the current redemption terms and restrictions by asset class and type of investment are provided in Table 9 below.

Table 9. Unfunded Commitments

	2016		2015			
Asset Class *(in thousands of dollars)*	Unfunded Commitments	Fair Value	Unfunded Commitments	Fair Value	Redemption Terms	Redemption Restrictions
Equity:						
Domestic	$ 1,789	$ 1,561,519	$ 1,923	$ 1,880,487	Redemption terms range from 4 months with 45 days notice to 25 months with 3 months notice and 2 closed-end funds not available for redemption	Lock-up provisions range from none to 6 months; 2 funds are not redeemable
Foreign	36,200	3,521,507	56,640	3,504,707	Redemption terms range from daily with 28 days notice to closed-end funds which are not redeemable	Lock-up provisions range from none to not redeemable
Absolute return	125,866	1,816,975	218,025	1,734,169	Redemption terms range from 45 days with 2 months notice to closed-end funds that are not redeemable	Lock-up provisions range from none to not redeemable
Private	1,567,427	3,190,794	1,131,554	3,132,869	Closed-end funds not available for redemption	Not redeemable
Real estate	574,443	840,443	483,951	785,536	Closed-end funds not available for redemption	Not redeemable
Real assets	156,591	680,566	116,346	605,612	Redemption terms range from 9 months with 1 day notice to closed-end funds which are not redeemable	Lock-up provisions range from none to not redeemable
Total	**$ 2,462,316**	**$ 11,611,804**	**$ 2,008,439**	**$ 11,643,380**		

B. Investments (continued)

MIT performs ongoing due diligence to determine that investment fair value is reasonable as of June 30, 2016 and 2015. In particular, to ensure that the valuation techniques for investments that are categorized within the fair value hierarchy are fair, consistent, and verifiable, MIT has established a Valuation Committee (the "Committee") that oversees the valuation processes and procedures and ensures that the policies are fair and consistently applied. The Committee is responsible for conducting annual reviews of the valuation policies, evaluating the overall fairness and consistent application of the valuation policies, and performing specific reviews of certain valuations reported. The Committee performs due diligence over the external managers and, based on this review, substantiates NAV as a practical expedient for estimates of fair value of its investments in external managers. The Committee is composed of senior personnel and contains members who are independent of investment functions. The Committee meets annually, or more frequently, as needed. Members of the Valuation Committee report annually to MIT's Risk and Audit Committee. The methods described previously in this footnote may produce a fair value that may not be indicative of net realizable value or reflective of future fair values. While MIT believes its valuation methods are appropriate and consistent with those of other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date.

C. Derivative Financial Instruments and Collateral

MIT maintains an interest rate swap agreement to manage the interest cost and risk associated with a portion of its variable rate debt, described in Note F. Under the agreement, MIT pays a fixed rate of 4.91 percent and receives a payment indexed to the Securities Industry and Financial Market Association (SIFMA) on a notional amount of $125.0 million. At June 30, 2016, the swap agreement had a total fair value of ($63.4) million and at June 30, 2015 had a fair value of ($48.1) million. This swap had a total net loss for 2016 of $15.3 million and a total net loss of $6.8 million for 2015. The notional amount of this derivative is not recorded on MIT's Consolidated Statements of Financial Position.

For its investment management, MIT uses a variety of financial instruments with off-balance sheet risk involving contractual or optional commitments for future settlement. MIT uses these instruments primarily to manage its exposure to extreme market events and fluctuations in asset classes or currencies. Instruments utilized include futures, total return and credit default swaps, and interest rate cap and swaption agreements. The futures are exchange-traded and the swap, swaptions, and cap agreements are executed over the counter.

Total return swaps involve commitments to pay interest in exchange for a market-linked return 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, MIT will respectively receive a payment from or make a payment to the counterparty.

MIT's portfolio of interest rate caps and swaptions is designed for protection from significant increases in interest rates. An interest rate swaption is an option to enter into an interest rate swap agreement on pre-set terms at a future date. The purchaser and seller of the swaption agree on the expiration date, option type, exercise style, the terms of the underlying swap, and the type of settlement. As the expiration date approaches, the swaption holder can either notify the seller of its intention to exercise or let the option expire. An interest rate cap places a ceiling on a floating rate of interest on a specified notional principal amount for a specific term. The buyer of the cap uses the cap contract to limit its maximum interest rate exposure. If the buyer's floating rate rises above the cap strike, the cap contract provides for payments from the seller to the buyer of the cap for the difference between the floating rate and the cap strike. If the floating rate remains below the cap strike, no payments are required. The cap buyer is required to pay an upfront fee or premium for the cap. The cap premium charged by the seller depends upon the market's assessment of the probability that rates will move through the cap strike over the time horizon of the deal. The payoff is expected to occur in extreme market conditions that would negatively impact MIT's other assets.

Table 10 summarizes the notional exposure and net ending fair value relative to the financial instruments with off-balance sheet risk as of June 30, 2016 and 2015, related to MIT's investment management. Derivatives held by limited partnerships and commingled investment vehicles pose no off-balance sheet risk to MIT due to the limited liability structure of these investments. To manage the counterparty credit exposure of MIT's direct off-balance sheet financial instruments, MIT requires collateral to the maximum extent possible under normal trading practices. Collateral is moved on a daily basis as required by fluctuations in the market. The collateral is generally in the form of debt obligations issued by the US Treasury or cash. In the event of counterparty default, MIT has the right to use the collateral to offset the loss associated with the replacement of the agreements. MIT enters into arrangements only with counterparties believed to be creditworthy. On June 30, 2016, cash collateral and certain securities owned by MIT were held at counterparty brokers to collateralize these positions and are included in investments on the Consolidated Statements of Financial Position.

C. Derivative Financial Instruments and Collateral (continued)

Table 10. Derivative Financial Instruments

(in thousands of dollars)	Notional Exposure Long	Notional Exposure Short	Net Ending Fair Value *	Net Gain (Loss)**
Fiscal Year 2016				
Fixed income instruments:				
Fixed income futures	$ 14,100	$ (3,100)	$ 33	$ -
Options on interest rate exchange agreements	1,532,000	-	1,956	(6,844)
Interest rate caps and floors	1,000,000	-	-	(96)
Total fixed income instruments	2,546,100	(3,100)	1,989	(6,940)
Commodity and index instruments:				
Equity index swaps	-	(83,563)	351	44,083
Total commodity and index instruments	-	(83,563)	351	44,083
Credit instruments	-	(102,494)	(1,990)	126
2016 Total	**$ 2,546,100**	**$ (189,157)**	**$ 350**	**$ 37,269**
Fiscal Year 2015				
Fixed income instruments:				
Fixed income futures	$ 3,500	$ (3,400)	$ 47	$ (82)
Options on interest rate exchange agreements	1,702,000	-	8,800	(10,476)
Interest rate caps and floors	1,000,000	-	96	(485)
Total fixed income instruments	2,705,500	(3,400)	8,943	(11,043)
Commodity and index instruments:				
Equity index swaps	-	(212,335)	5,046	(25,954)
Total commodity and index instruments	-	(212,335)	5,046	(25,954)
Credit instruments	-	(73,203)	(1,829)	9
2015 Total	**$ 2,705,500**	**$ (288,938)**	**$ 12,160**	**$ (36,988)**

** The fair value of all credit derivative instruments is reflected in investments at fair value in the Consolidated Statements of Financial Position.*
*** Net gain (loss) of the credit derivative instruments is located in the non-operating section as net gain (loss) on investments and other assets in the Consolidated Statement of Activities.*

C. Derivative Financial Instruments and Collateral (continued)

Table 11 below provides further details related to MIT's credit instruments and summarizes the notional amounts and fair value of the purchased and written credit derivatives, classified by the expiration terms and the external credit ratings of the reference obligations at June 30, 2016 and 2015.

The act of entering into a credit default swap contract is often referred to as "buying protection" or "selling protection" on an underlying reference obligation. The buyer is obligated to make premium payments to the seller over the term of the contract in return for a contingent payment upon the occurrence of a credit event with respect to the underlying obligation. The seller bears the obligation to "protect" the buyer in the event of default of the underlying issuer. Upon this event, the cash payment which the buyer receives is equal to the clearing price established by an auction of credit default swap claims, which is designed to approximate the recovery value of an unsecured claim on the issuer in default. The swap will last for a predetermined amount of time, typically five years. Upon termination of the swap, the buyer is no longer obligated to make any premium payments and there is no other exchange of capital.

Table 11. Credit Derivative Instruments

	Purchased Protection				Written Protection Notional Amount			
			Years to Maturity					
(in thousands of dollars)	Purchased Notional Amounts	Purchased Fair Value*	< 5 Years	5-10 Years	Written Notional Amounts	Offsetting Purchased Credit Protection	Net Written Credit Protection	Net Written Credit Protection Fair Value
Fiscal Year 2016								
Credit rating on underlying or index:								
A- to AAA	$ 37,499	$ 785	$ 37,499	$ -	$ -	$ -	$ -	$ -
BBB- to BBB+	64,995	1,205	64,995	-	-	-	-	-
2016 Total	**$ 102,494**	**$ 1,990**	**$ 102,494**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Fiscal Year 2015								
Credit rating on underlying or index:								
A- to AAA	$ 44,571	$ (1,109)	$ 10,000	$ 34,571	$ -	$ -	$ -	$ -
BBB- to BBB+	28,632	(720)	5,175	23,457	-	-	-	-
2015 Total	**$ 73,203**	**$ (1,829)**	**$ 15,175**	**$ 58,028**	**$ -**	**$ -**	**$ -**	**$ -**

** The fair value of all credit derivative instruments is reflected in investments at fair value in the Consolidated Statements of Financial Position.*

C. Derivative Financial Instruments and Collateral (continued)

Counterparty risk may be partially or completely mitigated through master netting agreements included within an International Swap and Derivatives Association, Inc. ("ISDA") Master Agreement between MIT and each of its counterparties. The ISDA Master Agreement allows MIT to offset with the counterparty certain derivative instruments' payables and/or receivables with collateral held with each counterparty. To the extent amounts due from the counterparties are not fully collateralized contractually or otherwise, there is the risk of loss from counterparty non-performance. As of June 30, 2016, MIT has elected not to offset recognized assets and liabilities in the Statements of Financial Position Investments Table. The following tables, 12 and 13, summarize the effect that offsetting of recognized assets and liabilities could have in the Statements of Financial Position Investments Table.

Table 12. Offsetting of Financial and Derivative Assets and Liabilities

	2016			2015		
(in thousands of dollars)	Gross Amount	Cash/Treasury Collateral Posted/ (Received)	Net Amount	Gross Amount	Cash/Treasury Collateral Posted/ (Received)	Net Amount
Assets						
Counterparty A	$ 820	$ (726)	$ 94	$ 4,184	$ (4,386)	$ (202)
Counterparty B	50,000	(51,052)	(1,052)	59,895	(61,220)	(1,325)
Counterparty C	-	-	-	-	-	-
Counterparty D	-	-	-	-	-	-
Counterparty E	-	-	-	-	-	-
Counterparty F	6	-	6	-	-	-
Counterparty G	18,753	(19,143)	(390)	30,088	(31,004)	(916)
Counterparty H	-	-	-	-	-	-
Counterparty I	-	-	-	-	-	-
Counterparty J	-	-	-	-	-	-
Counterparty K	1,488	(1,925)	(437)	9,759	(12,495)	(2,736)
Counterparty L	-	-	-	-	-	-
Total assets	71,067	(72,846)	(1,779)	103,926	(109,105)	(5,179)
Liabilities						
Counterparty A	(396)	410	14	(2)	-	(2)
Counterparty B	-	-	-	-	-	-
Counterparty C	(43)	70	27	(201)	-	(201)
Counterparty D	(533)	721	188	(470)	721	251
Counterparty E	(47)	-	(47)	-	-	-
Counterparty F	-	-	-	-	-	-
Counterparty G	-	-	-	(48,081)	-	(48,081)
Counterparty H	(63,382)	-	(63,382)	-	-	-
Counterparty I	(342)	420	78	(316)	420	104
Counterparty J	(448)	680	232	(369)	415	46
Counterparty K	-	-	-	-	-	-
Counterparty L	(189)	400	211	(470)	720	250
Total liabilities	(65,380)	2,701	(62,679)	(49,909)	2,276	(47,633)
Total assets and liabilities, net	**$ 5,687**	**$ (70,145)**	**$ (64,458)**	**$ 54,017**	**$ (106,829)**	**$ (52,812)**

Maximum risk of loss from counterparty credit risk on over-the-counter derivatives is generally the aggregate unrealized appreciation in excess of any collateral pledged by the counterparty. ISDA Master Agreements allow MIT or the counterparties to an over-the-counter derivative to terminate the contract prior to maturity in the event either party fails to meet the terms in the ISDA Master Agreements. This would cause an accelerated payment of net liability, if owed to the counterparty.

C. Derivative Financial Instruments and Collateral (continued)

Table 13 below reconciles the net recognized assets and liabilities, as shown in Table 12, to derivative financial instruments as shown in Table 6.

Table 13. Reconciliation of Financial and Derivative Assets and Liabilities

(in thousands of dollars)	2016	2015
Derivatives from Table 6	$ (63,032)	$ (35,920)
Repurchase agreements	68,752	89,984
Fixed income futures	(33)	(47)
Total	**$ 5,687**	**$ 54,017**

D. Pledges Receivable

Table 14 below shows the time periods in which pledges receivable at June 30, 2016 and 2015 are expected to be realized.

Table 14. Pledges Receivable

(in thousands of dollars)	2016	2015
In one year or less	$ 239,245	$ 192,149
Between one year and five years	407,825	393,518
More than five years	29,415	34,218
Less: allowance for unfulfilled pledges	(67,420)	(61,790)
Pledges receivable, net	**$ 609,065**	**$ 558,095**

A review of pledges is periodically made with regard to collectability. As a result, the allowance for pledges that may not be fulfilled is adjusted, and some pledges have been cancelled and are no longer recorded in the financial statements. Pledges are discounted in the amount of $22.1 million and $35.5 million in 2016 and 2015, respectively. MIT has gross conditional pledges, not recorded, for the promotion of education and research of $82.8 million and $76.6 million in 2016 and 2015, respectively.

Pledges receivable are classified as Level 3 under the valuation hierarchy described in Note B.

Table 15 below is a rollforward of the pledges receivable at June 30, 2016 and 2015.

Table 15. Rollforward of Pledges Receivable

(in thousands of dollars)	2016	2015
Balance at beginning of the year	$ 558,095	$ 490,336
New pledges	190,641	201,495
Pledge payments received	(146,852)	(127,446)
Decrease in pledge discount	12,811	1,230
Increase in reserve for unfulfilled pledges	(5,630)	(7,520)
Balance at the end of the year	**$ 609,065**	**$ 558,095**

E. Student Notes Receivable

Table 16 below details the components of student notes receivable at June 30, 2016 and 2015.

Table 16. Student Notes Receivable

(in thousands of dollars)	2016	2015
Institute-funded student notes receivable	$ 12,627	$ 12,894
Perkins student notes receivable	32,510	35,784
Total student notes receivable	45,137	48,678
Less: allowance for doubtful accounts	(3,000)	(3,000)
Student notes receivable, net	**$ 42,137**	**$ 45,678**

Perkins student notes receivable are funded by the US Government and by MIT. Those funds advanced by the US Government for this program are ultimately refundable to the US Government and are classified as liabilities in US Government advances for student loans in the Consolidated Statements of Financial Position. Due to the nature and terms of the student loans, which are subject to significant restrictions, it is not feasible to determine the fair value of such loans.

Allowance for Credit Losses

Management regularly assesses the adequacy of the allowance for credit losses by performing ongoing evaluations of the student 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. MIT's Perkins loans receivable represents the amounts due from current and former students under the Federal Perkins Loan Program. Loans disbursed under the Federal Perkins Loan Program are able to be assigned to the US Government in certain non-repayment situations. In these situations, the Federal portion of the loan balance is guaranteed.

Factors also considered by management when performing its assessment, in addition to general economic conditions and the other factors described above, included, but were not limited to, a detailed review of the aging of the student loan receivable and a review of the default rate by loan category in comparison to prior years. The level of the allowance is adjusted based on the results of management's analysis.

Loans less than 120 days delinquent are deemed to have a minimal delay in payment and are generally not written off but are reserved in accordance with the terms discussed above. Loans more than 120 days delinquent are subject to standard collection practices, including litigation. Only loans that are deemed uncollectible are written off and this only occurs after several years of unsuccessful collection, including placement at more than one external collection agency.

Considering the other factors already discussed herein, management considers the allowance for credit losses at June 30, 2016 and 2015 to be prudent and reasonable. Furthermore, MIT's allowance is general in nature and is available to absorb losses from any loan category. Management maintains an allowance of $3.0 million for credit losses and is confident that this is sufficient to absorb credit losses inherent in the portfolio as of that date.

F. Net Borrowings

MIT's outstanding borrowings at June 30, 2016 and 2015 are shown in Table 17 below.

Table 17. Net Borrowings

(in thousands of dollars / due dates are calendar based / par values as of 2016)	2016	2015
Educational plant		
Massachusetts Development Finance Agency (MassDevelopment):		
Series I, 5.20%, due 2028, par value $30,000	$ 30,665	$ 30,723
Series J-1, variable rate, due 2031, par value $125,000	125,000	125,000
Series J-2, variable rate, due 2031, par value $125,000	125,000	125,000
Series K, 5.25%-5.5%, due 2012-2032, par value $203,500	212,317	213,010
Series L, 3.0%-5.25%, due 2004-2033, par value $141,670	149,668	150,357
Series M, 5.25%, due 2014-2030, par value $122,000	119,750	130,264
Series O, 4.0%-5.0%, due 2017, par value $88,000	88,000	89,117
Total MassDevelopment	$ 850,400	$ 863,471
Medium Term Notes Series A, 7.125% due 2026, par value $17,415	17,375	17,371
Medium Term Notes Series A, 7.25%, due 2096, par value $45,604	45,455	45,451
Taxable Bonds, Series B, 5.60%, due 2111, par value $750,000*	747,050	747,019
Taxable Bonds, Series C, 4.68%, due 2114, par value $550,000*	550,000	550,000
Taxable Bonds, Series D, 2.051-3.959%, due 2019-2038, par value $522,410	522,410	522,410
Notes payable to bank, variable rate, due 2017	113,033	113,033
Total taxable.	$ 1,995,323	$ 1,995,284
Total educational plant	$ 2,845,723	$ 2,858,755
Other		
Notes payable to bank, variable rate, due 2017	63,476	63,476
Total borrowings	$ 2,909,199	$ 2,922,231
Unamortized debt issuance costs	(17,106)	(17,672)
Total borrowings net of unamortized debt issuance cost	**$ 2,892,093**	**$ 2,904,559**

** The proceeds of Taxable Bonds, Series B and C were in the process of being invested in physical assets in 2015 and 2016, with unused balances held as investments.*

Fair value of the outstanding debt is approximately 24 and 9 percent greater than the carrying value in 2016 and 2015, respectively. It is classified as Level 3 under the valuation hierarchy described in Note B. Fair value is based on estimates using current interest rates available for similarly rated debt of the same remaining maturities for tax-exempt debt and rates for recent trades for taxable debt.

F. Net Borrowings (continued)

The aggregate amounts of debt payments and sinking fund requirements for each of the next five fiscal years are shown in Table 18 below.

Table 18. Debt Principal Obligations

(in thousands of dollars)

2017	$	98,090
2018		26,500
2019		92,410
2020		10,620
2021		11,180

MIT maintains a line of credit with a major financial institution for an aggregate commitment of $500.0 million. As of June 30, 2016, $323.5 million was available under this line of credit (see Notes payable on Table 17). The line of credit expires on March 31, 2017.

Cash paid for interest on long-term debt in 2016 and 2015 was $131.0 million and $128.9 million, respectively.

Variable interest rates at June 30, 2016 are shown in Table 19 below.

Table 19. Variable Interest Rates

(in thousands of dollars)		Amount	Rate
MassDevelopment Series J-1	$	125,000	0.40%
MassDevelopment Series J-2		125,000	0.42%
Notes payable to bank		176,509	1.06%

In the event that MIT receives notice of any optional tender on its Series J-1 and Series J-2 variable-rate bonds, or if these 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, MIT will be obligated to purchase the bonds tendered at 100 percent of par on the tender date.

G. Commitments and Contingencies

Federal Government Funding

MIT receives funding or reimbursement from Federal agencies for sponsored research under Government grants and contracts. These grants and contracts provide for reimbursement of indirect costs based on rates negotiated with the Office of Naval Research (ONR), MIT's cognizant Federal agency. MIT's indirect cost reimbursements have been based on fixed rates with carryforward of under- or over-recoveries. At June 30, 2016 and 2015, MIT recorded a net over-recovery of $24.7 million and $19.5 million, respectively.

The DCAA is responsible for auditing indirect charges to grants and contracts in support of ONR's negotiating responsibility. MIT has final audited rates through 2009. MIT's 2016 research revenues of $1,690.2 million include reimbursement of indirect costs of $235.3 million, which includes the adjustment for the variance between the indirect cost income determined by the fixed rates and actual costs for 2016. In 2015, research revenues were $1,576.6 million, which included reimbursement of indirect costs of $217.9 million.

Leases

At June 30, 2016, there were no capital lease obligations. MIT is committed under certain operating (rental) leases. Rent expense incurred under operating lease obligations was $40.0 million and $41.3 million in 2016 and 2015, respectively. Future minimum payments under operating leases are shown in Table 20 below.

Table 20. Lease Obligations

(in thousands of dollars)

2017	$	44,361
2018		44,501
2019		41,452
2020		27,697
2021		26,573

Investments

As of June 30, 2016, $12.6 million of investments were pledged as collateral to various suppliers and Government agencies.

G. Commitments and Contingencies (continued)

Future Construction

MIT has contracted for educational plant in the amount of $389.3 million at June 30, 2016. It is expected that the resources to satisfy these commitments will be provided from unexpended plant funds, anticipated gifts, bond proceeds, and unrestricted funds. MIT will be committing additional resources to planned major construction projects and improvements to the current infrastructure over the next several years.

Related Entities

MIT has entered into agreements, including collaborations with third-party not-for-profit and for-profit entities, for education, research, and technology transfers. Some of these agreements involve funding from foreign governments. These agreements subject MIT to greater financial risk than do its normal operations. In the opinion of management, the likelihood of realization of increased financial risks by MIT under these agreements is remote.

General

MIT is subject to certain other legal proceedings and claims that arise in the normal course of operations. In the opinion of management, the ultimate outcome of these actions will not have a material effect on MIT's financial position.

H. Functional Expense Classification

MIT's expenditures on a functional basis are shown in Table 21 below.

Table 21. Expenditures by Functional Classification

(in thousands of dollars)	2016	2015
General and administrative	$ 858,441	$ 763,680
Instruction and unsponsored research	854,595	811,495
Sponsored research	1,479,158	1,386,334
Auxiliary enterprises	141,437	134,076
Operation of Alumni Association	16,268	15,534
Total operating expenses	**$ 3,349,899**	**$ 3,111,119**

I. Retirement Benefits

MIT offers a defined benefit plan and a defined contribution plan to its employees. The plans cover substantially all MIT employees.

MIT also offers a postretirement welfare benefit plan (certain healthcare and life insurance benefits) for retired employees. Substantially all MIT employees may become eligible for those benefits if they reach a qualifying retirement age while working for MIT. The healthcare component of the welfare plan is paid for in part by retirees, their covered dependents, and beneficiaries. Benefits are provided through various insurance companies whose charges are based either on the claims and administrative expenses paid during the year or annual insured premiums. The life insurance component of the welfare plan includes basic life insurance and supplemental life insurance. The basic life insurance plan is non-contributory and covers the retiree only. The supplemental life insurance plan is paid for by the retiree. MIT maintains a trust to pay for postretirement welfare benefits.

MIT contributes to the defined benefit plan amounts that are actuarially determined to provide the retirement plan with sufficient assets to meet future benefit requirements. There were designated contributions of $83.0 million and $7.5 million to the defined benefit plan in 2016 and 2015, respectively. MIT also designated contributions of $18.9 million and $28.7 million to the postretirement welfare benefit plan in 2016 and 2015, respectively. The employer contributions to the Retiree Welfare Benefit Plan (RWBP) decreased in 2016 mainly due to an increase in prescription drug rebates from drug manufacturers and more medical claims being directly paid by RWBP.

For the defined contribution plan, the amount contributed and expenses recognized during 2016 and 2015 were $55.2 million and $51.5 million, respectively.

For purposes of calculating net periodic cost, plan amendments for the defined benefit plan are amortized on a straight-line basis over the average future service of active participants at the date of the amendment. Plan amendments to the postretirement welfare benefit plan are amortized on a straight-line basis over the average future service to full eligibility of active participants at the date of amendment.

I. Retirement Benefits (continued)

Cumulative gains and losses (including changes in assumptions) in excess of 10 percent of the greater of the projected benefit obligation or the market-related value of assets for both the defined benefit plan and the postretirement welfare benefit plan are amortized over the average future service of active participants. The annual amortization shall not be less than the total amount of unrecognized gains and losses up to $1.0 million.

Components of Net Periodic Benefit Cost

Table 22 below summarizes the components of net periodic benefit cost recognized in operating activity and other amounts recognized in non-operating activity in unrestricted net assets for the years ended June 30, 2016 and 2015.

Table 22. Components of Net Periodic Benefit Cost

	Defined Benefit Plan		Postretirement Welfare Benefit Plan	
(in thousands of dollars)	2016	2015	2016	2015
Components of net periodic benefit cost recognized in operating activity:				
Service cost	$ 85,464	$ 80,840	$ 25,097	$ 25,950
Interest cost	158,983	141,805	25,478	24,453
Expected return on plan assets	(243,615)	(223,648)	(34,703)	(30,623)
Amortization of net actuarial loss	20,088	24,596	1,000	6,064
Amortization of prior service cost	953	953	(2,801)	(2,801)
Net periodic benefit cost recognized in operating activity	$ 21,873	$ 24,546	$ 14,071	$ 23,043
Other amounts recognized in non-operating activity in unrestricted net assets:				
Current year actuarial loss (gain)	492,083	56,748	30,889	(41,250)
Amortization of actuarial gain	(20,088)	(24,596)	(1,000)	(6,064)
Amortization of prior service cost	(953)	(953)	2,801	2,801
Total other amounts recognized in non-operating activity	$ 471,042	$ 31,199	$ 32,690	$ (44,513)
Total recognized	**$ 492,915**	**$ 55,745**	**$ 46,761**	**$ (21,470)**

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 cost during the next fiscal year are $33.2 million and $1.0 million, respectively. The estimated net actuarial loss and prior service cost (credit) for the postretirement welfare benefit plan that will be amortized from unrestricted net assets into net periodic benefit cost during the next fiscal year are $1.0 million and $(2.8) million, respectively.

I. Retirement Benefits (continued)

Cumulative amounts recognized as non-operating changes in unrestricted net assets are summarized in Table 23 below for the years ended June 30, 2016 and 2015.

Table 23. Cumulative Amounts Recognized in Unrestricted Net Assets

	Defined Benefit Plan		Postretirement Welfare Benefit Plan	
(in thousands of dollars)	2016	2015	2016	2015
Amounts recognized in unrestricted net assets consist of:				
Net actuarial loss	$ 787,874	$ 315,879	$ 39,515	$ 9,626
Prior service cost (credit)	973	1,926	(10,615)	(13,416)
Total cumulative amounts recognized in unrestricted net assets	**$ 788,847**	**$ 317,805**	**$ 28,900**	**$ (3,790)**

Benefit Obligations and Fair Value of Assets

Table 24 below summarizes the benefit obligations, plan assets, and amounts recognized in the Consolidated Statements of Financial Position for MIT's retirement benefit plans. MIT uses a June 30 measurement date for its defined benefit and postretirement welfare benefit plans.

Table 24. Projected Benefit Obligations and Fair Value of Assets

	Defined Benefit Plan		Postretirement Welfare Benefit Plan	
(in thousands of dollars)	2016	2015	2016	2015
Change in projected benefit obligations:				
Projected benefit obligations at beginning of year	$ 3,431,688	$ 3,140,704	$ 548,965	$ 539,262
Service cost	85,464	80,840	25,097	25,950
Interest cost	158,983	141,805	25,478	24,453
Retiree contributions	-	-	5,543	4,881
Net benefit payments, transfers, and other expenses	(138,464)	(113,739)	(28,396)	(30,506)
Employer Group Waiver Plan (EGWP) reimbursement	-	-	5,053	6,273
Assumption changes and actuarial net loss (gain)	257,663	182,078	344	(21,348)
Projected benefit obligations at end of the year	$ 3,795,334	$ 3,431,688	$ 582,084	$ 548,965
Change in plan assets:				
Fair value of plan assets at beginning of the year	3,378,500	3,135,764	548,920	495,372
Actual return on plan assets	9,197	348,975	4,160	50,522
Employer contributions	83,000	7,500	18,929	28,651
Retiree contributions	-	-	5,543	4,881
Net benefit payments, transfers, and other expenses	(138,464)	(113,739)	(28,396)	(30,506)
Fair value of plan assets at end of the year	3,332,233	3,378,500	549,156	548,920
Unfunded status at end of the year	**$ (463,101)**	**$ (53,188)**	**$ (32,928)**	**$ (45)**
Amounts recognized in the Consolidated Statements of Financial Position consist of:				
Total accrued benefit liabilities	**$ (463,101)**	**$ (53,188)**	**$ (32,928)**	**$ (45)**

I. Retirement Benefits (continued)

The accumulated benefit obligation for MIT's defined benefit plan was $3,608.5 million and $3,075.9 million at June 30, 2016 and 2015, respectively.

MIT provides retiree drug coverage through an Employer Group Waiver Plan (EGWP). Under EGWP, the cost of drug coverage is offset through direct federal subsidies, brand-name drug discounts, and reinsurance reimbursements.

Assumptions and Healthcare Trend Rates

Table 25 below summarizes assumptions and healthcare trend rates. The expected long-term rate of return assumption represents the expected average rate of earnings on the funds invested or to be invested to provide for the benefits included in the benefit obligation. The long-term rate of return assumption is determined based on a number of factors, including historical market index returns, the anticipated long-term asset allocation of the plans, historical plan return data, plan expenses, and the potential to outperform market index returns.

Table 25. Assumptions

	Defined Benefit Plan		Postretirement Welfare Benefit Plan	
(in thousands of dollars)	2016	2015	2016	2015
Assumptions used to determine benefit obligation as of June 30:				
Discount rate	4.06%	4.62%	4.03%	4.54%
Rate of compensation increase*	4.00%	4.00%		
Assumptions used to determine net periodic benefit cost for the year ended June 30:				
Discount rate	4.62%	4.50%	4.54%	4.43%
Expected long-term return on plan assets	8.00%	8.00%	7.00%	7.00%
Rate of compensation increase*	4.00%	4.00%		
Assumed healthcare cost trend rates:				
Healthcare cost trend rate assumed for next year			6.00%	6.50%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)			4.75%	4.75%
Year the rate reaches the ultimate trend rate			2021	2021

** The average rate of salary increase is assumed to be 4.00% for 2017 and thereafter.*

As an indicator of sensitivity, a one percentage point change in the assumed healthcare cost trend rate would affect 2016 as shown in Table 26 below.

Table 26. Healthcare Cost Trend Rate Sensitivity

(in thousands of dollars)	1% Point Increase	1% Point Decrease
Effect on 2016 postretirement service and interest cost	$ 9,423	$ (7,447)
Effect on postretirement benefit obligation as of June 30, 2016	85,651	(70,238)

Plan Investments

The investment objectives for the assets of the plans are to minimize expected funding contributions and to meet or exceed the rate of return assumed for plan funding purposes over the long term. The nature and duration of benefit obligations, along with assumptions concerning asset class returns and return correlations, are considered when determining an appropriate asset allocation to achieve the investment objectives.

Investment policies and strategies governing the assets of the plans are designed to achieve investment objectives within prudent risk parameters. Risk management practices include the use of external investment managers, the maintenance of a portfolio diversified by asset class, investment approach, security holdings, and the maintenance of sufficient liquidity to meet benefit obligations as they come due.

I. Retirement Benefits (continued)

Tables 27A and 27B present investments at fair value of MIT's defined benefit plan and postretirement welfare benefit plan, which are included in plan net assets as of June 30, 2016 and 2015, grouped by the valuation hierarchy detailed in Note B. The investment values in these tables exclude certain items included in the assets shown in Table 24. The 2016 transfers from Level 1 to Level 2 totaled $21.8 million and $3.5 million for the defined benefit plan and postretirement benefit plan, respectively. The 2016 transfers from Level 2 to Level 1 totaled $2.4 million and $0.3 million for the defined benefit plan and the postretirement benefit plan, respectively. There were no transfers in and out of Level 1 and Level 2 fair value measurements in 2015.

Table 27A. Defined Benefit Plan Investments

(in thousands of dollars)	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	NAV as Practical Expedient [NAV]	Total Fair Value
Fiscal Year 2016					
Cash and cash equivalents	$ 154,852	$ -	$ -	$ -	$ 154,852
US Treasury	304,281	-	-	-	304,281
US Government agency	-	8,701	-	-	8,701
Domestic bonds	-	13	-	-	13
Foreign bonds	-	6,973	-	-	6,973
Common equity:					
Long domestic	42,147	-	53	-	42,200
Long foreign	80,573	21,844	-	-	102,417
Equity:*					
Absolute return	-	-	-	352,188	352,188
Domestic	-	-	-	407,180	407,180
Foreign	-	-	-	792,305	792,305
Private	-	-	-	661,125	661,125
Real estate*	1,492	-	-	277,671	279,163
Real assets*	-	-	-	119,031	119,031
Other	9,420	-	589	-	10,009
Derivatives	44	777	-	-	821
Total plan investments	**$ 592,809**	**$ 38,308**	**$ 642**	**$ 2,609,500**	**$ 3,241,259**
Fiscal Year 2015					
Cash and cash equivalents	$ 204,917	$ -	$ -	$ -	$ 204,917
US Treasury	298,529	-	-	-	298,529
US Government agency	-	11,183	-	-	11,183
Foreign bonds	-	144	-	-	144
Domestic bonds	-	-	-	-	-
Common equity:					
Long domestic	32,253	-	74	-	32,327
Long foreign	122,483	902	-	-	123,385
Equity:*					
Absolute return	-	-	-	334,619	334,619
Domestic	-	-	-	504,042	504,042
Foreign	-	-	-	809,825	809,825
Private	-	-	-	629,042	629,042
Real estate*	-	1,466	-	273,468	274,934
Real assets*	-	-	261	133,386	133,647
Other	5,069	-	760	-	5,829
Derivatives	13	1,209	-	-	1,222
Total plan investments	**$ 663,264**	**$ 14,904**	**$ 1,095**	**$ 2,684,382**	**$ 3,363,645**

** Real assets, real estate, and equity categories include commingled vehicles that invest in these types of investments.*

I. Retirement Benefits (continued)

Table 27B. Postretirement Welfare Benefit Plan Investments

(in thousands of dollars)	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Measured at Net Asset Value [NAV]	Total Fair Value
Fiscal Year 2016					
Cash and cash equivalents	$ 29,733	$ -	$ -	$ -	$ 29,733
Domestic bonds	-	76,019	-	-	76,019
Foreign bonds	-	498	-	-	498
Common equity:					
Long domestic	15,771	-	-	-	15,771
Long foreign	10,356	3,524	-	-	13,880
Equity:*					
Absolute return	-	-	-	67,327	67,327
Domestic	-	-	-	75,578	75,578
Foreign	-	-	-	180,830	180,830
Private	-	-	-	60,008	60,008
Real estate	204	-	-	22,968	23,172
Real assets*	-	-	-	4,574	4,574
Other	695	-	-	-	695
Derivatives	-	-	-	-	-
Total plan investments	**$ 56,759**	**$ 80,041**	**$ -**	**$ 411,285**	**$ 548,085**
Fiscal Year 2015					
Cash and cash equivalents	$ 18,502	$ -	$ -	$ -	$ 18,502
Domestic bonds	-	71,428	-	-	71,428
Foreign bonds	-	10	-	-	10
Common equity:					
Long domestic	25,177	-	-	-	25,177
Long foreign	18,098	123	-	-	18,221
Equity:*					
Absolute return	-	-	-	68,771	68,771
Domestic	-	-	-	79,074	79,074
Foreign	-	-	-	194,610	194,610
Private	-	-	-	48,593	48,593
Real estate	-	200	-	20,362	20,562
Real assets*	-	-	-	3,763	3,763
Other	362	-	-	-	362
Derivatives	-	-	-	-	-
Total plan investments	**$ 62,139**	**$ 71,761**	**$ -**	**$ 415,173**	**$ 549,073**

** Real assets and equity categories include commingled vehicles that invest in these types of investments.*

I. Retirement Benefits (continued)

Table 28 below is a rollforward of the investments classified by MIT's defined benefit plan within Level 3 of the fair value hierarchy defined in Note B as at June 30, 2016 and 2015.

Table 28. Rollforward of Level 3 Investments

(in thousands of dollars)	Fair Value Beginning	Realized Gains (Losses)	Unrealized Gains (Losses)	Purchases	Sales	Transfers	Fair Value Ending
Defined Benefit Plan							
Fiscal Year 2016							
Common equity:							
Long domestic	$ 74	$ -	$ (21)	$ -	$ -	$ -	$ 53
Real assets	261	(3,438)	3,177	-	-	-	-
Other	760	-	(171)	-	-	-	589
Total	**$ 1,095**	**$ (3,438)**	**$ 2,985**	**$ -**	**$ -**	**$ -**	**$ 642**
Fiscal Year 2015							
Common equity:							
Long domestic	$ 909	$ -	$ (835)	$ -	$ -	$ -	$ 74
Real assets	2,706	-	(2,445)	-	-	-	261
Other	1,191	-	(431)	-	-	-	760
Total	**$ 4,806**	**$ -**	**$ (3,711)**	**$ -**	**$ -**	**$ -**	**$ 1,095**

I. Retirement Benefits (continued)

The plans have made investments in various long-lived partnerships, and in other cases have entered into contractual arrangements that may limit their ability to initiate redemptions due to notice periods, lock-ups, and gates. Details on estimated remaining life and current redemption terms and restrictions by asset class and type of investment for both the defined benefit plan and postretirement welfare benefit plan are provided in Table 29 below as of June 30, 2016 and 2015.

Table 29. Unfunded Commitments

	2016		2015			
(in thousands of dollars)	Unfunded Commitments	Fair Value	Unfunded Commitments	Fair Value	Redemption Terms	Redemption Restrictions
Defined Benefit Plan						
Equity:						
Domestic	$ 403	$ 407,180	$ 433	$ 504,042	Redemption terms range from 4 months with 60 days notice to 25 months with 3 months notice and 2 closed-end funds not available for redemption	Lock-up provisions range from none to 26 months; 2 funds are not redeemable
Foreign	54,781	792,305	12,710	809,825	Redemption terms range from daily with 28 days notice to 13 months with 3 months notice and 1 closed-end fund not available for redemption	Lock-up provisions range from none to 44 months; 1 fund is not redeemable
Absolute return	39,851	352,188	65,457	334,619	Redemption terms range from 4 months with 30 days notice to closed-end funds that are not redeemable	Lock-up provisions range from none to not redeemable
Private	318,779	661,125	232,650	629,042	Closed-end funds not available for redemption	Not redeemable
Real estate	150,325	277,671	133,612	273,468	Closed-end funds not available for redemption	Not redeemable
Real assets	38,282	119,031	30,602	133,386	Redemption terms range from 9 months with 1 day notice to closed-end funds which are not redeemable	Lock-up provisions range from none to not redeemable
Total	**$ 602,421**	**$ 2,609,500**	**$ 475,464**	**$ 2,684,382**		
Postretirement Welfare Benefit Plan						
Equity:						
Domestic	$ 45	$ 75,578	$ 48	$ 79,074	Redemption terms range from 4 months with 60 days notice to 25 months with 3 months notice and 1 closed-end fund not available for redemption	Lock-up provisions range from none to 26 months; 1 fund is not redeemable
Foreign	8,269	180,830	2,000	194,610	Redemption terms range from 45 days with 10 days notice to 13 months with 3 months notice with 1 closed-end fund not available for redemption	Lock-up provisions range from none to 44 months; 1 fund is not redeemable
Absolute return	3,852	67,327	7,393	68,771	Redemption terms range from 4 months with 30 days notice to closed-end funds that are not redeemable	Lock-up provisions range from none to not redeemable
Private	46,563	60,008	30,742	48,593	Closed-end funds not available for redemption	Not redeemable
Real estate	19,460	22,968	16,083	20,362	Closed-end funds not available for redemption	Not redeemable
Real assets	5,586	4,574	3,889	3,763	Closed-end funds not available for redemption	Not redeemable
Total	**$ 83,775**	**$ 411,285**	**$ 60,155**	**$ 415,173**		

I. Retirement Benefits (continued)

Target allocations and weighted-average asset allocations of the investment portfolio for the MIT defined benefit plan and postretirement welfare benefit plan at June 30, 2016 and 2015 are shown in Table 30 below.

Table 30. Plan Investment Allocation

	Defined Benefit Plan			Postretirement Welfare Benefit Plan		
	2016 Target Allocation	2016	2015	2016 Target Allocation	2016	2015
Cash and cash equivalents	0–10%	5%	6%	0–10%	6%	3%
Fixed income	3–13%	10%	9%	10–20%	14%	13%
Equities	33.5–83.5%	62%	63%	37–87%	63%	66%
Marketable alternatives	7.5–17.5%	11%	10%	9.5–19.5%	12%	13%
Real assets	1–11%	4%	4%	0–5.5%	1%	1%
Real estate	5–15%	8%	8%	0–8%	4%	4%
Total		**100%**	**100%**		**100%**	**100%**

Table 31 below summarizes the notional exposure and net ending fair value of derivative financial instruments held by the MIT defined benefit plan at June 30, 2016 and 2015. Refer to Note C for a detailed discussion regarding derivative financial instruments.

Table 31. Derivative Financial Instruments for Defined Benefit Plan

	Notional Exposure		Net Ending Fair	Net Gain
(in thousands of dollars)	Long	Short	Value Amount	(Loss)
Fiscal Year 2016				
Equity instruments:				
Equity options	$ 24	$ -	$ 4	$ -
Total equity instruments	24	-	4	-
Fixed income instruments:				
Fixed income futures	5,900	(900)	44	-
Total fixed income instruments	5,900	(900)	44	-
Commodity and index instruments:				
Equity index swaps	-	(28,043)	773	12,736
Total commodity and index instruments	-	(28,043)	773	12,736
2016 Total	**$ 5,924**	**$ (28,943)**	**$ 821**	**$ 12,736**
Fiscal Year 2015				
Equity instruments:				
Equity options	$ -	$ -	$ -	$ -
Total equity instruments	-	-	-	-
Fixed income instruments:				
Fixed income futures	2,500	(1,000)	13	(23)
Total fixed income instruments	2,500	(1,000)	13	(23)
Commodity and index instruments:				
Equity index swaps	-	(50,851)	1,209	(10,835)
Total commodity and index instruments	-	(50,851)	1,209	(10,835)
2015 Total	**$ 2,500**	**$ (51,851)**	**$ 1,222**	**$ (10,858)**

I. Retirement Benefits (continued)

Counterparty risk may be partially or completely mitigated through master netting agreements included within an International Swap and Derivatives Association, Inc. ("ISDA") Master Agreement between the Plan and each of its counterparties. The ISDA Master Agreement allows the Plan to offset with the counterparty certain derivative instruments' payables and/or receivables with collateral held with each counterparty.

To the extent amounts due from the counterparties are not fully collateralized contractually or otherwise, there is the risk of loss from counterparty non-performance. As of June 30, 2016, the defined benefit plan has elected not to offset recognized assets and liabilities. The following tables, 32 and 33, summarize the effect that offsetting of recognized assets and liabilities could have on the investments held by the defined benefit plan.

Table 32. Offsetting of Financial and Derivative Assets and Liabilities

	2016			2015		
(in thousands of dollars)	Gross Amount	Cash/Treasury Collateral Posted/ (Received)	Net Amount	Gross Amount	Cash/Treasury Collateral Posted/ (Received)	Net Amount
Assets						
Counterparty A	$ 773	$ (974)	$ (201)	$ 1,209	$ (2,950)	$ (1,741)
Total assets	$ 773	$ (974)	$ (201)	$ 1,209	$ (2,950)	$ (1,741)
Liabilities						
Counterparty A	$ -	$ -	$ -	$ -	$ -	$ -
Total liabilities	-	-	-	-	-	-
Total assets and liabilities, net	**$ 773**	**$ (974)**	**$ (201)**	**$ 1,209**	**$ (2,950)**	**$ (1,741)**

Maximum risk of loss from counterparty credit risk on over-the-counter derivatives is generally the aggregate unrealized appreciation in excess of any collateral pledged by the counterparty. ISDA Master Agreements allow the Plan or the counterparties to an over-the-counter derivative to terminate the contract prior to maturity in the event either party fails to meet the terms in the ISDA Master Agreements. This would cause an accelerated payment of net liability, if owed to the counterparty.

Table 33 below reconciles the net recognized assets and liabilities, as shown in Table 32, to derivative financial instruments as shown in Table 27A.

Table 33. Reconciliation of Financial and Derivative Assets and Liabilities

(in thousands of dollars)	2016	2015
Derivatives from Table 27A	$ 821	$ 1,222
Fixed income futures	(44)	(13)
Equity options	(4)	-
Total	**$ 773**	**$ 1,209**

I. Retirement Benefits (continued)

Expected Future Benefit Payments

In fiscal 2017, MIT expects to make contributions of $33.1 million and $4.4 million to its defined benefit pension plan and postretirement welfare benefit plan, respectively. These contributions have been estimated based on the same assumptions used to measure MIT's benefit obligations at June 30, 2016.

Table 34 below reflects total expected benefit payments for the defined benefit and postretirement welfare benefit plans over the next ten years. These payments have been estimated based on the same assumptions used to measure MIT's benefit obligations at June 30, 2016.

Table 34. Expected Future Benefit Payments

(in thousands of dollars)	Pension Benefits	Other Benefits*
2017	$ 140,825	$ 25,516
2018	151,164	27,584
2019	158,248	29,341
2020	165,653	30,831
2021	173,511	32,361
2022–2026	980,675	184,757

** Other Benefits reflects the total net benefits expected to be paid from the plans (e.g., gross benefit reimbursement offset by retiree contributions).*

J. Components of Net Assets and Endowment

Table 35 below presents the total net assets composition as of June 30, 2016. The amounts listed in the unrestricted category under endowment funds are those gifts and other funds received over the years that MIT designated as funds functioning as endowment and invested with the endowment funds. A large component of temporarily restricted net assets in other invested funds is pledges, the majority of which will be reclassified to unrestricted net assets when cash is received.

Table 35. Total Net Asset Composition

	2016				
(in thousands of dollars)	Unrestricted	Temporarily Restricted	Permanently Restricted	Total	2015 Total
Endowment Funds					
General purpose	$ 870,064	$ 1,065,097	$ 236,540	$ 2,171,701	$ 2,243,829
Departments and research	611,592	1,029,438	635,170	2,276,200	2,331,345
Library	11,619	25,313	20,283	57,215	51,810
Salaries and wages	535,916	2,557,316	717,217	3,810,449	3,930,799
Graduate general	86,096	148,119	105,080	339,295	344,361
Graduate departments	138,416	349,490	278,728	766,634	744,126
Undergraduate	219,247	1,088,344	369,167	1,676,758	1,724,986
Prizes	8,430	30,567	20,600	59,597	61,885
Miscellaneous	1,117,010	217,395	326,435	1,660,840	1,664,495
Investment income held for distribution	362,826	-	-	362,826	377,107
Endowment funds before pledges	3,961,216	6,511,079	2,709,220	13,181,515	13,474,743
Pledges	-	-	251,521	251,521	213,196
Total endowment funds	3,961,216	6,511,079	2,960,741	13,433,036	13,687,939
Other Invested Funds					
Student loan funds	19,923	-	18,397	38,320	38,314
Building funds	51,657	60,326	-	111,983	103,990
Designated purposes:					
Departments and research	343,927	1,024	-	344,951	355,371
Other purposes	411,278	13,982	-	425,260	460,264
Life income funds	4,913	32,291	105,021	142,225	146,927
Pledges	-	357,544	-	357,544	344,899
Other funds available for current expenses	1,156,331	234,576	-	1,390,907	1,671,830
Funds expended for educational plant	684,855	-	-	684,855	697,039
Total other invested funds	2,672,884	699,743	123,418	3,496,045	3,818,634
Noncontrolling interests	205,421	-	-	205,421	232,415
Total net assets	**$ 6,839,521**	**$ 7,210,822**	**$ 3,084,159**	**$ 17,134,502**	**$ 17,738,988**

J. Components of Net Assets and Endowment (continued)

MIT's endowment consists of approximately 3,800 individual funds established for a variety of purposes and includes both donor-restricted endowment funds and funds designated by the Executive Committee of the MIT Corporation (Executive Committee) to function as endowment, as shown in Table 36 below. As required by GAAP, net assets associated with endowment funds, including funds designated by the Executive Committee to function as endowments, are classified and reported based on the existence or absence of donor-imposed restrictions.

The Executive Committee has interpreted the Massachusetts-enacted version of Uniform Prudent Management of Institutional Funds Act (UPMIFA) as allowing MIT to appropriate for expenditure or accumulate so much of an endowment fund as MIT determines is prudent for the uses, benefits, purposes, and duration for which the endowment fund is established, subject to the intent of the donor as expressed in the gift instrument. Unless stated otherwise in the gift instrument, the assets in an endowment fund shall be donor-restricted assets until appropriated for expenditure by the Executive Committee. As a result of this interpretation, MIT has not changed the way permanently restricted net assets are classified. (See Note A for further information on net asset classification.) The remaining portion of the donor-restricted endowment fund that is not classified in permanently restricted net assets is classified as temporarily restricted net assets until those amounts are appropriated for expenditure in a manner consistent with the standard of prudence prescribed by UPMIFA. In accordance with UPMIFA, the Executive Committee considers the following factors in making a determination to appropriate or accumulate endowment funds:

i. the duration and preservation of the fund
ii. the purposes of MIT and the endowment fund
iii. general economic conditions
iv. the possible effects of inflation and deflation
v. the expected total return from income and the appreciation of investments
vi. other resources of MIT
vii. the investment policies of MIT

Table 36. Endowment Net Asset Composition by Type of Fund

(in thousands of dollars)	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Fiscal Year 2016				
Donor-restricted endowment funds	$ (395)	$ 6,511,079	$ 2,960,741	$ 9,471,425
Board-designated endowment funds	3,961,611	-	-	3,961,611
Total endowment funds	**$ 3,961,216**	**$ 6,511,079**	**$ 2,960,741**	**$ 13,433,036**
Fiscal Year 2015				
Donor-restricted endowment funds	$ -	$ 6,889,791	$ 2,754,618	$ 9,644,409
Board-designated endowment funds	4,043,530	-	-	4,043,530
Total endowment funds	**$ 4,043,530**	**$ 6,889,791**	**$ 2,754,618**	**$ 13,687,939**

Underwater Endowment Funds

From time to time, the fair value of assets associated with individual donor-restricted endowment funds may fall below the value of the initial and subsequent donor gift amounts (underwater). When underwater endowment funds exist, they are classified as a reduction of unrestricted net assets. Total underwater endowment funds reported in unrestricted net assets were $0.4 million as of June 30, 2016. There were no underwater endowment funds reported in unrestricted net assets as of June 30, 2015.

J. Components of Net Assets and Endowment (continued)

Table 37 below reflects changes in unrestricted, temporarily restricted, and permanently restricted endowment net assets for fiscal year 2016 and 2015, respectively.

Table 37. Changes in Endowment Net Assets

(in thousands of dollars)	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Fiscal Year 2016				
Endowment net assets, July 1, 2015	$ 4,043,530	$ 6,889,791	$ 2,754,618	$ 13,687,939
Investment return:				
Investment income	20,731	43,822	11,093	75,646
Net appreciation (realized and unrealized)	4,586	(22,820)	22,442	4,208
Total investment return	25,317	21,002	33,535	79,854
Contributions	-	-	140,012	140,012
Appropriation of endowment assets for expenditure	(178,367)	(402,378)	(7,963)	(588,708)
Other changes:				
Underwater gain adjustment	(395)	395	-	-
Net asset reclassifications and transfers to create board-designated endowment funds	71,131	2,269	40,539	113,939
Endowment net assets, June 30, 2016	**$ 3,961,216**	**$ 6,511,079**	**$ 2,960,741**	**$ 13,433,036**
Fiscal Year 2015				
Endowment net assets, July 1, 2014	$ 3,709,574	$ 6,169,847	$ 2,710,357	$ 12,589,778
Investment return:				
Investment income	29,346	63,752	7,738	100,836
Net appreciation (realized and unrealized)	448,256	1,029,171	(100,887)	1,376,540
Total investment return	477,602	1,092,923	(93,149)	1,477,376
Contributions	-	-	88,376	88,376
Appropriation of endowment assets for expenditure	(165,768)	(375,259)	(4,834)	(545,861)
Other changes:				
Underwater gain adjustment	-	-	-	-
Net asset reclassifications and transfers to create board-designated endowment funds	22,122	2,280	53,868	78,270
Endowment net assets, June 30, 2015	**$ 4,043,530**	**$ 6,889,791**	**$ 2,754,618**	**$ 13,687,939**

J. Components of Net Assets and Endowment (continued)

Endowment Investment and Spending Policies

MIT's investment policy is based on the primary goal of maximizing return relative to appropriate risk such that performance exceeds appropriate benchmark returns at the total pool, asset class, and individual manager levels. To achieve its long-term rate-of-return objectives, MIT relies on a total return strategy in which investment returns are realized through both capital appreciation (realized and unrealized gains) and current yield (interest and dividends). MIT targets a diversified asset allocation that places greater emphasis on equity-based investments to achieve its long-term objectives within prudent risk constraints.

The Institute's primary investment pool, Pool A, is principally for endowment and funds functioning as endowment. Pool A operates as a mutual fund with units purchased and redeemed based on the previous month's unit market value. The total market value of Pool A was $14,448.3 million at June 30, 2016 and $14,921.5 million at June 30, 2015. Pool A included non-endowed operating and life income funds totaling $1,479.2 million at June 30, 2016 and $1,652.2 million at June 30, 2015. Certain endowed assets are also maintained in separately invested funds. These separately invested funds totaled $214.5 million and $176.3 million at June 30, 2016 and 2015, respectively.

MIT has adopted spending policies designed to provide a predictable stream of funding to programs supported by its investments while maintaining the purchasing power of assets. For pooled investments, the Executive Committee of the Corporation votes to distribute funds for operational support from general investments. In accordance with MIT's spending policy, these distributions are funded from both investment income and market appreciation. The distribution rates were $69.29 and $65.33 per Pool A unit as of June 30, 2016 and 2015, respectively. For separately invested endowment funds, only the annual investment income generated is distributed for spending.

SECTION II

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

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Massachusetts Institute of Technology
Schedule of Expenditures of Federal Awards
For the Year Ended June 30, 2016

Federal Grantor/ Pass Through Grantor/ Program Title	Federal CFDA Number	Total $ Amount Expended	$ Amount Passed to Subrecipients
Research and Development Cluster			
U.S. Department of Defense:	12		
Air Force		$ 303,402,113	$ 24,779,443
Army		75,459,850	6,139,195
Classified		137,878,380	9,136,709
Defense Advance Research Project Agency		57,259,774	5,735,467
Missile Defense Agency		79,922,955	7,520,223
National Security Agency		12,623,954	198,106
Navy		87,744,155	10,302,983
Other DOD		178,821,907	11,950,624
Passthrough		31,550,218	160,263
Total Department of Defense		$ 964,663,306	$ 75,923,013
U.S. Department of Energy	81	73,353,003	5,028,642
U.S. Department of Energy - Passthrough	81	12,330,429	344,111
U.S. Department of Health and Human Services	93	126,584,984	8,937,245
U.S. Department of Health and Human Services - Passthrough	93	18,528,586	-
Federal Aviation Administration	20	28,325,321	1,466,991
Miscellaneous Federal Government	Various	15,372,482	3,402,949
Miscellaneous Federal Government - Passthrough	Various	3,982,018	43,297
National Aeronautics & Space Administration	43	58,053,756	14,726,742
National Aeronautics & Space Administration - Passthrough	43	10,776,808	86,890
National Oceanic & Atmospheric Administration	11	8,468,164	1,995,293
National Science Foundation	47	81,965,467	7,864,093
National Science Foundation - Passthrough	47	16,121,206	717,944
Total Research and Development Cluster	Appendix A 1-3	$ 1,418,525,530	$ 120,537,210

The accompanying notes are an integral part of this schedule.

Massachusetts Institute of Technology
Schedule of Expenditures of Federal Awards
For the Year Ended June 30, 2016
(continued from previous page)

Federal Grantor/ Pass Through Grantor/ Program Title	Federal CFDA Number	Total $ Amount Expended	$ Amount Passed to Subrecipients
Student Financial Assistance Cluster			
Pell	84.063	$ 3,347,132	
Federal Supplemental Educational Opportunity	84.007	1,875,059	
Federal Work Study	84.033	1,477,964	
Federal Perkins Loan:	84.038		
New Loans		4,663,881	
Balance Outstanding From Prior Years		35,783,145	
Loan Administrative Cost Allowance		398,470	
William D. Ford Federal Direct Loan Program:	84.268		
Direct Subsidized and Unsubsidized Loans		9,950,461	
Direct Plus Loan for Parents and for Graduate or Professional Students		7,610,553	
Total Student Financial Assistance Cluster		$ 65,106,665	
Highway Planning and Construction Cluster			
U.S. Department of Transportation - Passthrough	20.205	$ 233,430	
Total Highway Planning and Construction Cluster	Appendix A-4	$ 233,430	
Other Federal Expenditures:			
U.S. Department of Defense	Appendix B	$ 119,393	$ -
U.S. Department of Defense - Passthrough	Appendix C	4,892,339	-
U.S. Department of Education - Passthrough*	Appendix C	30,000	-
U.S. Department of Energy	Appendix B	664,149	-
U.S. Department of Energy - Passthrough	Appendix C	23,348	-
U.S. Department of Health and Human Services - Passthrough	Appendix C	65,664	-
Miscellaneous Federal Government	Appendix B	3,426,977	780,082
Miscellaneous Federal Government - Passthrough	Appendix C	529,920	-
National Aeronautics & Space Administration	Appendix B	2,096,126	22,340
National Aeronautics & Space Administration - Passthrough	Appendix C	655,571	-
Total Other Federal Expenditures		$ 12,503,487	$ 802,422
Total Federal Expenditures		$ 1,496,369,112	$ 121,339,632

**Expenditures for this grantor are included in the Miscellaneous Federal Government - Passthrough section of Appendix C*

The accompanying notes are an integral part of this schedule.

Massachusetts Institute of Technology
Notes to Schedule of Expenditures of Federal Awards
For the Year Ended June 30, 2016

1. Basis of Presentation

The accompanying schedule of expenditures of federal awards including appendices A, B and C (the "Schedule") summarize the expenditures of the Massachusetts Institute of Technology (the "Institute") under programs of the federal government for the year ended June 30, 2016. Because the Schedule presents only a selected portion of the activities of the Institute, it is not intended to and does not present the financial position, changes in net assets and cash flows of the Institute. The accompanying appendices A, B, and C provide detail on the federal awards expended by the Institute.

For purposes of the Schedule, federal awards include all grants, contracts and similar agreements entered into directly between the Institute and agencies and departments of the federal government and all subawards to the Institute by nonfederal organizations pursuant to federal grants, contracts and similar agreements. The information in this schedule is presented in accordance with the provisions of the Office of Management and Budget's *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Therefore, certain amounts presented in the Schedule may differ from amounts presented in, or used in preparation of, the consolidated financial statements. CFDA and pass-through numbers are provided when available. Negative amounts represent adjustments to amounts reported in prior years in the normal course of business.

2. Summary of Significant Accounting Policies for Federal Expenditures

Expenditures for direct costs are recognized as incurred using the accrual method of accounting and the cost accounting principles contained in OMB Circular A-21, *Cost Principles for Educational Institutions,* and OMB's Uniform Guidance. Under those cost principles, certain types of expenditures are not allowable or are limited as to reimbursement. Moreover, expenditures include a portion of costs associated with general Institute activities (facilities and administrative costs) which are allocated to awards under negotiated formulas commonly referred to as facilities and administrative rates.

The Institute 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 Institute receives funding from federal government agencies for sponsored research under government grants and contracts. These grants and contracts provide for reimbursement of indirect costs based on rates negotiated with the Office of Naval Research (ONR), the Institute's cognizant federal agency. The Institute's indirect cost reimbursements are based on fixed rates with carryforward of under or over recoveries.

The Defense Contract Audit Agency (DCAA) is responsible for auditing indirect charges to grants and contracts. The Institute has final audited rates through 2009 and negotiated fixed rates for indirect costs through the 2016 fiscal year.

3. Federal Student Loan Programs

The Federal Perkins Loan Program (CFDA #84.038) is administered directly by the Institute and balances and transactions relating to this program are included in the Institute's consolidated

financial statements. The balance of loans outstanding for this program at June 30, 2016 is $32,509,723.

The William D. Ford Federal Direct Loan Programs (CFDA #84.268) are not administered by the Institute and balances and transactions relating to these programs are not included in the Institute's consolidated financial statements.

Appendix A 1-3
Massachusetts Institute of Technology
Schedule of Expenditures of Federal Awards - Worksheet
Federal Research Support
FY 16 Expenditures

Sponsor	Campus Direct (Appendix A-1)	Lincoln Direct (Appendix A-2)	Lincoln Passthrough (Appendix A-2)	Campus Passthrough (Appendix A-3)	Total
Department of Defense:					
Air Force	$ 22,882,198	$ 280,519,915	$ -	$ -	$ 303,402,113
Army	30,356,506	45,103,344	-	-	75,459,850
Classified	-	137,878,380	-	-	137,878,380
Defense Advanced Research Project Agency	14,542,699	42,717,075	-	-	57,259,774
Missile Defense Agency	-	79,922,955	-	-	79,922,955
National Security Agency	-	12,623,954	-	-	12,623,954
Navy	27,889,516	59,854,639	-	-	87,744,155
Other Department of Defense	5,061,729	173,760,178	-	-	178,821,907
Passthrough	-	-	1,280,033	30,270,185	31,550,218
Total Department of Defense	100,732,648	832,380,440	1,280,033	30,270,185	964,663,306
Department of Energy	72,569,777	783,226	481,097	11,849,332	85,683,432
Department of Health & Human Services	97,318,039	29,266,945	-	18,528,586	145,113,570
Federal Aviation Administration	-	28,325,321	-	-	28,325,321
Miscellaneous Federal Government:					
Department of Agriculture	27,072	-	-	-	27,072
Department of Commerce	3,055,511	-	-	273,055	3,328,566
Department of Education	240,560	-	-	-	240,560
Department of Interior	299,459	-	-	99,478	398,937
Department of Transportation	5,188,404	-	-	600,715	5,789,119
Other	4,031,548	2,529,928	698,281	2,310,489	9,570,246
Total Miscellaneous Federal Government	12,842,554	2,529,928	698,281	3,283,737	19,354,500
Nat'l Aeronautics & Space Administration	40,476,033	17,577,723	1,588,958	9,187,850	68,830,564
Nat'l Oceanic & Atmospheric Administration	-	8,468,164	-	-	8,468,164
National Science Foundation	81,965,467	-	512,971	15,608,235	98,086,673
Total Federal Sponsors	**$ 405,904,518**	**$ 919,331,747**	**$ 4,561,340**	**$ 88,727,925**	**$ 1,418,525,530**

Note for Appendices A-1, A3, A4, B and C details:
- Contracts without CFDA numbers were shown as ".RD" in the CFDA# column for Research & Development and "U.00" for Non-R&D.
- Amounts less than 50 cents appear as zero due to rounding.

Appendix A1
Massachusetts Institute of Technology
Federal Research Support - On Campus
FY 2016 Expenditures

Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF DEFENSE					
Air Force					
Air Force	FA2386-10-1-4135	Intelligence in the Now: Robust Intelligence in Complex Domains	12.800	45,233	-
Air Force	FA2386-14-1-4067	Micro- and nano-structured materials for fluid and ion transport for miniaturized applications	12.800	56,382	-
Air Force	FA8650-11-1-7154	Nonparametric Representations for Integrated Inference, Central, and Sensing	12.910	35,575	2,185
Air Force	FA8650-14-C-2472	Computational Aircraft Prototype Syntheses (CAPS)	12.RD	611,560	95,458
Air Force	FA8650-15-C-7564	ClearScope: Transparent multi-level inter-process and intra-process information scoping	12.RD	1,209,014	-
Air Force	FA8650-16-1-7641	Integrated Magnetooptical Devices for On-Chip Photonic Systems	12.910	48,465	-
Air Force	FA8651-13-1-0002	Dynamic Decision-Making and Coordination of Humans and Autonomous Agents Under Communication and Information Uncertainty	12.800	131,884	-
Air Force	FA8750-11-2-0225	Computing on Encrypted Data: Theory and Applications	12.300	-37,665	-
Air Force	FA8750-12-1-0321	Assisted Perception, Planning and Control for Remote Mobility and Dexterous Manipulation	12.300	166,285	-
Air Force	FA8750-12-2-0110	Provably Safe Android Apps	12.800	1,256,407	853,301
Air Force	FA8750-14-2-0004	A General-Purpose Probabilistic Programming Platform with Effective Stochastic Interference	12.300	1,180,004	223,416
Air Force	FA8750-14-2-0120	Programmable Quantum Photonic Processor using Silicon Photonics	12.300	249,025	-
Air Force	FA8750-14-2-0242	CLIO: A Digital Code Assistant for Big Code Era	12.300	801,434	-
Air Force	FA8750-15-1-0034	New Frontiers in Networking with Emphasis on Defense Applications	12.300	24,715	-
Air Force	FA8750-15-2-0272	Julia: A Fresh Approach to Technical Computing and Data Processing	12.910	555,114	-
Air Force	FA8750-16-2-0141	Development of a Wide-Bandgap Programmable Nanophotonic Processor	12.300	38,972	-
Air Force	FA9453-13-C-0279	Improved Multiple-Event Location Methods for Ground-Truth Collection	12.RD	135,784	63,765
Air Force	FA9453-16-C-0018	Quantifying Uncertainty in Velocity Models and Travel-Time Predictions for Local and Regional Monitoring Networks	12.RD	37,081	-
Air Force	FA9550-10-1-0551	Advanced Technologies for Structural and Functional Optical Coherence Tomography	12.630	0	-
Air Force	FA9550-11-1-0011	PECASE Quantum Engineering of Strongly Correlated Matter with Ultracold Fermi Gases	12.630	111,203	-

Appendix A1
Massachusetts Institute of Technology
Federal Research Support - On Campus
FY 2016 Expenditures

Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Air Force	FA9550-11-1-0134	Distributed Hybrid Information and Plan Consensu HIPC for Semi-autonomous UAV TEams	12.800	635	-
Air Force	FA9550-11-1-0168	Lossy Information Exchange and Instantaneous Communication	12.800	16,842	-
Air Force	FA9550-11-1-0183	Stateless Networking: Principles, Architectures and Codes	12.800	272,185	-
Air Force	FA9550-11-1-0195	Plasma-Materials Interactions in Electric Propulsion	12.800	308,974	113,372
Air Force	FA9550-11-1-0199	Tu(r)ning Weakness to Strength: Mechanomutable Bioinspired Materials	12.800	312,445	-
Air Force	FA9550-11-1-0225	Quantum Transport and Optoelectronics in Gapped Graphene Nanodevices	12.800	169,368	-
Air Force	FA9550-11-1-0305	Statistical Models and Graph: Deconvolution via Incoherence	12.800	237,157	-
Air Force	FA9550-11-1-0312	The Value of Information in Distributed Desicion Networks	12.800	-16,652	-
Air Force	FA9550-12-1-0080	Phase-Sensitive Control of Molecular Dissociation Through Attosecond Pump/Strong-Field mid-IR Probe Spectroscopy	12.800	-3,287	-
Air Force	FA9550-12-1-0259	Thin Film Self-Assembly of Globular Protein-Polymer Diblock Copolymers for Nanostructured Biofunctional Materials	12.800	133,850	-
Air Force	FA9550-12-1-0287	Statistical, Graphical, and Learning Methods for Sensing, Surveillance, and Navigation Systems	12.800	151,810	-
Air Force	FA9550-12-1-0292	YIP: Modular Paradigm for Scalable Quantum Information	12.800	32,761	-
Air Force	FA9550-12-1-0313	Fluid SLAM and the Robotic Reconstruction of Localized Atmospheric Phenomena	12.800	320,386	67,500
Air Force	FA9550-12-1-0328	Air Force Fiscal Year 2012 Young Investigator Research Program	12.800	-74	-
Air Force	FA9550-12-1-0348	Robust Coordination of Autonomous Systems through Risk-sensitive, Model-based Programming and Execution	12.800	6,071	-
Air Force	FA9550-12-1-0357	Hybridized Multiscale Discontinuous Galerkin Methods for Multiphysics	12.800	2,854	-
Air Force	FA9550-12-1-0420	Model-based optimal experimental design for complex physical systems	12.800	43,132	-
Air Force	FA9550-12-1-0423	Efficient Algorithmic Frameworks via Structural Graph Theory	12.910	513,976	194,507
Air Force	FA9550-12-1-0499	Advanced Photonics: Science, Technologies and Applications	12.800	292,118	-
Air Force	FA9550-13-1-0023	Coding instead of splitting - algebraic combinations in time and space	12.800	109,320	-
Air Force	FA9550-13-1-0042	A Comprehensive Theory of Algorithms for Wireless Networks and Mobile Systems	12.800	330,741	-
Air Force	FA9550-13-1-0099	GEO Satellites as Space Weather Sensors	12.800	84,333	-
Air Force	FA9550-13-1-0159	High-Energy, Multi-Octave-Spanning Mid-IR Sources via Adiabatic Difference Frequency Generation	12.800	154,007	135,534
Air Force	FA9550-13-1-0193	Quantum Optics in Diamond Nanophotonic Chips	12.800	242,498	-
Air Force	FA9550-14-1-0031	Categorical approach to agent interaction	12.800	196,954	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Air Force	FA9550-14-1-0035	Advanced Quantum Material - A New Frontier for Ultracold Atoms	12.800	3,093,397	1,948,818
Air Force	FA9550-14-1-0052	Optimal Measurements for Scalable Quantum Technologies	12.800	3,110,395	1,102,683
Air Force	FA9550-14-1-0060	(BRI FY14) Theory-based Engineering of Biomolecular Circuits in Living Cells	12.800	709,912	300,119
Air Force	FA9550-14-1-0192	Constraining ICME Magnetic Field Orientations using Low Frequency Radio Polarimetric Observations	12.800	231,282	67,855
Air Force	FA9550-14-1-0226	Design and Synthesis of Polymers for Electrooptical Applications	12.800	300,911	-
Air Force	FA9550-14-1-0255	Isolated Soft-X-ray Attosecond Pulse Generation Using Synthesized Strong-Field Infrared Pulses	12.800	227,517	43,725
Air Force	FA9550-14-1-0292	Synthesis and Self-Assembly of Tri- and Tetra-block Bottlebrush Copolymers	12.800	109,509	-
Air Force	FA9550-14-1-0399	Dynamic Data-Driven Motion Planning and Control for Pervasive Situational Awareness Application Systems	12.800	311,199	88,806
Air Force	FA9550-14-1-0403	Network Coding for Strong Consistency Semantics in Distributed Shared Memory Networks	12.800	414,443	-
Air Force	FA9550-15-1-0038	(MURI 14)-A unified mathematical and algorithmic framework for managing multiple information sources of multi-physics systems	12.800	1,559,482	706,967
Air Force	FA9550-15-1-0046	Toward a Phenomenological Theory of Transport Phenomena in Molten Sulfide Systems	12.800	167,620	-
Air Force	FA9550-15-1-0058	VOLUME MODE TRAVELING WAVE TUBE AMPLIFIER	12.800	201,093	-
Air Force	FA9550-15-1-0072	Gradient based optimization and control of chaotic multidisciplinary systems via Least Squares Shadowing adjoint method	12.800	101,986	-
Air Force	FA9550-15-1-0078	Interferometric inversion for passive imaging and navigation	12.800	178,922	-
Air Force	FA9550-15-1-0135	Molecular Tuning of Interfacial Electrocatalysis	12.800	155,763	-
Air Force	FA9550-15-1-0276	Topology Optimization, Fabrication Adaptivity, and Model-Data Assimilation of Novel Photonic Materials	12.800	169,442	-
Air Force	FA9550-15-1-0310	Phase-change on Nanoporous Graphene for Advanced Thermal Management	12.800	116,640	-
Air Force	FA9550-15-1-0359	Degenerate Fermi Gases of Stable Dipolar Molecules	12.800	138,166	-
Air Force	FA9550-15-1-0473	Novel optical techniques for investigating cellular and vascular biophysics	12.800	35,068	-
Air Force	FA9550-15-1-0514	FATE: Foldable and Adaptive Two-Dimensional Electronics	12.800	597,839	91,793
Air Force	FA9550-16-1-0012	Bayesian Program Learning and Concept Induction	12.800	127,325	-
Air Force	FA9550-16-1-0108	Dynamic Data Driven Methods for Self-aware Aerospace Vechicles	12.800	108,648	5,670
Air Force	FA9550-16-1-0228	Energy-Efficient High-Performance Computer Vision Systems	12.800	8,755	-
Air Force	FA9550-16-1-0497	The Marvin Minsky Institute for Society of Mind Theory	12.800	138,012	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
		Total for Air Force		**22,882,198**	**6,105,472**
Army					
Army	D12AP00077	Neurobiology of Narrative Influence in Inter-group Conflict	12.910	13,080	-
Army	D13AP00025	Enabling Novel Chassis for Synthetic Biology via Rapid Field Assisted Genetic Transformation	12.910	-1,466	-
Army	D13AP00045	Nanoparticle-Enabled Sensitivity of Specific Neurons to Alternating Magnetic Fields for Targeted Transcranial Magnetic Stimulation	12.910	13,293	-
Army	D13AP00048	A Disaster Response Robot Capable of Power Manipulation	12.910	142,280	-
Army	D13AP00050	Time, Energy and Momentum Resolved Probing of Ultrafast Dynamics in Quantum Materials	12.910	194,434	-
Army	W15QKN-15-1-0001	Environmentally Adaptive Off-Board Acoustic Sensing Concept for the Rapidly Changing Arctic Ocean	12.RD	133,754	108,154
Army	W31P4Q-12-1-0019	Quantum Secured Communications (QuSecComm)	12.910	151,891	74,504
Army	W31P4Q-13-1-0013	Hydraulic Actuation for Micro-Scale Robots (HAMR)	12.910	170,484	70,644
Army	W31P4Q-13-1-0014	HERMES : Highly Efficient Robotic Mechanisms and Electromagnetic systems	12.910	-33,620	-
Army	W31P4Q-15-1-0005	Small-scale quantum processor for quantum networking	12.910	234,681	-
Army	W31P4Q-16-1-0001	Monolithic terahertz (THz) and long-wave infrared (LWIR) quantum cascade laser (QCL) frequency combs for threat detection	12.910	826,908	196,850
Army	W81XWH-11-2-0179	PT100120: Using Real-Time Functional Imaging to Speed Recovery from TBI	12.420	198,038	-
Army	W81XWH-12-2-0016	Post-Traumatic Stress Innovations: U.S. Military Enterprise Analysis	12.420	890,913	41,411
Army	W81XWH-13-1-0151	Nano-siRNA Particles and Combination Therapies for Ovarian Tumor Targeting	12.420	599,059	-
Army	W81XWH-13-1-0272	PC121018P1 Targeted Encapsulation and Internal Focusing for Circulating Tumor Cell Isolation	12.420	216,677	-
Army	W81XWH-13-1-0323	Developing Novel Therapeutic Approaches in small cell lung cancinoma using genetically engineered mouse models and human circulating tumor cells.	12.420	258,111	-
Army	W81XWH-14-1-0240	Extracellular Matrix Biomarkers for Diagnosis, Prognosis, Imaging and Targeting	12.420	647,903	215,756
Army	W81XWH-14-1-0544	Cartilage-Penetrating Chondrogenic Nanoparticles for Early Post-Traumatic Osteoarthritis Therapy	12.420	364,881	-
Army	W81XWH-14-C-0111	Prosthetic Knee-Angle-Foot System with Biomechatronic Sensing, Control and Power Generation	12.RD	473,787	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Army	W81XWH-15-1-0095	OC140365 Investigate the role of obesity in ovarian cancer initiation and progression	12.420	288,955	-
Army	W81XWH-15-1-0365	The Therapeutic Effect of the Antitumor Drug 11beta and Related Molecules on Polycystic Kidney Disease	12.420	166,689	-
Army	W81XWH-15-1-0623	JIT LC140625 Investigating the interplay of commensal microbiota, host immune system and genetic perturbations in non-small cell lung cancer	12.420	126,726	-
Army	W911NF-07-1-0493	Quantum Emulations of New Materials Using Ultracold Atoms	12.431	-21,110	-
Army	W911NF-07-D-0004	Institute for Soldier Nanotechnologies	12.RD	1,666	1,666
Army	W911NF-07-D-0004, T.O. 9	Institute for Soldier Nanotechnologies	12.RD	27	27
Army	W911NF-10-1-0059	New Treatments for Stress-induced Dysregulation of Circuits Regulating Reward, Fear and Habit Learning	12.431	1,108,169	145,166
Army	W911NF-11-1-0202	Optical-Transition Clocks With Microfabricated Frequency Combs For Performance Beyond the Standard Quantum Limit	12.431	760,458	653,497
Army	W911NF-11-1-0281	Biologically Patterned Amyloid Scaffolds for Multifunctional and Multiscale Materials	12.431	171,059	-
Army	W911NF-11-1-0331	Identification and Manipulation of Novel Topological Phases	12.431	-5,125	-
Army	W911NF-11-1-0400	Multi-Qubit Enhanced Sensing and Metrology	12.431	1,498,287	846,910
Army	W911NF-11-2-0054	Multi-input, multimodal, mammalian information processing circuits	12.431	1,192,878	375,977
Army	W911NF-12-1-0210	Silicon Photonic 3D- Integrated Reduced Energy Transmission (SPIRET)	12.910	-2,596	-
Army	W911NF-12-1-0290	Developing Novel Frameworks for Many-Body Ensembles	12.431	-17,709	-
Army	W911NF-12-1-0486	Quantum Algorithms where Physics and Math Meet	12.431	314,917	-
Army	W911NF-12-2-0039	Barrier□Immune□Organ: Microphysiology, Microenvironment Engineered Tissue Construct Systems (BIO□MIMETICS)	12.431	5,240,085	448,469
Army	W911NF-13-1-0031	New Forms of Matter in Optical Lattices	12.431	-12,192	-12,192
Army	W911NF-13-1-0063	Measurement and Analysis of Grandular Soil Beneath Lightweight Robotic Running Gear	12.431	96,688	-
Army	W911NF-13-1-0189	Strongly Correlated Quantum Gases of Atoms and Dipolar Molecules	12.431	243,323	-
Army	W911NF-13-1-0212	Fundamental Theory and Parallel Inference for Probabilistic Programming (10.3.1 Integrated Intelligence	12.431	108,559	-
Army	W911NF-13-1-0422	How does unit size affect collective intelligence in online groups?	12.431	99,989	-
Army	W911NF-13-D-0001, T.O. 1	ISN 3 FY'13 funding	12.431	642,089	-
Army	W911NF-13-D-0001, T.O. 2	ISN 3 FY'13 funding	12.431	1,862,294	99,680
Army	W911NF-13-D-0001, T.O. 3	ISN 3 FY'13 funding	12.431	1,160,151	-
Army	W911NF-13-D-0001, T.O. 4	ISN 3 FY'13 funding	12.431	924,255	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Army	W911NF-13-D-0001, T.O. 5	ISN 3 FY'13 funding	12.431	1,405,632	-
Army	W911NF-13-D-0001, T.O. 6	ISN 3 FY'13 funding	12.431	25,996	-
Army	W911NF-13-D-0001, T.O. 7	ISN 3 FY'13 funding	12.431	543,585	-
Army	W911NF-13-D-0001, T.O. 8	ISN 3 FY'13 funding	12.431	1,170,108	91,470
Army	W911NF-13-D-0001, T.O. 9	ISN 3 FY'13 funding	12.431	1,227,959	990,293
Army	W911NF-14-1-0014	Portable Retinal Imaging Device (Core Competency 1.3.4. - Infrared Detectors & Power Sources)	12.431	61,773	1,531
Army	W911NF-14-1-0037	Probing the Effects of Topography on Bedrock Fracture in the Shallow Subsurface	12.431	109,532	24,864
Army	W911NF-14-1-0344	Novel states of light and matter mediated by collective Rydberg excitations	12.431	253,230	90,445
Army	W911NF-14-1-0433	A Belief-Space Approach to Integrated Intelligence- Research Area 10.3: Intelligent Networks	12.431	145,646	-
Army	W911NF-14-1-0539	Design of Stable Nanocrystalline Alloys in Compound-Forming Systems	12.431	154,089	-
Army	W911NF-14-1-0594	DURIP: Laser System for Inducing Strong Photon-Photon Interactions through Atomic Interactions	12.431	31,276	-
Army	W911NF-14-2-0071	Terahertz Nitride Sources (TNS)	12.431	175,202	-
Army	W911NF-14-2-0102	Hybrid Graphene - MoS2 Structures for Advanced Electronics	12.431	102,642	-
Army	W911NF-15-1-0128	Realizing Novel Phases of Materials with Light-Matter Interaction	12.431	178,237	-
Army	W911NF-15-1-0155	Uncertainty Quantification for Unobserved Variables in Dynamical Systems and Optimal Experimental Design	12.431	36,908	-
Army	W911NF-15-1-0164	11.2/1.3.2 A variational method for the extraction of intermittently unstable time-dependent modes directly from system observables	12.431	55,302	-
Army	W911NF-15-1-0166	Managing Uncertainty: Principles For Robust And Dexterous Continuum Mechanics	12.431	348,912	79,288
Army	W911NF-15-1-0183	MoD Molecules on Demand	12.431	384,590	-
Army	W911NF-15-1-0196	Explaining and Exploiting the Resistive Force Theory - Toward optimal, flexible, locomotor designs: Research Area 1.3.1	12.431	129,912	-
Army	W911NF-15-1-0249	Foundations of Statistical Methods for the Control of Far-from-equilibrium Driven Systems	12.431	46,963	-
Army	W911NF-15-1-0323	Ultracold Field Gradient Magnetometry and Transport to Study Correlated Topological Phases	12.431	380,000	-
Army	W911NF-15-1-0598	Toward Accurate Models of Wet Granular Media in Nature: Research Area 9.2	12.431	90,114	4,635
Army	W911NF-15-1-0639	Modeling Social Common Sense for Seamless Human-Machine Teaming: Inverting the ?Intuitive Game Engine? with Probabilistic Programming	12.431	366,952	208,767

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Army	W911NF-16-1-0034	Coupled Synthesis, Transport, and Magnetization Studies to Detect New Topological Phases	12.431	101,988	-
Army	W911NF-16-2-0023	Automated System for Knowledge-based Continuous Organic Synthesis (ASKCOS)	12.910	963,586	-
Army	W911QY-12-1-0005	Functional Micro-Dispensers for Controlled Release of Low Toxicity Pesticides.	12.360	-5,699	-
Army	W912HQ-10-C-0005	Robust Means for Estimating Black Carbon-Water Sorption Coefficients of Organic Contaminants in Sediments	12.431	-38	-
Army	W912HQ-14-C-0028	Integrated Passive Sampler-Food Web Modeling Framework for Monitoring Remedy Effectiveness	12.RD	172,508	-
Army	W912HQ-14-C-0034	Combining Mass Balance Modeling with Passive Sampling at Contaminated Sediment Sites to Evaluate Continuing Inputs and Food Web Responses to Remedial Actions	12.RD	255,982	-
		Total for Army		**30,356,506**	**4,757,811**
DARPA					
DARPA	FA8650-11-C-7192	Cloud Intrusion Detection and Repair	12.RD	435,751	-
DARPA	HR0011-11-C-0100	Memory System with Monolithic CMOS Photonic Networks for High-Performance, Energy-efficient Embedded Manycore Machines	12.RD	978,234	546,200
DARPA	HR0011-12-2-0007	Ebrium Silicon Photonic Integrated Oscillator and RADAR (ESPIOR)	12.910	1,862,290	679,758
DARPA	HR0011-13-2-0005	Carbon: Embedded Organic Computing	12.910	239,593	205,551
DARPA	HR0011-13-2-0009	Membrane-Enhanced Evaporative Cooling for High Flux Thermal Management	12.910	-39,104	-
DARPA	HR0011-15-2-0012	MEMS Deuterium Ionizers for Compact Neutron Sources	12.910	592,711	-
DARPA	HR0011-15-2-0033	Technology to Genetically Engineer Otherwise Intractable Bacteria to Manipulate Microbiomes	12.910	453,603	14,190
DARPA	HR0011-15-2-0047	Computer-Synthesized Protocols for Resilient Networking	12.910	94,602	-
DARPA	HR0011-15-C-0056	Chip-Scale Electronic - Photonic Synthesizer (CS-EPS)	12.RD	2,383,988	470,563
DARPA	HR0011-15-C-0084	The MIT-Broad Foundry: TA2	12.RD	6,172,212	2,560,986
DARPA	HR0011-15-C-0091	ROBUST: Robust Operation of Bacterial Universes with Synthetic-biology Technologies	12.910	811,177	242,256
DARPA	HR0011-15-C-0155	MAGnetic Neural EXcitation (MAGNEX)	12.RD	237,640	-
DARPA	HR0011-16-2-0003	B-Codes	12.910	87,193	-
DARPA	HR0011-16-C-0030	Principles, Limits, and Methods for Computational Periscopy	12.RD	108,025	-
DARPA	N66001-16-C-4007	Demonstration of On-Demand Continuous Flow Manufacturing of Pharmaceuticals	12.910	124,785	-

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		Total for DARPA		**14,542,699**	**4,719,505**
Navy					
Navy	N00014-08-1-0826	DURIP: A Distributed System for Robust and Accurate Location-Awareness	12.300	0	-
Navy	N00014-09-1-0597	ECIR - Explorations in Cyber International Relations	12.300	-4,584	-
Navy	N00014-09-1-0625	Integrating Global and Local Situational Awareness in Distributed Unmanned and Manned Ground Operations	12.300	252,240	154,917
Navy	N00014-09-1-0952	Nonlinear Response Modeling of Vessels in Steep Random Waves	12.300	-177	-
Navy	N00014-09-1-1051	SMart Adaptive Reliable Teams for Persustent Surveillance (SMARTS)	12.300	817,939	666,114
Navy	N00014-10-1-0562	PECASE: Merger of Structure and Material: Comparative Bottom-Up Analysis of Hierarchical Protein Materials	12.300	142,021	-
Navy	N00014-10-1-0758	Recruiting the Next Generation of Naval Architects	12.300	90,752	-
Navy	N00014-10-1-0951	Provably-Stable Vision-Based Control of High-Speed Flight through Forest and Urban Environments	12.300	867,774	387,723
Navy	N00014-11-1-0337	Active Transfer Learning For Ocean Modeling	12.300	61,712	-
Navy	N00014-11-1-0657	A New Enviornmentally Sound Technology for Metals Extraction: a Technical Feasibility Study of Rare-Earth Metal Production by Molten Oxide Electrolysis	12.300	108,859	-
Navy	N00014-11-1-0688	Nonparametric Bayesian Models to Represent Knowledge and Uncertainty for Decentralized Planning	12.300	1,177,658	429,058
Navy	N00014-11-1-0713	A Certified Reduced Basis Element Method for Interactive and Reliable Design and Parameter Estimation	12.300	97,115	-
Navy	N00014-12-1-0064	Control of Heterogeneous Wireless Networks: From Theory to Practice	12.300	17,455	-
Navy	N00014-12-1-0071	Prospective Human-Guided Teleautonomy for Agile Mobility and Dexterous Manipulation	12.300	463,645	102,416
Navy	N00014-12-1-0093	Extended Capabilities for the HAUV Ship-Inspection Vehicle	12.300	101,117	23,730
Navy	N00014-12-1-0128	Joint US-Norway Ocean Acoustic Experiments in the Nordic Seas Waters of the Arctic Circle	12.300	5,079	-
Navy	N00014-12-1-0521	A New Technology for Metals Extraction: High-temperature electrolysis of Molten Sulfide/Oxide Electrolysis for Molybdenum and Rhenium Extraction	12.300	446,208	-
Navy	N00014-12-1-0530	Direct real-time measurement of energetic materials under dynamic shock loading	12.300	30,937	-
Navy	N00014-12-1-0624	Advanced Nanoengineered Thermal Management Devices	12.300	17,543	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Navy	N00014-12-1-0665	Characterizing Surface Transport Barriers in the East Sea of Vietnam	12.300	38,489	-
Navy	N00014-12-1-0915	Ultra-High Performance ADCs in GaN	12.300	118,669	-
Navy	N00014-12-1-0959	Low Dimensionality Transistors for High Performance Electronics	12.300	62,989	-
Navy	N00014-12-1-0999	Decentralized online optimization in multi-agent systems in dynamic and uncertain environments	12.300	385,311	-
Navy	N00014-12-1-1000	persistent Decentralized Online Tasks (pDOT): An Online Optimization Approach to Multi-Agent Persistent Monitoring in Uncertain Environments	12.300	178,123	24,057
Navy	N00014-13-1-0074	Next-generation Genetic Devices: Model-guided Discovery and Optimization of Navy-relevant Cell-based Sensors	12.300	1,660,367	678,208
Navy	N00014-13-1-0213	Nanostitched Composites with Improved Interlaminar and Intralaminar Strengths for Advanced Airframes in Sea-based Aviation	12.300	140,092	-
Navy	N00014-13-1-0260	Categorical Informatics	12.300	58,151	-
Navy	N00014-13-1-0301	Exchange interaction at the interface in Dirac systems and organic radicles Understanding the phenomenon towards its utilization	12.300	133,984	-
Navy	N00014-13-1-0332	Hybrid Planing Hulls for Reduced Powering Demand and Increased Seakeeping Performance	12.300	157,676	-
Navy	N00014-13-1-0333	Probabilistic Programming and Computational Cognitive Science	12.300	273,176	-
Navy	N00014-13-1-0403	THIS GRANT IS BEING CONTINUED UNDER N00014-16-1-2122, Inversion, uncertainties, and multiple scattering in synthetic aperture radar/sonar	12.300	34,994	-
Navy	N00014-13-1-0424	Ultra-High-Throughput Design and Optimization of Sense-and-Actuate Circuits in Marine and Soil Bacteria	12.300	211,501	-
Navy	N00014-13-1-0447	Quantifying Breaking-Wave Dissipation Using Nonlinear Phase-Resolved Wavefield Simulations	12.300	34,997	-
Navy	N00014-13-1-0487	Continuation of Oceanographic Variability and the Performance of Passive and Active Sonars in the Philippine Sea Signatures	12.300	105,840	-
Navy	N00014-13-1-0509	Terahertz-Driven Energetic Material Decomposition	12.300	194,872	-
Navy	N00014-13-1-0518	Multiscale Data Assimilation	12.300	47,760	-
Navy	N00014-13-1-0588	Performance Analysis of Feature-Based Navigation in Dynamic Environments	12.300	113,964	-
Navy	N00014-13-1-0610	Quantum Transport and Optoelectronics in Atomically Layered Materials	12.300	124,242	-
Navy	N00014-13-1-0623	VAMPIRE II: Accessing a life-blood of information for acoustic signature assessment and condition-based maintenance	12.300	340,075	-
Navy	N00014-13-1-0647	Biologically Inspired Engineering of Underwater Adhesives with Synthetic Biology	12.300	208,454	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Navy	N00014-13-1-0710	Human-Guided Teleautonomy for Remote Mobility and Dexterous Manipulation	12.300	-3	-
Navy	N00014-13-1-0774	Quantum-Secured Communication for the Maritime Environment	12.300	415,304	-
Navy	N00014-13-1-0834	Adjoint Equations Methods for Full Parametric Optimization of Ship Hull Forms with Free Surface BEMs and Gradient-Accelerated Optimization Algorithms	12.300	211,534	-
Navy	N00014-13-1-0878	METANORM- A Multidisciplinary Approach to the Analysis and Evaluation of Norms and Models of Governance for Cyberspace	12.300	295,236	124,250
Navy	N00014-14-1-0006	Defeating Code Resue Attacks Using Minimal Hardware Modifications	12.300	184,863	-
Navy	N00014-14-1-0062	Hurricane Outflow Criticality: Observational Tests and Effect on Hurricane Structure and Intensity	12.300	140,260	-
Navy	N00014-14-1-0072	Optimization over combinatorial optimization polytopes	12.300	136,960	-
Navy	N00014-14-1-0073	Practical, Fast, and Approximate Algorithms for Discrete Optimization Problems	12.300	96,349	-
Navy	N00014-14-1-0135	Mechanistic Study and Modeling of Air Entrainment and Bubbly Flow in Ship Wakes	12.300	160,382	-
Navy	N00014-14-1-0138	Fundamental Mechanics of Joints and Assemblies of Long Aligned Carbon Nanotubes	12.300	157,492	-
Navy	N00014-14-1-0166	ESRDC - DESIGNING AND POWERING THE FUTURE FLEET	12.300	552,134	-
Navy	N00014-14-1-0191	A Unified Approach to Passive and Active Ocean Acoustic Waveguide Remote Sensing	12.300	326,471	-
Navy	N00014-14-1-0214	GOATS '14: Adaptive and Collaborative Exploitation of 3-Dimentional Environmental Acoustics in Distributed Undersea Networks	12.300	166,174	-
Navy	N00014-14-1-0272	Superconductor armature winding for high performance electrical machines	12.300	545,922	-
Navy	N00014-14-1-0349	Hybrid Graphene-Silicon Photonic Devices for Signal Processing and Imaging	12.300	230,413	-
Navy	N00014-14-1-0476	Long-duration Environmentally-adaptive Autonomous Rigorous Naval Systems (LEARNS)	12.300	197,523	-
Navy	N00014-14-1-0486	Active Perception, Representation and Estimation for Large-Scale Long-Horizon Domains	12.300	335,391	-
Navy	N00014-14-1-0520	A Physics-Constrained Order-Reduction Framework for the Dynamical Description of Subspaces-of-Interest in Turbulent Dynamical Systems	12.300	28,404	-
Navy	N00014-14-1-0524	Flow Structure Interaction of a Dam-Break Wave Impinging on Flexible Plate	12.300	-1,994	-
Navy	N00014-14-1-0609	Computer-Aided Engineering for Nucleic Acid-Based Nanotechnology	12.300	202,310	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Navy	N00014-14-1-0619	Harnessing Extraordinary Surface and Bulk Properties of Graphene-Polymer Nanocomposite for Advanced Naval Coating	12.300	156,062	-
Navy	N00014-14-1-0696	ESRDC - DESIGNING AND POWERING THE FUTURE FLEET	12.300	111,958	-
Navy	N00014-14-1-0725	Bayesian Nonlinear Assimilation of Eulerian and Lagrangian Coastal Flow Data	12.300	132,987	-
Navy	N00014-14-1-0767	Merger of Computational Optimization and Additive Manufacturing for Functional Material Design	12.300	6	-
Navy	N00014-14-1-0804	Quantum Spin Gyroscope	12.300	183,966	-
Navy	N00014-14-1-0808	DURIP: Cryogenic Apparatus for Maritime Communication Device and System Development	12.300	236,747	-
Navy	N00014-15-1-0034	Synthetic Biology for Advanced Functional Materials	12.300	606,388	-
Navy	N00014-15-1-2083	Online Optimization and Learning under Uncertainty	12.300	203,733	-
Navy	N00014-15-1-2213	Multi-Objective COLREGS-Based Collision Avoidance for Unmanned Marine Vehicles	12.300	35,364	-
Navy	N00014-15-1-2227	Multi-objective Optimization and Mixed-Horizon Decision-Making for Autonomous Vehicles	12.300	75,175	-
Navy	N00014-15-1-2342	Rigorous Modeling and Computation for Sparse Multivariate Statistical Problems	12.300	49,997	-
Navy	N00014-15-1-2381	A probalistic framework for the reduced-order modeling of rare events in water waves and mechanical systems	12.300	38,233	-
Navy	N00014-15-1-2429	Terahertz Transmission Over Dielectric Waveguide for High Speed Communication	12.300	23,051	-
Navy	N00014-15-1-2460	Computational Wave Hydromechanics in Support of Model Tests in The MASK Wave Basin	12.300	302,493	-
Navy	N00014-15-1-2483	Surface Structure Enhanced Microchannels for Two-Phase Thermal Management	12.300	101,269	-
Navy	N00014-15-1-2597	Seamless Multi-scale Forecasting: Hybridizable Unstructured-mesh Modeling and Conservative Two-Way Nesting	12.300	82,796	-
Navy	N00014-15-1-2616	Northern Arabian Sea Circulation - autonomous research: Optimal Planning Systems (NASCar-OPS)	12.300	83,809	-
Navy	N00014-15-1-2622	Investigating flow features near abrupt topography in the Mariana Basin	12.300	103,912	2,673
Navy	N00014-15-1-2626	High-Order Multi-Resolution Multi-Dynamics Modeling for FLEAT	12.300	98,234	-
Navy	N00014-15-1-2694	Direct Measurement and Modeling of Glass Under Shock Loading	12.300	305,824	-
Navy	N00014-15-1-2695	Flow Structure Interaction of a Dam-Break Wave Impinging on Flexible Plate	12.300	15,148	-
Navy	N00014-15-1-2734	Supplemental Equipment for Quantum-Secured Maritime Communication	12.300	74,995	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Navy	N00014-15-1-2751	Design and Metrology Support for Evaluation of High Power Fault Protection Apparatus	12.300	15,558	-
Navy	N00014-15-1-2763	USING BIO-INSPIRED MATERIAL CROSSLINK DYNAMICS TO ENGINEER ENERGY-DISSIPATIVE POLYMER MECHANICS	12.300	189,425	-
Navy	N00014-15-1-2805	An automated colony picking system for DNA assembly for synthetic biology	12.300	161,615	-
Navy	N00014-15-1-2830	High Performance Computing for Nucleic Acid Nanotechnology	12.300	170,651	-
Navy	N00014-15-1-2879	Ultrafast laser and nonlinear crystals for intense terahertz irradiation and vibrational spectroscopy of energetic materials	12.300	380,936	-
Navy	N00014-16-1-2081	Rapid Assessment of the Acoustic Environment in the Changing Arctic	12.300	88,442	-
Navy	N00014-16-1-2090	Time-Resolved Measurement of Physical and Chemical Evolution of Energetic Materials Under Dynamic Shock Loading	12.300	88,959	-
Navy	N00014-16-1-2122	THIS GRANT IS BEING CONTINUED UNDER N00014-16-1-2122, Inversion, uncertainties, and multiple scattering in synthetic aperture radar/sonar	12.300	67,301	-
Navy	N00014-16-1-2124	A Physics-Constrained Order-Reduction Framework for the Dynamical Description of Subspaces-of-Interest in Turbulent Dynamical Systems	12.300	67,408	-
Navy	N00014-16-1-2141	Design and Operation of Efficient and Secure Navigation Networks	12.300	161,101	-
Navy	N00014-16-1-2144	NEPTUNE Pilot Proposal	12.300	314,054	-
Navy	N00014-16-1-2181	Computer-Aided Engineering for Nucleic Acid-Based Nanotechnology	12.300	178,308	-
Navy	N00014-16-1-2200	4D Modeling of Underwater Acoustics in the Estuarine Environment Using Direct Simulations on HPC Platforms	12.300	68,949	-
Navy	N00014-16-1-2226	Quantum Spin Gyroscope	12.300	76,166	-
Navy	N00014-16-1-2230	Low Dimensionality Transistors for High Performance Electronics	12.300	99,483	-
Navy	N00014-16-1-2235	Stepped, Cambered, Planing Hulls with Hydrofoils-SCPH2 optimizing their Reduced Powering Demand and Seakeeping Performance	12.300	27,830	-
Navy	N00014-16-1-2285	Global Vulnerability Markets: Using Dynamic Simulations to Change the Discovery, Supply, Demand, and Use of Vulnerabilities	12.300	131,472	-
Navy	N00014-16-1-2388	Next-generation Genetic Devices: Model-guided Discovery and Optimization of Navy-relevant Cell-based Sensors	12.300	3,136	-
Navy	N00014-16-1-2509	Synthetic Biology for Advanced Functional Materials	12.300	101,812	-
Navy	N00167-16-P-0001	Validation and Refinement of Probabilistic Model for Navy Shaft Life Calculations	12.RD	87,558	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Navy	N00173-13-2-C009	Stochastic Forcing for Environmental Error and Probabilistic Estimation	12.300	24,539	-
Navy	N00189-14-C-Z082	Engineering Support for the Interagency Correlator	12.RD	109,683	-
Navy	N00244-09-1-0064	Natural Armor: An Untapped Encyclopedia of Engineering Designs for Protective Defense Applications	12.300	11,493	-
Navy	N00244-14-1-0018	Program and Portfolio Affordability Tradeoffs Under Uncertainty Using Epoch-Era Analysis	12.300	31,550	-
Navy	N00244-15-1-0064	Acquisition Program Teamwork and Performance Seen Anew: Exposing the Interplay of Architecture and Behaviors in Complex Defense Projects	12.300	87,212	-
Navy	N66001-10-2-4089	CANDOR: Clean-Slate System Integrity using Selective Redot	12.910	-3,480	-
Navy	N66001-11-1-4182	Continuous Monitoring and Separation of Blood for Mitigation of Sepsis	12.910	29,529	10,068
Navy	N66001-11-C-4147	Compact, On-Demand Continuous Flow Manufacturing of Pharmaceuticals	12.910	968,672	-
Navy	N66001-12-1-4212	Field Emission Arrays for Dynamic Pattern Generation	12.910	147	-
Navy	N66001-12-C-0082	Accountable Information Usage in Distributed Information Sharing Environments	12.RD	674,390	-
Navy	N66001-12-C-4016	Synthetic Single-Invertase Memory Modules for Persistent Biological Encoding	12.RD	13,838	-
Navy	N66001-13-1-4022	Complete Si-GaN Circuits+MEMS Integration	12.910	7,660	7,821
Navy	N66001-13-C-4025	INSCyT 2: Phase II Parent	12.RD	3,575,350	576,336
Navy	N66001-13-C-4025	Integrated and Scalable Cyto-Technologies (INSCyT) for Flexible Microbial Manufacturing	12.RD	213,012	84,983
Navy	N66001-14-1-4039	Energy-Efficient Embedded Vision Systems	12.910	279,776	-
Navy	N66001-14-2-4058	Synthetic polymer xenoproteins	12.910	1,329,814	-
Navy	N66001-15-1-4022	Field Emission Arrays for Dynamic Pattern Generation	12.910	186,381	-
Navy	N66001-15-C-4030	Multi-Scale Representation and Translation for Complex, Heterogeneous Materials	12.RD	767,366	-
Navy	N66001-16-1-4038	Enhancing Lifetime and Performance of Field Emitter Array Cathodes	12.910	10,198	-
Navy	N66001-16-C-4005	Pharmacy on Demand Phase III: Compact, On-Demand Continuous Flow Manufacturing of Pharmaceuticals	12.910	354,896	-
Navy	N66001-16-C-4039	Novel Millimeter Wave Klystron Amplifier	12.RD	17,040	-
		Total for Navy		**27,889,516**	**3,272,352**

Other DOD

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Other DOD	H98230-14-C-1424	Supercloud: a Unified Approach to Compute, Big Data, Database and Enterprise Clouds	12.RD	1,486,821	-
Other DOD	HDTRA1-12-1-0008	Blast Wave Manipulation Using Hierarchical Metamaterial Stuctures	12.351	8,411	-
Other DOD	HDTRA1-12-1-0044	Intense Terahertz Fields for Fast Energy Release	12.351	15,491	-
Other DOD	HDTRA1-13-1-0001	Evaluation of Radiation-Induced Photonic Defects in Si, Ge, Chalcogenides and Polymers	12.351	479,394	112,002
Other DOD	HDTRA1-13-1-0038	Nucleopore Membrane Mimics As Selective Filters for Biological Agents	12.351	406,784	-
Other DOD	HDTRA1-14-1-0007	Engineered Autonomous Distributed Circuits for Adaptive Threat Elimination	12.351	600,396	-
Other DOD	HDTRA1-14-1-0057	Radiation Effects in III-V MOSFETs for sub-10 nm CMOS	12.351	374,610	147,902
Other DOD	HDTRA1-15-1-0040	Development of Synthetic Probiotics to Detect and Eliminate Biothreat Agents	12.351	506,559	-
Other DOD	HDTRA1-15-1-0050	Deciphering Novel Mechanisms of Antimicrobial Resistance with Massively Parallel Combinatorial Genetics	12.351	429,228	-
Other DOD	HDTRA1-15-1-0051	Gene Duplication and Amplification in the Evolution of Antimicrobial Resistance: Clinical Significance and Diagnostic Potential	12.351	633,981	-
Other DOD	HDTRA1-15-1-0060	Understanding radiation damage mechanisms in MEMS/NEMS through combined optomechanical interrogation and micro-analysis (PerD-Topic 8)	12.351	110,773	22,745
Other DOD	HDTRA1-16-1-0038	Using Coacervates to Maximize Enzymatic Activity at Interfaces for Heavy Metal Detection	12.351	9,280	-
		Total for Other DOD		**5,061,729**	**282,649**
		TOTAL for Department of Defense		**100,732,648**	**19,137,789**

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF ENERGY					
DOE	4F-30121	Technologies and Concepts to Reduce the US Dependence on Imported Petroleum and Emission of Greenhouse Warming Pollutannts	81.RD	43,463	-
DOE	6F-30461	Simulation of Flow-induced Vibration Using STAR-CCM+ for the NuScale SG Design	81.RD	50,912	-
DOE	B600100	High Density Implosions on the National Ignition Facility	81.RD	-3,652	-
DOE	B601821	Structurally Robust Materials with Ultra-Low Thermal Expansion via Designed Microscale Architectures (Phase II)	81.RD	-2,091	-
DOE	B602126	Chemical Threat Responsive Carbon Nanotube Membranes	81.RD	208,902	-
DOE	B608180	Study of Point Defects in TIBr and Their Impact on Device Lifetime	81.RD	-2,140	-
DOE	B609612	LDRD: Scalable Holographic and Hierarchical Micromanufacturing Techniques	81.RD	111,935	-
DOE	B613027	High Density Implosions on OMEGA and the NIF	81.RD	482,293	-
DOE	B615534	Multi-Nuclear Burn Diagnostic Development	81.RD	125,779	-
DOE	DE-AR0000181	Metallic Composites Phase-Change Materials for High-Temperature Thermal Energy Storage	81.135	-849	-849
DOE	DE-AR0000185	Advanced Thermo-Adsorptive Battery Climate Control System (ATB)	81.135	596,382	160,066
DOE	DE-AR0000433	Engineering high yield pathways for methane activation and conversion to liquid fuels	81.135	695,031	230,444
DOE	DE-AR0000471	Full Spectrum Stacked Solar-Thermal and PV Receiver	81.135	782,932	52,136
DOE	DE-AR0000472	Spectrum Splitting for High-Efficiency Photovoltaic and Solar Thermal Energy Generation	81.135	36,736	-
DOE	DE-AR0000611	Mobility Market for Optimized Travel	81.135	312,885	-
DOE	DE-AR0000625	INTEGRATED MICRO-OPTICAL CONCENTRATOR PHOTOVOLTAICS WITH LATERAL MULTIJUNCTION CELLS	81.135	285,877	9,333
DOE	DE-AR0000632	Wafer-Level Integrated Concentrating Photovoltaics	81.135	102,605	-
DOE	DE-EE0005329	Next-Generation Sulfide Materials: Optimizing CZTS and Developing SnS by Systematic Defect Engineering	81.087	88,466	87,827
DOE	DE-EE0005444	High Compression Ratio Turbo Gasoline Engine Operation Using Alcohol Enhancement	81.086	-5,847	-
DOE	DE-EE0005756	Continuous Processing of High Thermal Conductivity Polyethylene Sheets	81.086	201,574	-
DOE	DE-EE0006131	Evaluating the causes of photovoltaics cost reduction: Why is PV different?	81.087	171,896	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DOE	DE-EI0001908	Understanding Energy Demand in China's Future Transportation System	81.089	79,019	-
DOE	DE-FC02-01ER54648	Center for Simulation of Wave Plasma Interactions	81.049	423,113	80,242
DOE	DE-FC02-04ER54802	Center for Extended Magnetohydrodynamic Modeling	81.049	56,275	-
DOE	DE-FC02-08ER54966	Center for the Study of Microturbulence	81.049	17,987	-
DOE	DE-FC02-08ER54969	Center for Extended Magnetohydrodynamics Modeling	81.049	50,124	-
DOE	DE-FC02-93ER54186	D&T Parent	81.049	816,727	-
DOE	DE-FC02-99ER54512	Alcator C-Mod	81.049	14,261,908	-
DOE	DE-FE0009738	Enhanced Simulation Tools to Improve Predictions and Performance of Geologic Storage: Coupled Modeling of Fault Poromechanics, and High-Resolution Simulation of CO2 Migration and Trapping	81.RD	293,993	-
DOE	DE-FE0013999	Fate of Methane emitted from dissociating marine hydrates: Modeling, Laboratory and Field constraints	81.RD	261,893	77,721
DOE	DE-FG02-00ER15087	Revealing Nanoscale Energy Flow Using Ultrafast Terahertz to X-Ray Beams	81.049	317,665	84,593
DOE	DE-FG02-00ER15087	Ultrafast Coherent Soft X-Rays: A Novel Tool for Spectroscopy of Collective Behavior in Complex Materials	81.049	11,505	-
DOE	DE-FG02-02ER45977	Spectrally-tunable far-field thermal radiation extraction	81.049	182,470	-
DOE	DE-FG02-03ER46076	Strongly Corregated Electronic Systems: Local Moments and Conduction Electrons	81.049	83,821	-
DOE	DE-FG02-03ER46076	Strongly Correlated Electronic Systems: Local Moments and Conduction Electrons (Renewal)	81.049	5,379	-
DOE	DE-FG02-03ER54700	Physics of High Enery Plasmas	81.049	466,474	-
DOE	DE-FG02-03-ER54700	Physics of High Energy Plasmas	81.049	-90,700	-
DOE	DE-FG02-07ER15839	Experimental investigation of flow-induced fabrics in rocks at upper-mantle pressures: Application to understanding mantle dynamics and seismic anisotropy	81.049	33,496	-
DOE	DE-FG02-07ER46454	PROBING EXCITONS IN CONFINED ENVIRONMENTS USING PHOTON-RESOLVED METHODS	81.049	13,455	-
DOE	DE-FG02-07ER46454	Probing nanocrystal electronic structure and dynamics in the limit of single nanocrystals	81.049	218,928	-
DOE	DE-FG02-07ER46474	High Efficiency Biomimetric Organic Solar Cells	81.049	381,575	-
DOE	DE-FG02-08ER46488	Self Assembly and Self-Repair of Novel Photovoltaic Complexes: Synthetic Analogs of Natural Processes	81.049	297,280	-
DOE	DE-FG02-08ER46514	Novel Temperature Limited Tunneling Spectroscopy of Quantum Hall Systems	81.049	211,731	-
DOE	DE-FG02-08ER46521	Ultrafast Electronic and Structural Dyamics in Complex Materials	81.049	214,383	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DOE	DE-FG02-09ER46556	Optics for Advanced Neutron Imaging	81.049	3,829	-
DOE	DE-FG02-86ER13564	Catalysts for the Living Polymerizations of Olefins	81.049	47,309	-
DOE	DE-FG02-86ER13564	Metathesis Polymerization by Well-defined Molybdenum and Tungsten Alkylidene Complexes	81.049	129,850	-
DOE	DE-FG02-87ER13671	Spectroscopic and Dynamical Studies of Highly Energized Small Polyatomic Molecules	81.049	186,029	-
DOE	DE-FG02-90ER45429	Neutron and X-Ray Scattering Studies of Kinetic Glass Transition in Colloidal Systems	81.049	179,719	-
DOE	DE-FG02-91ER54109	THEORETICAL RESEARCH IN ADVANCED PHYSICS AND TECHNOLOGY	81.049	1,136,586	-
DOE	DE-FG02-94ER40818	Laboratory for Nuclear Science (Nuclear Physics)	81.049	5,002,896	-
DOE	DE-FG02-94ER54235	APTE Parent	81.049	313,704	-
DOE	DE-FG02-94ER61937	An Integrated Framework for Climate Change Assesment	81.049	1,148,480	30,323
DOE	DE-FG02-96ER45571	First Principles Determination of Structure, Thermodynamics, and Transport in Metals and Oxides	81.049	218,732	-
DOE	DE-FG02-97ER14760	Evolution of Pore Structure and Permeability of Rocks Under Hydrothermal Conditions	81.049	181,237	-
DOE	DE-FG02-99ER15004	Physics of Channelization: Theory, Experiment, and Observation	81.049	162,584	-
DOE	DE-FG02-99ER54525	PROPAGATION AND DAMPING OF HIGH HARMONIC FAST WAVES AND ELECTRON CYCLOTRON WAVES IN THE NSTX-U-DEVICE	81.049	120,752	-
DOE	DE-FG02-99ER54563	Fast Particle Wave Interaction and Alfven Eigenmodes in the JET Tokamak Plasma	81.049	140,619	-
DOE	DE-NA0001523	3D Variations in Seismic Wavespeed and Mass Density in the Crust and Upper Mantle of SE Asia from Joint Inversion of Seismic and Gravity Data	81.RD	121,557	-
DOE	DE-NA0001857	HEDLP Studies of Fields, Matter, Transport, Nuclear Physics, and ICF with New Diagnostics at the NIF and Omega/Omega-EOP	81.112	719,946	-
DOE	DE-NA0002035	Studies of high-energy-density plasmas, inertial-confinement-fusion implosions, and nuclear science for astrophysics	81.112	-303	-
DOE	DE-NA0002726	Explorations of Inertial-Confinement Fusion, High-Energy-Density Physics, and Laboratory Astrophysics	81.112	155,078	-
DOE	DE-NA0002788	Uncooled Chipscale Mid-infrared Photothermal Sensor for Ultra-sensitive Chemical Detection	81.113	382,483	29,026
DOE	DE-NA0002949	STUDYING HYDRODYNAMICS, KINETIC/MULTI-ION EFFECTS, AND CHARGED-PARTICLE STOPPING IN HED PLASMAS AND ICF IMPLOSIONS AT OMEGA, OMEGA-EP AND AT THE NIF	81.112	306,146	-
DOE	DE-NE0008239	University Reactor Upgrades Infrastructure Support for the MITR Research Reactor in Support of Operational Safety	81.121	411,100	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DOE	DE-NE0008268	Extraction of Uranium from Seawater: Design and Testing of a Symbiotic System	81.121	133,566	-
DOE	DE-NE0008270	Integral Full Core Multi-Physics PWR Benchmark with Measured Data	81.121	107,364	-
DOE	DE-NE0008285	Integrated FHR Technology Development: Tritium Management, Materials Testing, Salt Chemistry Control, Thermal-Hydraulics and Neutronics with Associated Benchmarking	81.121	1,102,698	638,134
DOE	DE-NE0008285-001	Integrated FHR Technology Development: Tritium Management, Materials Testing, Salt Chemistry Control, Thermal-Hydraulics and Neutronics with Associated Benchmarking	81.121	617,977	193,759
DOE	DE-NE0008413	Multilayer Composite Fuel Cladding for LWR Performance Enhancement and Severe Accident Tolerance	81.121	63,718	36,675
DOE	DE-NE0008416	Development of Accident Tolerant Fuel Options for Near Term Applications	81.121	450,197	98,750
DOE	DE-SC0001088	Center for Excitonics - Main Operating Account for Deposits & Distributions	81.049	4,133,105	450,963
DOE	DE-SC0001299	Solid-State Solar-Thermal Energy Conversion Center (S3TEC)	81.049	2,983,824	519,347
DOE	DE-SC0002626	Electrochemically-Driven Phase Transitions in Battery Storage Compounds	81.049	181,863	85,656
DOE	DE-SC0002633	SISGR: Chemomechanics of Far-From Equilibrium Interfaces	81.049	1,128,235	-
DOE	DE-SC0003907	TAS:89 0227::TAS Recovery Act - Nonequilibrium Physics and Phase-Field Modeling of Multiphase Flow in Porous Media	81.049	20,344	-
DOE	DE-SC0003908	TAS:89 0227::TAS Recovery Act - Predictive Modeling of Complex Physical Systems: New Tools for Uncertainty Quantification, Statistical Inference	81.049	103,988	-
DOE	DE-SC0006389	Interpreting New Data from the High Energy Frontier	81.049	102,684	-
DOE	DE-SC0006418	Quantum Transport in Topological Insulator Nanoelectronic Devices	81.049	158,851	-
DOE	DE-SC0006419	Electron Temperature Fluctuation Measurements and Transport Model Validation at Alcator C-Mod	81.049	197,560	33,068
DOE	DE-SC0006423	Optical Manipulation and Detection of Emergent Phenomena in Topological Insulators	81.049	158,116	-
DOE	DE-SC0006937	Electronic and Ionic Conductors from Ordered Microporous Materials	81.049	132,387	-
DOE	DE-SC0007099	Quantification of Uncertainty in Extreme Scale Computations (QUEST)	81.049	206,763	-
DOE	DE-SC0007106	Thermodynamics of Self-Assembly in Globular Protein-Polymer Conjugates	81.049	181,745	-
DOE	DE-SC0007883	Nonlinear and Extended MHD Plasmas	81.049	44,231	-
DOE	DE-SC0008059	Graphene Membranes with Tunable Nanometer-Scale Pores	81.049	218,439	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DOE	DE-SC0008736	Automated Metadata, Provenance Cataloging and Navigable Interfaces: Ensuring the Usefulness of Extreme-Scale Data	81.049	142,782	-
DOE	DE-SC0008737	Partnership for Edge Physics Simulation	81.049	104,129	-
DOE	DE-SC0008739	Unconventional Metals in Strongly Correlated Systems	81.049	152,388	-
DOE	DE-SC0008740	Development of a Polarized 3He Ion Source for RHIC	81.049	16,077	-
DOE	DE-SC0008741	High Intensity Polarized Electron Gun	81.049	129,476	-
DOE	DE-SC0008742	Lewis Acid Pairs for the Activation of Biomass-derived Oxygenates in Aqueous Media	81.049	-5,710	-
DOE	DE-SC0008743	Assembling Resuable Genetic Modules for Efficient Biofuel Production from Marine Macroalgae	81.049	720,184	580,768
DOE	DE-SC0008744	Optimizing oil production in oleaginous yeast by cell-wide measurements and genome-based models.	81.049	2,046,760	1,039,712
DOE	DE-SC0008766	Computing Properties of Hadrons, Nuclei and Nuclear Matter from Quantum Chromodynamics	81.049	229,952	-
DOE	DE-SC0008923	CAP3: A Computer Aided Performance Programming Platform	81.049	1,457,263	351,392
DOE	DE-SC0008926	Inferring grain boundary properties from measurements on grain boundary networks	81.049	223,729	-
DOE	DE-SC0009297	DiaMonD: An Integrated Multifaceted Approach to Mathematics at the Interfaces of Data, Models, and Decisions	81.049	498,544	-
DOE	DE-SC0009833	Development of an accelerator-based diagnostic for plasma-facing surfaces in magnetic confinement devices	81.049	104,743	-
DOE	DE-SC0010075	High Gradient Accelerator Research	81.049	366,104	-
DOE	DE-SC0010428	Biomimetic Templated Self-Assembly of Light Harvesting Nanostructures	81.049	83,188	-
DOE	DE-SC0010491	Interaction of Flowing Plasma with Collecting Objects	81.049	121,678	-
DOE	DE-SC0010492	Control and Extension of ITER and Advanced Scenarios to Long Pulse in EAST and KSTAR	81.049	638,238	-
DOE	DE-SC0010495	From Quarks to the Cosmos: Ab initio studies in nuclear physics	81.049	127,542	-
DOE	DE-SC0010497	Gluonic Excitations in Mesons	81.049	142,040	-
DOE	DE-SC0010526	Predictive Theory of Topological States of Matter	81.049	218,466	-
DOE	DE-SC0010538	Imaging Interfacial Electric Fields on Ultrafast Timescales	81.049	164,092	-
DOE	DE-SC0010720	Development of long-pulse heating and current drive actuators and operational techniques compatible with a high-Z divertor and first wall	81.049	1,540,273	-
DOE	DE-SC0010795	Mesoscale Mechanochemistry of 2D Crystal Growth	81.049	177,101	-
DOE	DE-SC0011088	MIT Relativistic Heavy Ion Group	81.049	1,857,898	-
DOE	DE-SC0011089	Active Subspace Methods for Data-Intensive Inverse Problems	81.049	191,859	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DOE	DE-SC0011090	FY2014 - 2016 Task R - Theoretical Nuclear Physics	81.049	1,205,955	-
DOE	DE-SC0011091	Neutrino Physics Task W	81.049	200,608	-
DOE	DE-SC0011755	AMS Operations	81.049	3,314,187	-
DOE	DE-SC0011848	AMS Research	81.049	1,910,935	-
DOE	DE-SC0011939	Task A: Particle Physics Collaboration	81.049	1,163,606	-
DOE	DE-SC0011970	LEPTON QUARK STUDIES, TASK F SUMMARY, FY 2015-17	81.049	114,957	-
DOE	DE-SC0012071	USBPO Support	81.049	180,549	-
DOE	DE-SC0012371	Interface-Driven Chiral Magnetism in Ultrathin Metallic Ferromagnets: Towards Skyrmion Spintronics	81.049	209,748	-
DOE	DE-SC0012469	Preservation of Alcator C-Mod data and support of ITER research through ITPA participation	81.049	316,519	-
DOE	DE-SC0012470	MDSplus Development and Support	81.049	556,426	-
DOE	DE-SC0012555	Systems Biology Towards a Continuous Platform for Biofuels Production	81.049	356,952	99,558
DOE	DE-SC0012567	Theoretical High Energy Physics	81.049	730,494	-
DOE	DE-SC0013307	The Catalytic Reduction of Dinitrogen Under Mild Conditions	81.049	241,484	-
DOE	DE-SC0013499	Compact, low-cost, light-weight, superconducting, ironless cyclotrons for hadron radiotherapy	81.049	274,268	-
DOE	DE-SC0013905	Study of Heavy Flavor Mesons and Flavor-Tagged Jets with the CMS Detector	81.049	288,634	-
DOE	DE-SC0013999	Confronting Dark Matter with the Multiwavelength Sky	81.049	152,504	-
DOE	DE-SC0014176	Tunable Oxygen Reduction Electrocatalysis by Phenazine-Modified Carbons	81.049	115,207	-
DOE	DE-SC0014204	Whole-program Adaptive Error Detection and Mitigation	81.049	72,244	-
DOE	DE-SC0014229	Phase Contrast Imaging for Wendelstein 7-X	81.049	105,407	-
DOE	DE-SC0014251	Gas-Puff-Imaging for Diagnosis of Boundary and SOL Physics in W7-X	81.049	96,233	-
DOE	DE-SC0014264	MIT Plasma Science and Fusion Center Magnetic Confinement Fusion Experiment Research and Related Activities	81.049	550,298	-
DOE	DE-SC0014901	Computer-Aided Construction of Chemical Kinetic Models	81.049	29,664	-
DOE	DE-SC0015566	High Frequency, High Gradient Accelerator Research	81.049	51,182	-
DOE	IF-32302	Methods Development for Exascale Simulation of SMRs	81.RD	247,261	-
DOE	PO 101633	Investigation of Nucleate Boiling Suppression in Annular Flow using Advanced Imaging Diagnostics and CFD Simulations	81.RD	389,816	60,000
DOE	PO 563385-REVISION 9	US CMS DAQ Subsystem	81.RD	120,870	-
DOE	PO-606667	US CMS HCAL Subsystem	81.RD	69,329	-
DOE	PO-607300	US CMS Software and Computing Subsystem (Data Operation)	81.RD	41,401	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DOE	SUBCONTRACT NO. 3F-31144	Joint Center for Energy Storage Research (JCESR)	81.RD	1,626,668	-
		Total for Department of Energy		**72,569,777**	**5,028,642**
		TOTAL for Department of Energy		**72,569,777**	**5,028,642**

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF HEALTH & HUMAN SERVICES					
NIH					
NIH	1 P50GM098792-01A1	MIT Center for Integrative Synthetic Biology	93.859	-10,364	-
NIH	1-DP2-AG044279-01	Early Warning Indicators of Tipping Points in Biological Systems	93.310	351,211	-
NIH	1-DP2-CA195769-01	Imaging Transcription with Single Molecule Resolution in Live Mammalian Cells	93.310	980,268	-
NIH	1-DP2-DK102256-01	A Novel Strategy for Combating Obesity: Reprogramming Neural Circuits	93.847	339,860	-
NIH	1-DP2-GM119162-01	Continuous Directed Evolution of Biomolecules in Human Cells for Medical Research	93.310	585,820	-
NIH	1DP2GM119419	"Bottom-up" Profiling of Interacting Cellular Systems	93.310	385,011	-
NIH	1-DP2-OD007045-01	Antibacterial Peptides and Zinc in Innate Immunity and Mammalian Physiology	93.310	-15,871	-
NIH	1-DP2-OD007124-01	Engineered Regulated RNA Localization and Transport in Biological Systems	93.310	8,330	-
NIH	1-DP2-OD008435-01	Director's New Innovator Award: High-Throughput Nanoscale Approaches to Studying and Inhibiting Amyloid Toxicity	93.310	178,805	-
NIH	1-F31-AI104170-03	Investigating the role of inflammasome activation in the control of T. gondii - GF for K. Cirelli	93.855	18,020	-
NIH	1-F32-CA186552-01A1 REVISED	High-throughput evolutionary approaches for improving biosensing and production of pharmaceuticals - PDF: Peter Enyeart	93.398	14,493	-
NIH	1-K99-CA197649-01 REVISED	Programmable Probiotics for Cancer	93.398	44,224	-
NIH	1-K99-EB016690-01	Role of cerebrospinal fluid dynamics in brain drug delivery	93.286	28,701	-
NIH	1-K99-EY022924-02	The causal role of inferior temporal cortex in object recognition	93.867	2,644	-
NIH	1-R01AI111860-01	T-cell-mediated targeting of therapeutics to HIV reservoirs	93.855	196,014	196,014
NIH	1-R01-CA174795-01	Localizing Immunotherapy to Improve Therapeutic Index	93.395	179,455	-
NIH	1-R01-CA178636-01	Intraoperative real time breast cancer margin assessment with nonlinear microscopy	93.394	174,942	174,153
NIH	1-R01-CA206218-01A1	Reprogramming the tumor microenvironment via self-amplified RNA (SafeR) circuits	93.396	583	-
NIH	1-R01-CA207029-01A1	RNA circuits for cell state determination in mammalian cells in vitro and in vivo	93.394	101,502	14,474
NIH	1-R01-DA038642-01A1	Molecular imaging of dopaminergic signaling in rodent brain	93.279	78,177	-
NIH	1-R01-DC011339-01A1	Brain Bases of Language Deficits in SLI and ASD	93.173	24,399	-
NIH	1-R01-EB013231-01A1	A 1.5-T superconducting solenoid-dipole magnet for a magic-angle spinning field	93.286	1,156	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NIH	1-R01-EB016101-01A1	A New Device for Electrical & Chemical Modulation of Pathological Neural Activity	93.286	588,973	-
NIH	1-R01-EB017755-01	Mechanistic analysis of transport through the mucus barrier	93.286	103,190	-
NIH	1-R01-GM085457-01	High Throughput Monitoring of Mass, Density and Fluorescence of Single Cells	93.859	0	-
NIH	1-R01-GM101420-01A1	High throughput microfluidic intracellular delivery platform	93.859	199,990	188,556
NIH	1-R01-GM104948-01	Redesigning General Anesthesia	93.310	275,609	-
NIH	1-R01-HD067312-01	Using Cognitive Neuroscience to Predict Dyslexia among Kindergarden Children	93.865	70,376	-
NIH	1R01HL121386-01A1 REVISED	Characterizing Mechanisms of Sickle Cell Crisis via Dynamic Optical Assay	93.839	220,311	-
NIH	1-R01-HL121386-01A1 REVISED	Characterizing Mechanisms of Sickle Cell Crisis via Dynamic Optical Assay	93.839	122,759	122,759
NIH	1-R01-NS086804-01A1	Fiber Inspired Neural Probes for the Multifunctional Dynamic Brain Mapping	93.853	12,812	7,681
NIH	1-R01-NS089076-01A1	Epigenetic pathology and therapy in Huntington's disease	93.853	357,260	169,358
NIH	1-R13-GM115118-01	4th US_Canada Winter School on Biomolecular Solid State NMR	93.859	9,999	-
NIH	1-R21-AI112711-01	Sulfur DNA modifications in gut microbes confer resistance to oxidative stress	93.855	140,911	-
NIH	1-R21-AI114930-01	Inhibiting Toxoplasma growth by disrupting its access to host small molecules	93.855	62,482	19,057
NIH	1-R21-AI126465-01	Siderophore-based antibiotics: consequences for the microbiota and bacterial pathogens	93.855	450	-
NIH	1-R21-EB018529-01A1	PEG-Branch-Nitroxide Nanostructured Organic MRI Contrast Agents	93.286	50,699	50,699
NIH	1-R21-EB018924-01A1	Liquid-helium-free persistent-mode HTS magnets for NMR and MRI applications	93.286	7,153	-
NIH	1-R21-EY023053-02	Time delimited neural silencing to dissect the basis of visual object perception	93.867	-412	-
NIH	1-R21-EY024593-01A1	A serological test to determine strains associated with ocular toxoplasmosis	93.867	3,660	-
NIH	1-R21-MH102470-02	Amino acid neurotransmitter sensors for MRI	93.242	-76,028	-
NIH	1-R24-MH106075-01	Vascular Interfaces for Brain Imaging and Stimulation	93.242	592,683	-
NIH	1-R24-MH109081-01	Toward functional molecular neuroimaging using vasoactive probes in human subjects.	93.242	48,627	-
NIH	1-R24-MH109081-02	Toward functional molecular neuroimaging using vasoactive probes in human subjects.	93.242	279,569	-
NIH	1-R33-CA191143-01	Single cell growth assay for residual cells in acute lymphoblastic leukemia	93.394	29,725	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NIH	1-R34-HL125859-01A1	Entrainment-based mechanical ventilation to improve patient-ventilator synchrony	93.837	10,263	5,498
NIH	1-R35-GM118066-01	Causes and consequences of aneuploidy	93.859	4,150	-
NIH	1-R56-HL127258-01	Central mechanisms of respiratory adaptation to mechanical ventilation	93.837	277,792	-
NIH	1-RF1-AG047661-01	Examination of neural circuits underlying mood disorders in Alzheimer's disease	93.866	360,036	-
NIH	1-RF1-AG048029-01	Alzheimers Disease Risk Genes in Human Microglia and Neurons Derived from iPSCs	93.866	472,559	223,162
NIH	1T32EB019940	Neurobiological Engineering Training Program	93.286	94,799	-
NIH	1-U01-CA184897-01	Dynamics of Gene and Isoform Regulation during EMT and tumor progression	93.396	769,785	343,030
NIH	1-U01-CA184898-01	Embryonal Brain Tumor Networks	93.396	83,870	54,788
NIH	1-U01CA202177-01	Quantitative analyses of tumor cell extravasation	93.396	391,429	47,401
NIH	1-U01-EB018813-01A1	Low-cost microelectronic ultrasound system for unobtrusive ABP measurement	93.286	108,040	-
NIH	1-U01-HG007610-01	Epigenomic variation atlas across human tissues and individuals in GTEx	93.172	171,070	171,070
NIH	1U01MH106011-01	Ultra-Multiplexed Nanoscale In Situ Proteomics for Understanding Synapse Types	93.242	20,464	-
NIH	1-U01-MH106018-01	Novel technologies for nontoxic transsynaptic tracing	93.242	59,862	-
NIH	1-U01-MH108168-01	Connectomes Related to Anxiety and Depression in Adolescents	93.242	541,595	258,964
NIH	1-U01-MH-109129-01	Anterograde monosynaptic tracing - Restricted Parent	93.242	962,731	169,429
NIH	1-U01-NS0904380-01	Next generation high-throughput random access imaging, in vivo	93.853	142,791	-
NIH	1-U01-NS090451-01	Calcium sensors for molecular fMRI	93.853	-23,958	-
NIH	1-U01-NS090473-01	Cortical circuits and information flow during memory-guided perceptual decisions	93.853	211,761	-
NIH	1-UH2-TR000496-01	All-Human Microphysical Model of Metastasis Therapy	93.350	-11,798	-
NIH	2-P01-CA026731-35A1	Endogenous Nitrite Carcinogenesis In Man	93.393	635,603	-
NIH	2-P01-CA042063-26	Characterization of Pathways Controlling Cancer at the Level of Gene Regulation	93.393	954,108	-
NIH	2-P30-CA014051-44	Cancer Center Support (Core) Grant – (Parent)	93.397	2,486,397	112,869
NIH	2-P30-CA14051-44	Cancer Center Support (Core) Grant – (Parent)	93.395	189,995	-
NIH	2-P30-CAA14051-44	Cancer Center Support (Core) Grant – (Parent)	93.397	551,509	-
NIH	2-R01-AI080621-06A1 REVISED	Toxoplasma proteins that modulate the host cell	93.855	49,771	-
NIH	2-R01-CA096504-11	Engineered Antibody EGFR Antagonist Cancer Therapeutics	93.395	210,037	75,541

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NIH	2-R01-EB001965-10	High Magnetic Field, Time Domain Magnetic Resonance Spectrometers	93.286	43,613	-
NIH	2-R01-EB002804-23A1	High Field DNP and EPR in Biological Systems	93.286	0	-
NIH	2-R01-EB002804-27	High Field DNP and EPR in Biological Systems	93.286	19,681	-
NIH	2-R01-EB003151-35A1	Solid State NMR Studies of Peptides and Proteins	93.286	3,333	-
NIH	2-R01-EB004866-05A1	High Frequency Gyrotron for DNP/NMR Research	93.286	-148	-
NIH	2-R01-EB004866-09	Novel Traveling Wave Tubes for CW and Pulsed DNP NMR	93.286	1,440	-
NIH	2-R01-EY011289-29A1	Novel Diagnostics With Optical Coherence Tomography	93.867	162,609	129,205
NIH	2-R01-EY017656-06A1	In Vivo Imaging of Neuronal Plasticity in Visual Cortex	93.867	44,188	-
NIH	2-R01-GM059426-17	Catalytic Stereoselective Olefin Metathesis Reactions	93.859	101,167	87,167
NIH	2-R01-GM082209-05A1	Computational Design of Inhibitor Specificity	93.859	236,694	236,694
NIH	2-R01-GM101988-38	Sequence Determinants of Protein Structure and Stability	93.859	84,698	-
NIH	2-R01-HG002439-14	Regulation and Function of Alternative mRNA Isoform Expression in Mammals	93.172	58,954	-
NIH	2-R01-RR015034-06	Phase 3A of a 3-phase 1.3-GHz LTS/HTS NMR Magnet	93.389	-45	-
NIH	2-T32-ES007020-41	Training Grant in Environmental Toxicology	93.113	440,038	-
NIH	2-T32-GM007287-41	Pre-Doctoral Training in Biological Sciences	93.859	1,748,640	-
NIH	2T32GM008334-26	Interdepartmental Biotechnology Training Program	93.859	16,285	-
NIH	2-T32-GM087237-06	Graduate Training in Computational and Systems Biology	93.859	256	-
NIH	3-F32-GM108092-03S1	Redox Controlled Reductive Elimination from Palladium II Complexes	93.859	51,218	-
NIH	3-R01-EB017097-10S1	Phase 3A of a 3-phase 1.3-GHz LTS/HTS NMR Magnet	93.286	649,819	-
NIH	3-R01-EY011894-15S1	A Molecular Genetic Analysis of Cortical Plasticity	93.867	38,010	-
NIH	3-R01-GM017151-41S1	Structure and Function of Transfer Ribonucleic Acids	93.859	148,771	-
NIH	3-R01-GM049039-20S1	Vascular Drug Delivery	93.859	400,904	-
NIH	3-R01-GM097241-05S1	Inhibition of Prokaryote-Specific Saccharide Biosynthesis in Microbial Pathogens	93.859	410,606	-
NIH	3-R01-GM104948-03S1	Redesigning General Anesthesia	93.310	29,905	-
NIH	3-R01-MH102441-02S1	Dissecting the Neural Circuits Encoding Positive and Negative Valence	93.242	67,053	-
NIH	3-R01-MH106497-02S1	Delineating the Anatomical and Functional Circuitry Underlying Social Learning	93.242	33,675	-
NIH	3-R01-NS089076-01A1S1	Epigenetic pathology and therapy in Huntington's disease	93.853	64,701	23,175
NIH	3-R33-AI100190-04S1	MMDx: A rapid multiplexed matrix code diagnostic for real time epidemiology	93.855	26,056	-
NIH	3-R37-GM057073-17S1	Structure-Function Relationship of Glycosaminoglycans	93.859	-1,043	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NIH	3-T32-HG004947-05S1	MIT/Whitehead/Broad Computational Genetics Training Program	93.172	16,090	-
NIH	3-T32-HG004947-05S2	MIT/Whitehead/Broad Computational Genetics Training Program	93.172	41,340	-
NIH	3-U01-HG007037-03S1	Integrated Genome Discovery at Single Base Pair Resolution	93.172	445,170	-
NIH	3-U01-HG007610-01S1	Epigenomic variation atlas across human tissues and individuals in GTEx	93.172	67,645	-
NIH	3-U01-HG007610-02S1	Epigenomic variation atlas across human tissues and individuals in GTEx	93.172	276,364	-
NIH	3-U01-MH106018-02S1	Novel technologies for nontoxic transsynaptic tracing	93.242	191,947	-
NIH	3-U54-CA112967-10S1	Tumor Cell Network Center: Administration (PARENT)	93.397	120,666	-
NIH	3-U54-CA163109-04S1	Impact of Cellular and Extracellular Host Components on Tumor Progression	93.397	5,242	-
NIH	3-UH3-TR000496-04S1	All-Human Microphysical Model of Metastasis Therapy	93.350	192,100	30,056
NIH	4-F32-CA177094-03 REVISED	Peptide-mediated delivery of siRNA for treatment of ovarian cancer	93.398	57,736	-
NIH	4-P01-CA042063-30	Characterization of Pathways Controlling Cancer at the Level of Gene Regulation	93.393	19,986	-
NIH	4-P50-GM098792-04	MIT Center for Integrative Synthetic Biology	93.859	22,497	-
NIH	4-R01-AG011119-24	Function of SIRT1 in Growth and Reproduction	93.866	112,827	-
NIH	4-R01-AI016892-37	Proteolytic and chaperone machines implicated in virulence and disease	93.855	128,975	-
NIH	4-R01-CA096504-14	Engineered Antibody EGFR Antagonist Cancer Therapeutics	93.395	217,956	-
NIH	4-R01-CA133404-09	Stress and Proliferation States Impact MicroRNA-Mediated Regulation in Cancer	93.393	122,624	-
NIH	4-R01-CA168653-04	Regulation of glucose metabolism to allow tumor initiation and growth	93.396	104,334	-
NIH	4-R01-CA172164-04	Targeting immunosuppression blockade to T cells for cancer immunotherapy	93.395	104,390	-
NIH	4-R01-CA174795-04	Localizing Immunotherapy to Improve Therapeutic Index	93.395	117,046	-
NIH	4-R01-DC000238-31 REVISED	Experimental - Theoretial Studies of Cochlear Mechanisms	93.173	231,326	-
NIH	4-R01-EB016101-04	A New Device for Electrical & Chemical Modulation of Pathological Neural Activity	93.286	619,135	-
NIH	4-R01-ES015339-09	Protein Kinase Signaling and Cell Cycle Control	93.113	27,162	-
NIH	4-R01-ES022872-24	Eukaryotic DNA Alkylation Repair	93.113	99,146	-
NIH	4-R01-EY020517-06	Project Prakash: Development of Object Perception After Late Sight Onset	93.867	122,442	-
NIH	4-R01-GM024663-39	Genetic Analysis of Nematode Egg Laying and Co-regulated Behavioral Systems	93.859	9,869	-

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NIH	4-R01-GM081393-08	MEIII2_Y_Me_Fe_Mn_Cluster Assembly and Maintenance in Ribonucleotide Reductase	93.859	145,742	-
NIH	4-R01-GM082899-09	Cell Cycle Regulation in Caulobacter Crescentus	93.859	71,575	-
NIH	4-R01-GM084477-09	Molecular Genetics of Innate Immunity in C. elegans	93.859	320,285	-
NIH	4-R01-GM094303-05	Functional Consequences of Ribosome Heterogeneity	93.859	11,444	-
NIH	4-R01-GM101420-04	High throughput microfluidic intracellular delivery platform	93.859	43,191	-
NIH	4-R01-GM102311-04	Cooperation and Cheating in the Evolution of Antibiotic Resistance in Bacteria	93.859	8,725	-
NIH	4-R01-GM105984-04	Investigating the generation of mechanical forces during tissue invagination	93.859	52,717	-
NIH	4-R01-MH060379-15	Ensemble activity in rat corticostriatal circuits during habit learning	93.242	184,712	-
NIH	4-R01-MH065252-15	Neural Basis of Categories	93.242	82,322	-
NIH	4-R01-MH096914-05	Impairments of Theory of Mind disrupt patterns of brain activity	93.242	41,090	-
NIH	4-R01-RR015034-10REVISED	Phase 3A of a 3-phase 1.3-GHz LTS/HTS NMR Magnet	93.389	-648,733	-
NIH	4-R37-MH087027-07	Cortical Circuits for Attention and Decisions	93.242	589,212	-
NIH	4-T32-OD010978-29	Biomedical Research Training for Veterinary Scientists	93.351	60,578	-
NIH	4-UH3-TR000496-03 REVISED	All-Human Microphysical Model of Metastasis Therapy	93.350	276,006	94,773
NIH	5 P01 HD061315-05	Maternal and Child Health in Poor Countries: Evidence from Randomized Evaluations	93.865	606,108	190,849
NIH	5 T32 GM007287-40	Pre-Doctoral Grant in the Biological Sciences	93.859	-17,614	-
NIH	5_R01-DE013023-15R	Novel Polymers for Tissue Engineering	93.121	877	-
NIH	5-DP1-ES022576-05 REVISED	Developing novel methods to measure DNA repair capacity in human populations	93.113	174,004	-
NIH	5-DP1-NS082101-05	Generating Transplantable Neurons by in Vivo Combinatorial Screening of Transcription Regulator RNAs	93.310	707,362	-
NIH	5-DP1-NS087724-03	Millisecond-Timescale Whole-Brain Neural Activity Mapping in Health and Disease	93.310	1,559,672	-
NIH	5-DP5-OD017865-02	Post-transcriptional regulation of gene expression in neuromuscular disease	93.310	16,556	-
NIH	5-DP5-OD019815-03	Adapter-Layer RTK Signaling: Basic Understanding & Targeted Drug Resistance	93.310	299,590	-
NIH	5-F30-CA189333-02	Characterization of GATOR1 signaling to mTORC1 and its role in cancer	93.398	48,234	-
NIH	5-F31-AG044061-03	A novel developmental pathway for genes involved in Alzheimer's Disease - GF for K. Villa	93.866	6,883	-
NIH	5-F31-AR067615-02	A Novel Approach to Osteogenesis Imperfecta_ The Collagen Protein Folding Problem	93.846	43,155	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NIH	5-F31-CA167872-04	Characterization of novel regulators of amino acid-sensitive mTORC1 signaling - GF for L. Schweitzer	93.398	30,608	-
NIH	5-F31-CA180271-03	Characterization of MWS/DEN, a novel regulator of amino acid signaling to mTORC1	93.398	43,046	-
NIH	5-F31-CA183405-02 REVISED	Targeting tumor-microenvironment interaction to overcome leukemia chemoresistance	93.398	21,192	-
NIH	5-F31-CA189437-03	Improving targeted therapies through functional genomic approaches	93.398	42,942	-
NIH	5-F31-GM115068-02	Structural and Biochemical Characterization of the Nuclear Pore Complex Scaffold	93.859	43,362	-
NIH	5-F31-MH099782-02	Characterizing in-task corticostriatal circuit operation during habit learning	93.242	-3,980	-
NIH	5-F32-AG052284-02	The Role of Aging in the Progression of Tendon Degeneration Due to Compressive Mechanical Overload: A Multiscale Approach	93.866	25,130	-
NIH	5-F32-AI109857-03	Molecular determinants of N-linked glycosylation in Campylobacter jejuni	93.855	54,956	-
NIH	5-F32-AI112359-03 REVISED	Longitudinal analysis of antibody responses to HIV-1:mapping function to genotype	93.855	54,859	-
NIH	5-F32-AR062931-03	Data-Driven Modeling of Signaling Dysregulation in Rheumatoid Arthritis - PDF D. Jones	93.846	-383	-
NIH	5-F32-CA165657-02REVISED	Bacterial Minicells for Cancer Therapeutics	93.398	1,105	-
NIH	5-F32-CA168057-03	New Approaches to the Selective Targeting of Cancer-associated Fibroblasts - PDF J. Van Deventer	93.398	0	-
NIH	5-F32-CA180586-02	Modulating AhR in tumor and lymphoid microenvironments via local drug delivery	93.398	-1	-
NIH	5-F32-CA183400-3	Two-Photon Fluorescence Lifetime Microscopy for Breast Cancer Margin Assessment	93.398	53,793	-
NIH	5-F32-CA196149-02	Multiscale Analysis of Cancer Cell Mechanics	93.398	53,430	-
NIH	5-F32-CA200351-02	Polymeric Nanoparticles for siRNA Delivery to Bone Marrow Endothelium to Disrupt Tumor Cell Adhesion and Bone Metastasis Formation In Vivo - PDF: M. Mitchell	93.398	45,638	-
NIH	5-F32-DC013703-03	Auditory processing of reverberation: perceptual and computational investigations	93.173	59,099	-
NIH	5-F32-DK095726-03	Regulation of Heme Synthesis and Mitochondrial Physiology by the ClpX Unfoldase - PDF - J. Kardon	93.847	16,346	-
NIH	5-F32-DK101335-03	Array development of anti-inflammatory peptoid-graft polymers for islet delivery	93.847	57,343	-
NIH	5-F32-EB017614-02	LbL Nanotechnologies for Synergistic Therapy of Advanced Ovarian Carcinoma	93.286	9,474	-
NIH	5-F32-EB018155-02 REVISED	An injectable block copolymer synthetic cartilage	93.286	3,640	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NIH	5-F32-EB019243-02 REVISED	Targetable and Ratiometric Fluorescent Sensors For Probing Brain Mobile Zinc	93.286	55,378	-
NIH	5-F32-EB019262-02	Aligned Carbon Nanotube_Based Chemical Sensors with Highly Improved Sensitivity	93.286	53,350	-
NIH	5-F32-EY022264-03	Role of glial glutamate transporters in V1 plasticity and development - PDF for J. Petravicz	93.867	4,969	-
NIH	5-F32-EY024483-03	Anatomical constraints on cognition and how they develop	93.867	59,069	-
NIH	5-F32-EY024857-03	Dopaminergic modulation of visual cortical circuits	93.867	55,968	-
NIH	5-F32-GM106550-03 REVISED	A Conjugated Polymer Fluorogenic Probe for Inorganic Polyphosphate - PDF for J. Kalow	93.859	51,512	-
NIH	5-F32-GM108181-03 REVISED	A Cascade Reaction to Synthesize Ladder Polyethers with 1,3 Diaxial Methyl Groups	93.859	50,052	-
NIH	5-F32-GM108189-02	Structural Investigation of Enzymes that Utilize Cobalamin and AdoMet Cofactors	93.859	55,742	-
NIH	5-F32-GM108294-03	Development of New Metal_Catalyzed Hydroacylation and Hydroarylation Processes - PDF D. Cohen	93.859	53,848	-
NIH	5-F32-GM109516-03	Multicolor Fluorescent Sensors for Imaging Zinc Dynamics in Cells	93.859	58,120	-
NIH	5-F32-GM109562-03	Genome-wide identification of mRNA localization motifs and factors	93.859	54,830	-
NIH	5F32GM110897-03	Hybrid organometallic_carbon nanotube films for enhanced chemiresistive sensors	93.859	48,580	-
NIH	5-F32-GM112197-03	Direct Synthesis of 1_2_Benzisoxazoles Via Palladium Catalysis	93.859	53,619	-
NIH	5-F32-GM112218-03	Directed Arylation of Unprotected Anilines Enabled by Continuous Flow Technology	93.859	50,686	-
NIH	5-F32-GM112272-03 REVISED	Synthetic Optimization of Organic Radicals for Dynamic Nuclear Polarization	93.859	53,463	-
NIH	5-F32-GM113311-03	Asymmetric Construction of Benzylic Stereocenters via Reductive Copper Catalysis	93.859	51,035	-
NIH	5-F32-GM113425-02	Investigating the F-role of actin disassembly during Drosophila gastrulation	93.859	48,771	-
NIH	5-F32-GM114976-02 REVISED	Determining the Molecular Mechanism of a Caulobacter DNA Replication Checkpoint	93.859	55,052	-
NIH	5-F32-GM116241-02	Quality Control of Membrane Proteins	93.859	46,468	-
NIH	5-F32-HD075427-03	Behavioral, fMRI, and Anatomical MRI Investigations of Attention in Autism - PDF for J. Fischer	93.865	13,423	-
NIH	5-F32-HD079143-03 REVISED	Stress effects on childhood brain development	93.865	59,000	-
NIH	5-F32-HD079169-03 REVISED	How connectivity determines function in the mature and developing human brain	93.865	59,390	-

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NIH	5-F32-HL110484-03	Alternative splicing in the vascular response to pathological shear stress -PDF P. Murphy	93.837	-1	-
NIH	5-F32-HL122009-03	Local delivery of TGF-beta inhibitors to treat mitral valve disease	93.837	55,847	-
NIH	5-F32-MH107086-02 REVISED	Revealing the causal role of hippocampal dopamine signaling in spatial learning	93.242	52,533	-
NIH	5-F32-NS093897-02	Therapeutic devices for probing electrical and chemical activity in deep brain disorders_PDF: H. Schwerdt	93.853	29,006	-
NIH	5-K99-CA187317-02 REVISED	Investigating Wnt and Lgr5 signaling as regulators of lung cancer heterogeneity	93.398	109,545	-
NIH	5-K99-ES022639-02	Impact of Infection and Inflamation on the Toxicity of Environmental Chemicals	93.867	4,253	-
NIH	5-K99-HL-122514-02	Dissecting epigenetic transitions at enhancer elements during cardiac development	93.867	43,699	-
NIH	5-K99-HL125727-02 REVISED	Investigation of alternative splicing in response to low and disturbed flow	93.837	126,205	-
NIH	5-K99-MH104259-02 REVISED	Dissection of the neural circuitry of short-term memory in behaving mice	93.242	44,660	-
NIH	5-P01-CA042063-29	Characterization of Pathways Controlling Cancer at the Level of Gene Regulation	93.393	405,154	-
NIH	5-P01-ES03926-13	Genetics and Toxicology	93.113	-54,726	-
NIH	5-P30-CA014051-45	Cancer Center Support (Core) Grant – (Parent)	93.397	521,960	-
NIH	5-P30-CA14051-43	Administration	93.395	22,762	22,762
NIH	5-P30ES002109-35	MIT Center for Environmental Health Sciences	93.113	1,020,363	-
NIH	5-P30-EY002621-37	Core - Vision Processes	93.867	18,835	9,769
NIH	5-P30-EY002621-38	Core - Vision Processes	93.867	686,715	33,284
NIH	5-P41-EB002026-41	MIT/Harvard Center for Magnetic Resonance	93.286	1,196,802	-
NIH	5-P41-EB015871-29	MIT Laser Biomedical Research Center (P41-RR02594)	93.286	1,030,847	-
NIH	5-P50-GM068762-10 REVISED	Systems Biology of Cell Decision Processes	93.859	-1,208	-1,208
NIH	5-P50-GM098792-03	MIT Center for Integrative Synthetic Biology	93.859	1,800,579	-
NIH	5-R00-AG045144-05	Regulation of the Intestinal Stem Cell Niche in Aging	93.866	303,796	-
NIH	5-R00-GM105913-05	Probing the function of translational pausing in bacterial protein synthesis	93.859	269,719	-
NIH	5-R01-AG011119-23	Function of SIRT1 in Growth and Reproduction	93.866	305,520	-
NIH	5-R01-AG015339-15	Function of Mammalian SIRT1 in Aging	93.866	-37,714	-
NIH	5-R01-AG049897-02	A Randomized Controlled Trial of Health Care Hotspotting	93.866	176,505	-
NIH	5-R01-AI016892-36	Proteolytic and chaperone machines implicated in virulence and disease	93.855	294,408	-

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NIH	5-R01AI095109-05	Engineered lipid vesicles as potent vaccine vectors for HIV	93.855	231,294	-
NIH	5-R01-AI111395-03	Characterization and Development of a Cross Spectrum Anti-Dengue Antibody	93.855	546,712	-
NIH	5-R01-AI111860-03 REVISED	T-cell-mediated targeting of therapeutics to HIV reservoirs	93.855	158,939	-
NIH	5-R01-AR060331-04	Cartilage Repair Using Self Assembling Peptide Scaffolds	93.846	250,152	153,140
NIH	5-R01-AR065484-03	Structure-Function of the Nuclear Envelope Bridge and its Role in Laminopathies	93.846	343,276	-
NIH	5-R01-AT008764-03	Antimicrobial discovery from metabolomics of nematode pathogen interactions	93.213	800,825	419,629
NIH	5-R01CA021615-37	Mutagenesis and Repair of DNA	93.393	44	-
NIH	5-R01-CA021615-39	Mutagenesis and Repair of DNA	93.393	335,943	-
NIH	5-R01-CA034992-34	Understanding and Improving Platinum Anticancer Drugs	93.395	614,404	-
NIH	5-R01-CA075289-19	Optical Biopsy Using Coherence Tomography	93.394	333,561	65,466
NIH	5-R01-CA096504-13	Engineered Antibody EGFR Antagonist Cancer Therapeutics	93.395	171,015	-
NIH	5-R01-CA108854-09	Role of ILIO and TGFBI in Colon Cancer	93.393	4,633	-
NIH	5-R01-CA133404-08	Stress and Proliferation States Impact MicroRNA-Mediated Regulation in Cancer	93.393	373,063	-
NIH	5-R01-CA149261-05	The influence of DNA repair on inflammation associated carcinogenesis	93.393	35,294	-
NIH	5-R01-CA155320-05REVISED	MicroRNA Expression Profiling Circuits for Detection and Destruction of Cancer	93.395	56,978	75,387
NIH	5-R01-CA160860-04	Developing Direct Small-Molecule Probes of Myc-Dependent Transcription	93.393	113,535	-
NIH	5-R01-CA168653-03	Regulation of glucose metabolism to allow tumor initiation and growth	93.396	187,908	-
NIH	5-R01-CA172164-05	Targeting immunosuppression blockade to T cells for cancer immunotherapy	93.395	164,188	-
NIH	5-R01-CA173712-05	Genetic circuits for high-throughput, multi-sensory, live cell microRNA profiling	93.396	12,301	-
NIH	5-R01-CA174795-03	Localizing Immunotherapy to Improve Therapeutic Index	93.395	110,718	-
NIH	5-R01-CA178636-03	Intraoperative real time breast cancer margin assessment with nonlinear microscopy	93.394	131,903	-
NIH	5-R01-CA184956-02	(PQB6)Elucidating metastasis by real-time monitoring and tagging of CTCs in GEMMs	93.396	382,021	-
NIH	5-R01-CA184956-03	(PQB6)Elucidating metastasis by real-time monitoring and tagging of CTCs in GEMMs	93.396	168,696	-
NIH	5-R01-CA185020-03	(PQB3) Investigating innate immunosurveillance of oncogene-induced danger signals	93.396	296,674	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NIH	5-R01-CA186568-03	Spatially-resolved proteomic mapping of living cells	93.310	597,573	-
NIH	5-R01-CA206218-02	Reprogramming the tumor microenvironment via self-amplified RNA (SafeR) circuits	93.396	86,252	-
NIH	5-R01-DA028299-05	MRI Probes for Functional Imaging ofPlasticity Signals in the Brain	93.279	-65,167	-
NIH	5-R01-DA029639-04	Novel Platforms for Systematic Optical Control of Complex Neural Circuits in Vivo	93.279	-28	-
NIH	5-R01-DA029639-06	Novel Platforms for Systematic Optical Control of Complex Neural Circuits In Vivo	93.279	468,250	-
NIH	5-R01-DA038642-02	Molecular imaging of dopaminergic signaling in rodent brain	93.279	561,765	-
NIH	5-R01-DC000117-36	Hearing Aid Research	93.173	300,504	-
NIH	5-R01-DC009183-08	Neuronal Mechanisms of Motor Exploration and the Emergence of Structured Behavior	93.173	335,557	-
NIH	5-R01-DC011339-05	Brain Bases of Language Deficits in SLI and ASD	93.173	527,545	235,521
NIH	5-R01-DE013023-14	Novel Polymers for Tissue Engineering	93.121	10,541	10,541
NIH	5-R01-DE013023-17	Novel Polymers for Tissue Engineering	93.121	312,555	-
NIH	5-R01-DE016516-10	High Throughput Craniofacial Tissue Engineering	93.121	8,202	-
NIH	5-R01-DK087984-06	HRI-eIF2a Phosphorylation Signaling in Oxidative Stress and Erythropoiesis	93.847	342,078	-
NIH	5-R01-EB001960-39	Solid State NMR Studies of Membrane Proteins	93.286	342,847	-
NIH	5-R01-EB001965-12	High Magnetic Field, Time Domain Magnetic Resonance Spectrometers	93.286	328,221	-
NIH	5-R01-EB002804-26	High Field DNP and EPR in Biological Systems	93.286	12,337	-
NIH	5-R01-EB002804-28	High Field DNP and EPR in Biological Systems	93.286	683,353	-
NIH	5-R01-EB003151-38	Solid State NMR Studies of Peptides and Proteins	93.286	517,973	-
NIH	5-R01-EB004866-08 REVISED	High Frequency Gyrotron for DNP/NMR Research	93.286	269	-
NIH	5-R01-EB004866-10	Novel Traveling Wave Tubes for CW and Pulsed DNP NMR	93.286	336,502	-
NIH	5-R01-EB010246-04	Perfused 3D Tissue Surrogates for Complex Cell-Cell Communication Systems	93.310	2,280	-
NIH	5-R01-EB010246-05	Perfused 3D Tissue Surrogates for Complex Cell-Cell Communication Systems	93.310	-3,442	10,889
NIH	5-R01-EB013231-03	A 1.5-T superconducting solenoid-dipole magnet for a magic-angle spinning field	93.286	44,876	-
NIH	5-R01-EB016101-03	A New Device for Electrical & Chemical Modulation of Pathological Neural Activity	93.286	710,921	-
NIH	5-R01-EB017205-03	Critical Care Informatics	93.286	654,398	-
NIH	5-R01-EB017755-03	Mechanistic analysis of transport through the mucus barrier	93.286	181,196	-
NIH	5-R01-EB020740-02	Nipype: Dataflows for Reproducible Biomedical Research	93.286	119,745	36,734

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NIH	5-R01-ES015339-08	Protein Kinase Signaling and Cell Cycle Control	93.113	561,641	-
NIH	5-R01-ES015818-08	Mechanism of Eukaryotic Environmental Mutagenesis	93.113	353,105	-
NIH	5-R01-ES016313-08	The Environment as a Variable to Calibrate Mouse Models of Human Disease	93.113	222,190	-
NIH	5-R01-ES022872-23	Eukaryotic DNA Alkylation Repair	93.113	229,683	-
NIH	5-R01-EY007023-26	Cell-specific circuits and contextual modulation in visual cortex	93.867	280,722	-
NIH	5-R01-EY011289-30	Novel Diagnostics With Optical Coherence Tomography	93.867	212,654	-
NIH	5-R01-EY011894-17	A Molecular Genetic Analysis of Cortical Plasticity	93.867	217,125	-
NIH	5-R01-EY011894-18 REVISED	A Molecular Genetic Analysis of Cortical Plasticity	93.867	87,633	-
NIH	5-R01-EY013455-16 REVISED	Feedback of Peripheral Visual Information to Foveal Cortex	93.867	220,873	-
NIH	5-R01-EY014074-20	Developmental Regulation of Glutamate Receptor Function	93.867	317,270	-
NIH	5-R01-EY015834-10	Compounds blocking crystallin aggregation in vitro; path to anti-cataract agents	93.867	174,700	-
NIH	5-R01-EY017292-10	Neural Mechanisms of Selective Attention	93.867	359,416	-
NIH	5-R01-EY017921-08	Neural mechanisms mediating visual search	93.867	307,939	-
NIH	5-R01-EY019271-05	Haptic Vitrual Environments to Enhance Navigation and Mobility of Blind People	93.867	257,938	-
NIH	5-R01-EY020484-05 REVISED	The gist of the space: A space centered approach to visual scene perception	93.867	258,896	-
NIH	5-R01-EY020517-05	Project Prakash: Development of Object Perception After Late Sight Onset	93.867	216,193	-
NIH	5-R01-EY021473-03	Making Sense of Visual Search	93.867	24,025	-
NIH	5-R01-EY023037-03	Behavioral consequences and cellular substrates of plasticity in visual cortex	93.867	443,683	-
NIH	5-R01-EY023173-04	High-throughput robotic analysis of integrated neuronal phenotypes	93.867	702,016	432,317
NIH	5-R01-EY023322-05 REVISED	Neural mechanisms of color	93.867	453,601	-
NIH	5-R01-EY025437-02	in vivo imaging of inhibitory circuit remodeling in mouse visual cortex	93.867	275,435	-
NIH	5-R01-GM017151-41 REVISED	Structure and Function of Transfer Ribonucleic Acids	93.859	21,072	-
NIH	5-R01-GM024663-38	Genetic Analysis of Nematode Egg Laying and Co-regulated Behavioral Systems	93.859	419,820	-
NIH	5-R01-GM029595-38	Ribonucleotide Reductase: Structure and Function	93.859	336,241	-
NIH	5-R01-GM031030-35	Molecular Genetics of Rhizobium Nodulation Plasmids	93.859	411,110	-
NIH	5-R01-GM032134-32	Nonheme Diiron Centers and the Biological Oxidation of Hydrocarbons	93.859	39,455	-
NIH	5-R01-GM034277-31	Regulation of mRNA Processing	93.859	489,584	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NIH	5-R01-GM039334-28	N-linked Protein Glycosylation: Pathways and Processes	93.859	286,986	-
NIH	5-R01-GM046059-25	Catalytic Methods for Organic Synthesis	93.859	582,337	-
NIH	5-R01-GM049224-21	Protein Recognition for Remodeling and Degradation by Bacterial AAA+ ATPases	93.859	-2,153	-
NIH	5-R01-GM050895-20	Cell-Cell Signaling, Gene Expression, and Horizontal Gene Transfer in Bacillus	93.859	365,928	-
NIH	5-R01-GM052339-21 REVISED	Initiation of DNA Replication of Yeast Chromosomes	93.859	200,603	-
NIH	5R01GM056800-20	Regulation of MITOSIS by Proteolysis in Yeast	93.859	162,299	-
NIH	5-R01-GM058160-19	Late Transition Metal Catalysts for Organic Synthesis	93.859	591,536	-
NIH	5-R01-GM059426-15	Catalytic Stereoselective Olefin Metathesis Reactions	93.859	254,287	254,287
NIH	5-R01-GM059426-16	Catalytic Stereoselective Olefin Metathesis Reactions	93.859	112,715	-
NIH	5-R01-GM059426-18	Catalytic Stereoselective Olefin Metathesis Reactions	93.859	59,538	-
NIH	5-R01-GM062207-15 REVISED	Regulation of the meiotic cell cycle	93.859	311,928	-
NIH	5-R01-GM063857-12	ELECTROPORATION MECHANISM, MICRODOSIMETRY AND INCREASINGLY REALISTIC CELL MODELS	93.859	11,439	-
NIH	5-R01-GM065519-15	Imaging Mobile Zinc Biology	93.859	400,004	-
NIH	5-R01-GM066976-13	Structures and lipid interactions of curvature-inducing membrane peptides by NMR	93.859	317,188	-
NIH	5-R01-GM068957-11 REVISED	Controlling gene expression fluctuations during development and stem cell differentiation	93.859	65,821	-
NIH	5-R01-GM069857-11	Complex Metallocluster Structure and Assembly	93.859	210,757	-
NIH	5-R01-GM072566-12	Synthetic Strategies based on expoxide coupling reactions	93.859	278,273	-
NIH	5-R01-GM074825-09	Synthesis and Study of Complex Natural Products	93.859	38,837	-
NIH	5-R01-GM074825-11	Synthesis and Study of Complex Natural Products	93.859	48,071	-
NIH	5-R01-GM077537-09	High Resolution Assembly Structure of The Nuclear Pore Complex	93.859	231,368	-
NIH	5-R01-GM081393-07	MEIII2_Y_Me_Fe_Mn_Cluster Assembly and Maintenance in Ribonucleotide Reductase	93.859	150,826	150,826
NIH	5-R01-GM081393-07 REVISED	MEIII2_Y_Me_Fe_Mn_Cluster Assembly and Maintenance in Ribonucleotide Reductase	93.859	125,280	-
NIH	5-R01-GM081871-08	Structure based prediction of the interactome	93.859	241,446	-
NIH	5-R01-GM082209-07	Computational Design of Inhibitor Specificity	93.859	369,166	-
NIH	5-R01-GM082899-08	Cell Cycle Regulation in Caulobacter Crescentus	93.859	307,525	-
NIH	5-R01-GM085319-08	Function of Sequence-Specific Regulators of RNA Splicing	93.859	130,101	-
NIH	5-R01-GM085457-04	High Throughput Monitoring of Mass, Density and Fluorescence of Single Cells	93.859	119,848	-
NIH	5-R01-GM087465-05	Analysis of poly(ADP-ribose) function in the cytoplasmic stress response	93.859	115,156	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NIH	5-R01-GM088204-06	Solid-state NMR of the influenza M2 protein in lipid bilayers	93.859	274,472	-
NIH	5-R01-GM089732-08	Synthesis and Study of Dimeric Diketopiperazine Alkaloids Years 5 to 8	93.859	383,118	-
NIH	5-R01-GM089903-05REVISED	A Systems Biology Approach to Reveal Huntington's Disease Mechanisms	93.859	-26,799	-
NIH	5-R01-GM094303-04	Functional Consequences of Ribosome Heterogeneity	93.859	185,105	-
NIH	5-R01-GM095733-04 REVISED	Probing the real-time kinetics and steady-state dynamics of gene expression	93.859	10,286	-
NIH	5-R01-GM095765-05	Characterization of Gradient-Responsive Genetic Programs Using Light Sensors	93.859	-12,016	-
NIH	5-R01-GM095843-04 REVISED	Radicals and Polyradicals for Dynamic Nuclear Polarization	93.859	21	-
NIH	5-R01-GM095843-06	Molecules for Dynamic Nuclear Polarization and NMR Structure Determination	93.859	402,607	-
NIH	5-R01-GM096466-05 REVISED	Very large datasets and new models to predict and design protein interactions	93.310	278,798	-
NIH	5-R01-GM101316-03	Regulation and Function of snoRNA Genes	93.859	268,350	-
NIH	5-R01-GM101420-03	High throughput microfluidic intracellular delivery platform	93.859	218,089	-
NIH	5-R01-GM101988-37	Sequence Determinants of Protein Structure and Stability	93.859	378,565	-
NIH	5-R01-GM102311-03	Cooperation and Cheating in the Evolution of Antibiotic Resistance in Bacteria	93.859	292,294	-
NIH	5-R01-GM104948-04	Redesigning General Anesthesia	93.310	568,455	263,500
NIH	5-R01-GM105984-03	Investigating the generation of mechanical forces during tissue invagination	93.859	204,948	-
NIH	5-R01-GM108348-03	BIGDATA: Small: DA: DCM: Compressive genomics for large sequence datasets: Algorithms, applications, and software	93.859	183,495	-
NIH	5-R01-GM110048-03	Computationally guided design of helical peptide interaction reagents	93.859	203,873	-
NIH	5-R01-GM110535-03	Cysteine Arylation	93.859	319,606	-
NIH	5-R01-GM113708-02	Comparative analysis and regulatory architecture of epigenomics datasets	93.859	82,156	-
NIH	5-R01-GM114190-02	Polymer models of mitotic and interphase chromosomes	93.859	239,730	-
NIH	5-R01-GM114834-12	Modified Phase 3B of a 3-phase 1.3-GHz LTS/HTS NMR magnet	93.859	388,543	-
NIH	5-R01-HD046943-10	Mechanisms and Functions of FMRP in Neuronal Development	93.865	181,028	-
NIH	5-R01-HD057606-10 REVISED	Constraints on Phonological & Morphological Development	93.865	34,920	-
NIH	5-R01-HD067312-05	Using Cognitive Neuroscience to Predict Dyslexia among Kindergarden Children	93.865	261,843	127,064
NIH	5-R01-HD085866-02	Mitotic exit control	93.865	187,897	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NIH	5-R01-HD086899-02	NRI: An autonomous curious social robot with a mindset for long-term interaction with children	93.865	51,454	-
NIH	5-R01-HG002439-13	Regulation and Evolution of Alternative mRNA Isoform Expression in Mammals	93.172	317,017	-
NIH	5-R01-HG004037-09	Regulartory Motif Discovery in the Human Genome Using Comparative Genomics	93.172	156,333	-
NIH	5-R01-HG006781-03	Development of technologies for genome-wide identification of RNA branch points	93.172	203,076	-
NIH	5-R01-HG008363-02	High-throughput methods for elucidating the control of chromatin accessibility	93.172	433,484	148,847
NIH	5-R01-HL093225-05	Cytoarchitecture of Central Respiratory Afferents Processing	93.838	23,100	-
NIH	5-R01-HL107503-05	Scalable Units for Building Vascularized Cardiac Graft	93.837	451,749	200,890
NIH	5-R01-HL121386-03	Characterizing Mechanisms of Sickle Cell Crisis via Dynamic Optical Assay	93.839	120,490	-
NIH	5-R01-HL127174-02	Canonical & non-canonical regulation of the HDL receptor by PDZK1's PDZ domains	93.837	120,673	-
NIH	5-R01-MH060379-14	Ensemble activity in rat corticostriatal circuits during habit learning	93.242	271,554	-
NIH	5-R01-MH065252-14	Neural Basis of Categories	93.242	420,813	-
NIH	5-R01-MH067105-10	Performance Error Signals in Basal Ganglia-Forebrain Circuits of the Songbird	93.242	63,751	-
NIH	5-R01-MH085802-07	MicroRNA mechanisms of Rett Syndrome	93.242	371,801	-
NIH	5-R01-MH091115-05	Chemical Genomic Approaches to Neurobiology of DISC1	93.242	-457	3,665
NIH	5-R01-MH091174-05	Capacity Limitations in the Cortex	93.242	140,872	-
NIH	5-R01-MH091220-05	The Role of GABAergic Synaptic Plasticity in Neural Circuit Functions	93.242	-10,456	-
NIH	5-R01-MH096914-04	Impairments of Theory of Mind disrupt patterns of brain activity	93.242	234,664	-
NIH	5-R01-MH097104-04	Shank3 in Synaptic Function and Autism	93.242	318,077	-
NIH	5-R01-MH102441-04	Dissecting the Neural Circuits Encoding Positive and Negative Valence	93.242	286,171	-
NIH	5-R01-MH103160-03	Hypermagnetic engineered proteins for functional neuroimaging	93.242	235,357	-
NIH	5-R01-MH104536-03	Imaging Synaptic Transmission of Individual Active Zones	93.242	419,746	-
NIH	5-R01-MH106469-02	Synaptic pathophysiology of the 16p11.2 microdeletion mouse model	93.242	575,892	-
NIH	5-R01-MH106497-02	Delineating the Anatomical and Functional Circuitry Underlying Social Learning	93.242	442,681	-
NIH	5-R01-NS025529-26	Extrapyramidal Systems	93.853	354,349	-
NIH	5-R01-NS040296-13 REVISED	Characterization of the Drosophila Synaptotagmin Family	93.853	24,263	-

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NIH	5-R01-NS040296-15	Characterization of the Drosophila Synaptotagmin Family	93.853	194,769	-
NIH	5-R01-NS051874-20 REVISED	The Cdk5/p35 Kinase	93.853	347,500	-
NIH	5-R01-NS073127-05 REVISED	High-Throughput In Vivo Subcellular-Resolution Vertebrate Screening Platform	93.310	-44,272	-
NIH	5-R01-NS076462-05	Noninvasive imaging-based electrophysiology using microelectronic devices	93.310	137,785	-
NIH	5-R01-NS078127-03	Neural mechanisms of timing in the oculomotor system	93.853	79,370	-
NIH	5-R01-NS078839-05	The Epigenetics of Alzheimer's Disease	93.853	754,481	122,838
NIH	5-R01-NS086804-03	Fiber Inspired Neural Probes for the Multifunctional Dynamic Brain Mapping	93.853	431,144	-
NIH	5-R01-NS089076-02	Epigenetic pathology and therapy in Huntington's disease	93.853	256,409	-
NIH	5-R01-OD011141-04	Diagnosis and Pathobiology of Emerging Enterohepatic Helicobacter spp. in Mice	93.351	75,141	27,229
NIH	5-R03-AR067503-02	Unveiling the Proteostasis Network of Normal and Disease_Causing Collagen_I	93.846	130,393	-
NIH	5-R03-HD075076-02	Development of tissue-specific knockout technologies for C. elegans	93.865	14,399	-
NIH	5-R21-AI101807-02	PGT Inhibitors Mapped From a Tunicamycin Blueprint	93.855	1,124	-
NIH	5-R21-AI106025-02	Highly Multiplexed Single-cell Transcript Analysis Using DNA-barcoded Nanowells	93.310	92,224	-
NIH	5-R21-AI110787-02	Multigenerational lineage heterogeneity and metabolic plasticity of CD8 T cells	93.855	75,478	-
NIH	5-R21-AI112711-02	Sulfur DNA modifications in gut microbes confer resistance to oxidative stress	93.855	118,242	-
NIH	5-R21-AI121613-02	MITOPlas_Scalable characterization of the malaria parasite mitochondrial proteome	93.855	114,410	-
NIH	5-R21-AI121669-02	Engineering Phagebody Antimicrobials for Carbapenem-Resistant Enterobacteriaceae	93.855	58,645	-
NIH	5-R21-AR068477-02	A C. elegans drug discovery platform for dysferlin-based Muscular Dystrophies	93.846	120,135	-
NIH	5-R21-CA177391-03	Implantable device for high-throughput in vivo drug sensitivity testing	93.394	232,814	-
NIH	5-R21-CA187236-02	Characterizing functional targets of a non-coding RNA oncogene, SNORA42	93.396	150,823	-
NIH	5-R21-CA198028-02	Understanding the role of serine metabolism in cancer	93.396	358,261	-
NIH	5-R21-EB013764-02	A 7-T/54-mm compact no-insulation HTS magnet for NMR applications	93.286	2,988	-
NIH	5-R21-EB018529-02	PEG-Branch-Nitroxide Nanostructured Organic MRI Contrast Agents	93.286	162,861	-

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NIH	5-R21-EB018924-02	Liquid-helium-free persistent-mode HTS magnets for NMR and MRI applications	93.286	146,406	1,105
NIH	5-R21-ES020466-02	Phospho-Binding Ligands and Substrates of BRCA1	93.113	35,583	-
NIH	5-R21-ES022858-02 REVISED	Quantitative analysis of damage to the nucleotide pool	93.113	127,498	-
NIH	5-R21-HL114011-02	Directed Differentiation of Stem Cells to Cardiomyocytes Using Optically Actuated Micropost Arrays	93.837	25,183	-
NIH	5-R21-MH097680-02	Using Drosophila to Characterize the Molecular Pathogenesis of Autism	93.242	67,597	-
NIH	5-R21-NS084264-02	Noninvasive Determination of Intracranial Pressure in Pediatric Patients	93.853	208,213	133,359
NIH	5-R21-NS087225-02	Validating a novel target for correction of pathophysiology in fragile X and TSC	93.853	200,050	-
NIH	5-R21-NS088412-02	SnapTag: Tagging active ensembles using a Strong Neuronal Activity Promoter	93.853	166,502	-
NIH	5-R21-NS091982-02	New technologies for in vivo spectral resolved high speed multiphoton microscopsy	93.853	146,326	-
NIH	5-R24-GM098650-03	Legacy Informatics Resources for Glycomics	93.859	71,116	-
NIH	5-R25-GM116705-02	IMPACT Program for Biomedical Researcher Career Development	93.859	109,700	16,819
NIH	5-R33-AI100190-04	MMDx: A rapid multiplexed matrix code diagnostic for real time epidemiology	93.855	449,076	-
NIH	5-R33-CA174550-03 REVISED	Microfluidic 3D Assays for Metastatic Cancer	93.396	200,664	83,106
NIH	5-R33-CA191143-02	Single cell growth assay for residual cells in acute lymphoblastic leukemia	93.394	251,483	-
NIH	5-R37-CA080024-18 REVISED	Intra and Extra-Chromosomal Probes for Mutagenesis by Carcinogens	93.393	123,263	-
NIH	5-R37-EB000244-36	Controlled Release of Macromolecules	93.286	527,015	-
NIH	5-R37-GM041934-26	Cell Cycle and Sporulation in Bacillis Subtillis	93.859	493,866	-
NIH	5R37GM057073-17	Structure-Function Relationship of Glycosaminoglycans	93.859	13,308	-
NIH	5-R37-GM057073-19	Structure-Function Relationship of Glycosaminoglycans	93.859	140,637	-
NIH	5-R37-HD028341-21	Novel Second Messenger Signaling in the Striatum	93.865	-130,379	-
NIH	5-R37-HD28341-16	Novel Second Messenger Signaling in the Striatum	93.865	-184,588	-
NIH	5-T32-EB001680-10	Neuroimaging Training Program	93.286	17,574	-
NIH	5-T32-EB001680-11	Neuroimaging Training Program	93.286	158,149	-
NIH	5-T32-EB019940-02	Neurobiological Engineering Training Program	93.286	49,444	-
NIH	5-T32-ES007020-40	Training Grant in Environmental Toxicology	93.113	3,505	-
NIH	5-T32-GM007484-38 REVISED	Integrative Neuronal Systems-Year 40	93.859	-16,092	-
NIH	5-T32-GM007484-39	Integrative Neuronal Systems-Year 40	93.859	403,852	-

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NIH	5-T32-GM008334-27	Interdepartmental Biotechnology Training Program	93.859	755,811	-
NIH	5-T32-GM087237-07	Graduate Training in Computational and Systems Biology	93.859	253,727	-
NIH	5-T32-MH074249-07	Training Program in the Neurobiology of Learning and Memory	93.242	-4,206	-
NIH	5-T32-MH074249-09	Training Program in the Neurobiology of Learning and Memory	93.242	167,486	-
NIH	5-T32-OD010978-28	Biomedical Research Training for Veterinary Scientists	93.351	312,845	-
NIH	5-U01-CA164337-03	GI Tract Dysbiosis and Breast Cancer	93.396	-261,081	15,061
NIH	5-U01-CA164337-04	GI Tract Dysbiosis and Breast Cancer	93.396	558,977	173,876
NIH	5-U01-CA184897-03	Dynamics of Gene and Isoform Regulation during EMT and tumor progression	93.396	23,191	-
NIH	5-U01-CA184898-02	Embryonal Brain Tumor Networks	93.396	554,611	242,533
NIH	5-U01-HG007037-03	Integrated Genome Discovery at Single Base Pair Resolution	93.172	158,514	-
NIH	5-U01-HG007610-02	Epigenomic variation atlas across human tissues and individuals in GTEx	93.172	178,897	-
NIH	5-U01-HG007610-03	Epigenomic variation atlas across human tissues and individuals in GTEx	93.172	96,865	-
NIH	5-U01-MH106011-02	Ultra-Multiplexed Nanoscale In Situ Proteomics for Understanding Synapse Types	93.242	730,736	278,402
NIH	5-U01-MH106011-03	Ultra-Multiplexed Nanoscale In Situ Proteomics for Understanding Synapse Types	93.242	108,792	75,984
NIH	5-U01-MH106018-02	Novel technologies for nontoxic transsynaptic tracing	93.242	291,400	-
NIH	5U01MH106018-02 REVISED	Novel technologies for nontoxic transsynaptic tracing	93.242	356,115	-
NIH	5-U01-MH106018-03	Novel technologies for nontoxic transsynaptic tracing	93.242	13,428	-
NIH	5-U01-NS090438-02 REVISED	Next generation high-throughput random access imaging, in vivo	93.853	272,804	-
NIH	5-U01-NS090451-02	Calcium sensors for molecular fMRI	93.853	390,352	-
NIH	5-U01-NS090473-03	Cortical circuits and information flow during memory-guided perceptual decisions	93.853	395,761	-
NIH	5-U54-CA112967-10	Tumor Cell Network Center: Administration (PARENT)	93.397	318,983	-
NIH	5-U54-CA112967-10 REV	Tumor Cell Network Center: Administration (PARENT)	93.397	82,056	-
NIH	5-U54-CA143874-05	Administration	93.397	323,131	-
NIH	5-U54-CA151884-05	Administration	93.397	839,131	380,152
NIH	5-U54-CA163109-02	Impact of Cellular and Extracellular Host Components on Tumor Progression	93.397	621,800	215,311
NIH	5-U54-CA163109-04	Impact of Cellular and Extracellular Host Components on Tumor Progression	93.397	194,401	98,389
NIH	5-UH3-TR000496-04	All-Human Microphysical Model of Metastasis Therapy	93.350	990,245	464,314
NIH	5-UH3-TR000496-04 REVISED	All-Human Microphysical Model of Metastasis Therapy	93.350	135,250	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NIH	6-R01-HG004037-07S1	Regulartory Motif Discovery in the Human Genome Using Comparative Genomics	93.172	19,314	-
NIH	7-R01-CA160860-03	Developing Direct Small-Molecule Probes of Myc-Dependent Transcription	93.393	133,728	133,728
NIH	7-R21-OD011193-03	Targeted genome modification of guinea pig and sheep using engineered nucleases	93.351	-35	-
NIH	8-DP1-GM105381-05	NIH Director's Pioneer Award	93.310	-145	-
NIH	8-DP1-NS082101-02	Generating Transplantable Neurons by in Vivo Combinatorial Screening of Transcription Regulator RNAs	93.310	8,804	-
NIH	9-R01-CA206157-21	Regulation of MITOSIS by Proteolysis in Yeast	93.393	50,065	-
NIH	9-R01-GM114834-11	Modified Phase 3B of a 3-phase 1.3-GHz LTS/HTS NMR magnet	93.859	46,966	-
NIH	HHSN272200900006C	Genomic Sequencing Centers for Infectious Diseases	93.RD	-40,616	-
NIH	PENDING P30ES002109 YEAR 36	MIT Center for Environmental Health Sciences (YR 36-40)	93.113	248,492	-
NIH	R01 AI111860-03	T-cell-mediated targeting of therapeutics to HIV reservoirs	93.855	970	-
NIH	R01 CA173712-04REVISED	Genetic circuits for high-throughput, multi-sensory, live cell microRNA profiling	93.396	217,221	-
		Total for NIH		**95,634,617**	**8,311,935**
Other HHS					
HHS	1-U01-FD005291-01	Integrated approach to determine equivalence in complex drug mixtures	93.103	234,548	-
HHS	5-U01-FD005291-02	Integrated approach to determine equivalence in complex drug mixtures	93.103	214,402	-
HHS	ED-OSE-10-C-0067	Web Accessibility Initiative (WAI) Core	84.RD	159,577	-
HHS	HHSF223201310210C	A Systematic Approach to Addressing Intentional Adulteration of FDA-regulated Food and Drug Products and Ingredients Emanating from the Global Supply Chain	93.103	719,657	-
HHS	HHSP233201200367P	CISR Multi-Sponsored Consortium	93.RD	2,398	-
HHS	HHSP233201500054C	Web Accessibility Initiative (WAI) Core	93.RD	352,840	-
		Total for Other HHS		**1,683,423**	**-**
		TOTAL for Department of Health & Human Services		**97,318,039**	**8,311,935**

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MISCELLANEOUS FEDERAL GOVT					
Department of Agriculture					
USDA	58-8042-5-005	Investigating Bacterial Adhesion and Detachment on Plant Surfaces Under Flow Conditions	10.001	27,072	-
		Total for Department of Agriculture		**27,072**	**-**
Department of Commerce					
DOC	60NANB15D361	Focusing mirrors for novel neutron imaging instruments	11.609	40,851	-
DOC	70NANB14H213	Neutron focusing mirrors for the imaging facility at NIST	11.609	1,190	-
DOC	NA10OAR4170086	Parent Account: Sea Grant College Program	11.417	489,315	158,960
DOC	NA11OAR4310159	Resolving the Role of Contact Ice Nucleation on the Earth's Climate System Using Laboratory and Field Studies	11.431	-3,248	-
DOC	NA12OAR4310064	Sources and Impacts of Ammonia on PM loading during CalNex	11.431	77,089	-
DOC	NA130AR4310135	Identifying Mechanisms of AMOC variability in ECCO State Estimates and CMIP5 Models	11.427	96,454	-
DOC	NA13OAR4310072	Organic Nitrogen in Atmospheric Aerosols: Concentrations, Chemical Composition, and Properties	11.417	63,134	-
DOC	NA13OAR4310084	Assessing the Terrestrial and Atmospheric Nitrogen Cycle	11.431	59,038	-
DOC	NA14OAR4170077	2014 Parent Account: Sea Grant College Program	11.417	2,057,018	790,456
DOC	NA14OAR4310132	Deposition of Atmosphereic Organic Carbon: New Constraints on the Reactive Carbon Budget	11.431	174,668	-
		Total for Department of Commerce		**3,055,511**	**949,416**
Department of Education					
ED	P116F150045	Towards Scalable Differentiated Instruction Using Technology-enabled Competency-based Dynamic Scaffolding	84.116F	240,560	9,000
		Total for Department of Education		**240,560**	**9,000**
Department of Interior					
DOI	D15PC00219	WCAG 2.0 Technical Assistance	12.RD	31,356	-
DOI	D15PC00242	Quantum Algorithms for Partial Differential Equations	12.RD	264,253	53,883
DOI	G16AP00011	Slip and stress rates on crustal faults in the Puget-Williamette Urban Corridor: Collaborative research with Portland State University and Massachusetts Institute of Technology	15.807	3,849	-
		Total for Department of Interior		**299,459**	**53,883**
Department of Transportation					

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DOT	09-C-NE-MIT	Air Transportation Center of Excellence for Aircraft Moise and Emissions Mitigation (Phase III)	20.109	22,218	-
DOT	11-G-016	FAA Joint University Program for Air Transportation Proposal for Activities by the Massachusetts Institute of Technology	20.108	93,352	-
DOT	13-C-AJFE-005	Center of Excellence for Alternative Jet Fuels and Environment	20.109	24,181	-
DOT	13-C-AJFE-010	Center of Excellence for Alternative Jet Fuels and Environment	20.109	89,497	-
DOT	13-C-AJFE-022	Center of Excellence for Alternative Jet Fuels and Environment	20.109	46,082	-
DOT	13-C-AJFE-023	Center of Excellence for Alternative Jet Fuels and Environment	20.109	229,081	-
DOT	13-C-AJFE-024	Center of Excellence for Alternative Jet Fuels and Environment	20.109	158,509	-
DOT	13-C-AJFE-025	Center of Excellence for Alternative Jet Fuels and Environment	20.109	176,345	-
DOT	13-C-AJFE-028	Center of Excellence for Alternative Jet Fuels and Environment	20.109	365,116	-
DOT	13-C-AJFE-MIT-01	Center of Excellence for Alternative Jet Fuels and Environment	20.109	1,149	-
DOT	13-C-AJFE-MIT-029	Center of Excellence for Alternative Jet Fuels and Environment	20.109	74,635	-
DOT	14-G-014	An Integrated Approach to Safety and Security in Aircraft Network Systems	20.108	77,290	-
DOT	DTFH6115C00033	Future freight and logistics survey: integrated data collection using mobile sensing, wireless communication and machine learning algorithms	20.RD	87,081	-
DOT	DTRT12-G-UTC01	UTC Research Center (Parent)	20.701	1,265,546	569,128
DOT	DTRT13-G-UTC31	Region 1 University Transportation Center	20.701	2,261,261	1,438,496
DOT	DTRT57-12-C-10029	Library Services for DOT	20.RD	63,214	-
DOT	DTRT5714P80095	Modeling to Support the Cost Benefit Analysis of an Aircraft CO2 Standard	20.RD	65,673	-
DOT	DTRT-RVT-91-1073	Advanced Solutions to Capture Mobility Data (ASCMD)	20.RD	-1,241	-
DOT	PO # DTRT5716P80015	Ductile Fracture in Rail Equipment	20.RD	69,506	-
DOT	PO #DTRT5716P80007	Environmental Analysis of a Commercial Aircraft CO2 Standard	20.RD	19,908	-
		Total for Department of Transportation		**5,188,404**	**2,007,624**
Other Agencies					
Misc.	2011-IJ-CX-K016	Divert and Alert: Mitigating and Warning of Traffic Threats to Police Stopped Along the Roadside	16.560	161,482	110,789
Misc.	2014-DN-077-ARI080-02	ARI-LA: Rapid, Low-Dose Detection of Shielded Special Nuclear Material	97.077	212,809	-
Misc.	2014-DN-077-ARI080-04	ARI-LA: Rapid, Low-Dose Detection of Shielded Special Nuclear Material	97.077	615,451	-
Misc.	2015-15061000003	Automating Statistical Model Discovery	12.RD	278,420	-
Misc.	523C48267/VA241-13-D-0053	VA IDIQ FY13: Task Order	64.RD	78,966	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Misc.	523C50145/VA241-13-D-0053	VA IDIQ FY13: Task Order	64.RD	109,621	-
Misc.	523C58269/VA241-13-D-0053	VA IDIQ FY13: Task Order	64.RD	76,575	-
Misc.	83503301	Investigating the effects of atmospheric aging on the radiative properties and climate impacts of black carbon aerosol	66.509	9,621	3,221
Misc.	83522801	Using advanced statistical techniques to identify the drivers and occurrence of historical and future extreme air quality events in the United States from observations and models	66.509	156,810	140,324
Misc.	83618301	The Hawaii Island Volcanic Smog Sensor Network (HI-Vog)	66.509	22,223	-
Misc.	AID-OAA-A-12-00095	CITE and IDIN	98.001	1,683,452	10,828
Misc.	HK-50072-13	Annotation Studio: Multimedia Annotation for Students	45.169	43,326	-
Misc.	NRO000-13C0309	Electrical, thermal and environmental reliability of GaN HEMTs for V- and W-band Space Applications	12.RD	183,288	-
Misc.	RD-8350331-0	Investigating the effects of atmospheric aging on the radiative properties and climate impacts of black carbon aerosol	66.509	61,558	-
Misc.	XA-83505101-0	Transportation - Related Policies and Economy - Wide Impacts	66.034	-16,697	-
Misc.	XA-83600001	Integrated Assessment of Greenhouse Gases	66.034	354,644	131,549
		Total for Other Agencies		**4,031,548**	**396,711**
		TOTAL for Miscellaneous Federal Govt		**12,842,553**	**3,416,633**

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION					
NASA	NNA09DB36A	The Moon as Cornerstone to the Terrestrial Planets: the Formative Years	43.RD	-7,332	-
NASA	NNA13AA90A	Foundations of Complex Life: Evolution, Preservation & Detection on Earth & Beyond	43.001	1,672,944	1,164,712
NASA	NNG10HP00C	Continued Development and Operation of the NASA Mark IV and Next Generation Very Long Baseline Interferometry (VLBI) Systems	43.RD	26,674	-
NASA	NNG12FD70C	Regolith X-ray Imaging Spectrometer (REXIS) - Phase B	43.RD	435,323	175,240
NASA	NNG14FC03C	Transiting Exoplanet Survey Satellite	43.RD	21,306,485	8,718,912
NASA	NNG14PJ13C	Neutron Star Composition ExploreR (NICER) Project Detector Subsystem	43.RD	1,213,153	119,892
NASA	NNG15HZ35C	NASA Mark IV/VLBI Follow-On	43.RD	2,436,099	-
NASA	NNH13CJ23C	InSPIRE 2	43.RD	311,259	163,795
NASA	NNL13AA12C	Scalable ion Electrospray Propulsion System (S-iEPS)	43.RD	105,910	64,101
NASA	NNM08AA18C	GRAIL	43.RD	1,187,231	803,040
NASA	NNM13AA03G	A New Modeling Approach for Rotating Cavitation Instabilities in Rocket Engine Turbopumps	43.007	200,983	71,524
NASA	NNX09AM53G	Lunar and Planetary Gravity and Topography	43.003	4,321	-
NASA	NNX10AB27G	Exploring the Outer Solar System with Stellar Occultations	43.RD	59,822	-
NASA	NNX10AE50G	High Performance Three-Dimensionally Integrated Active Pixel X-Ray Sensors	43.RD	18,231	-
NASA	NNX10AG27G	SMASS-Next: Next Generation Neo Spectroscopic Survey	43.RD	50,096	-
NASA	NNX10AN92A	Methodologies to Evaluate Trade-offs Between Environmental Impacts and Air Transportation System Performance	43.RD	13,414	-
NASA	NNX11AB35A	Aircraft and Technology Concepts for an N+3 Subsonic Transport	43.RD	-9	-
NASA	NNX11AF17G	Advanced Global Atmospheric Gases Experiment (AGAGE) Collaborative Research Project	43.001	1,041,035	424,579
NASA	NNX11AG85G	Exoplanetary Spin-Orbit Angles	43.001	51,418	-
NASA	NNX11AI66A	Geometry Interface for the NASA OpenMDAO Framework	43.002	15,148	15,148
NASA	NNX11AJ28G	Development of a Magnetometer for a Planetary Lander	43.001	18,803	22,146
NASA	NNX11AK30G	Lunar Laser Altimetry and Comparative Planetology	43.001	-1,495	-
NASA	NNX11AL79G	Quantifying rates of heat and carbon uptake in ocean models and its implication for climate change	43.001	318,080	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NASA	NNX11AN72G	A modeling analysis of the impact of anthropogenic aerosols on actinic fluxes and photolysis rates constrained by aircraft and satellite data	43.001	28,159	28,159
NASA	NNX11AO19G	THE GBM ALL-SKY X-RAY BURST MONITOR (FERMI 41270)	43.001	839	-
NASA	NNX11AQ12G	Estimating the Circulation and Climate of the Ocean, Phase III (ECCO3): Improved Representation of Ocean-Ice Interactions in Earth System Models	43.001	258,789	65,041
NASA	NNX12AB20A	Realtime Assessment of Emissions Impacts of Airports	43.RD	54,882	-
NASA	NNX12AC25G	Organics on Titan's Surface	43.001	38,565	-
NASA	NNX12AE14G	Lense-Thirring precession in neutron-star low-mass X-ray binaries	43.001	1,264	-
NASA	NNX12AE37G	Leveraging High Resolution Spectra to Understand the Disk and Relativistic Iron Line of Cygnus X-1	43.001	19,585	-
NASA	NNX12AF22G	Directly-Deposited Blocking Filters for Imaging X-ray Detectors: Technology Development for the International X-ray Observatory	43.001	32,094	-
NASA	NNX12AG58G	Heterogeneous chemistry of organic haze in planetary atmospheres: Laboratory studies of the kinetics and products of radical + particle reactions	43.001	52,979	-
NASA	NNX12AH80G	Phase Equilibrium Investigation of Planetary Materials	43.001	53,678	-
NASA	NNX12AJ75A	Higher-order Space-time Adaptive Methods for Complex Turbulent Flows	43.002	99,613	-
NASA	NNX12AJ93G	Gravity data for ocean circulation and climate studies	43.001	264,862	146,872
NASA	NNX12AL26G	Identifying Disrupted Differentiated Bodies in the Main Asteroid Belt	43.001	39,382	-
NASA	NNX12AM16G	NRI-Small: A Novel Powered Leg Prosthesis Simulator for Sensing and Control Development	43.009	87,175	-
NASA	NNX12AO26G	Solid-Earth Lead for DESDynI-R Science Definition Team	43.001	116,756	-
NASA	NNX13AC34G	Interpreting Ecological Variability Using Remotely Observed Optical Properties and Ocean Models	43.001	115,466	60,254
NASA	NNX13AD02G	Supernova Remnant Observations with Micro-X	43.001	230,970	-
NASA	NNX13AE77G	MIT Participation in Calibration and Ground Software Development for Astro-H	43.RD	166,215	-
NASA	NNX13AF80G	Communication of solar variability to the Earth's surface via the stratosphere	43.001	74,452	-
NASA	NNX13AH91A	Research on the Natural Variability of Climate and the Impact on Anthropogenic Forcing on Climate	43.001	258,440	-
NASA	NNX13AI40G	Ensemble Downscaling of Soil Moisture: Merging Remotely Sensed Precipitation and High Resolution Land Surface Information	43.001	237,761	155,288

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NASA	NNX13AI62G	Characterization of the Stratospheric, Lower Thermospheric, and Ionospheric Variability Related to the Sudden Stratospheric Warmings	43.001	125,941	-
NASA	NNX13AJ86G	Mars Reconnaissance Orbiter (MRO) Gravity Field Analysis	43.001	81,595	-
NASA	NNX13AK16G	Geometry and Meshing Control for Design through Analysis	43.001	128,977	-
NASA	NNX13AK88G	Linking Greenland ice sheet mass loss to decadal circulation changes in the ocean	43.001	368,562	312,928
NASA	NNX13AK98G	Rheological behavior of icy mixtures with application to the outer planets	43.001	8,151	-
NASA	NNX13AO15G	Assessment of the Impact of Aerosol Composition of Cirrus Clouds Using Data from the MACPEX Field Study	43.001	151,219	-
NASA	NNX13AP37G	The Wind SWE/Faraday Cup: Mission Operation and Data Analysis	43.001	5,696	-
NASA	NNX13AQ67G	Extended Range Laser Altimeter (ERLA)	43.001	9,617	-
NASA	NNX14AB40G	Tidal Evolution of Coalescing Compact Binaries, Short Period Exoplanets, and Rotating Stars	43.001	223,713	67,642
NASA	NNX14AC71A	System Safety for Highly Distributed Air Traffic Management	43.002	13,040	16,181
NASA	NNX14AC75G	Microwave Radiometer Technology Acceleration (MiRaTA) CubeSat	43.001	628,511	347,278
NASA	NNX14AE67G	The Final Stages of Outbursts in Soft X-ray Transients	43.001	9,833	-
NASA	NNX14AE76G	Thin Mirror Shaping Technology for High-Throughput X-ray Telescopes	43.001	641,452	-
NASA	NNX14AG47A	Active Wing Shaping Control Concept Using Composite Lattice-based Cellular Materials	43.001	58,537	-
NASA	NNX14AH11A	Ubiquitous 2-Dimensional Smart Sensing (UDS2) Initiative	43.001	59,666	-
NASA	NNX14AI58A	Field Investigations to Enable Solar System Science and Exploration	43.003	7,812	-
NASA	NNX14AJ16G	Development of Solid-State Local-oscillator Sources for Terahertz Frequencies	43.001	-11,029	-
NASA	NNX14AJ51G	Data and forcing integration for improved estimation of spatial sea level patterns and their uncertainties, with extended diagnostics for closed budget analysis	43.001	395,717	157,209
NASA	NNX14AK27G	PPhotochemistry and Spectroscopy of Sulfur Dioxide, Sulfur Monoxide and Elemental Sulfur as Source Reactions for Archean Sulfur Mass-Independent Isotope Fractionation	43.001	70,378	-
NASA	NNX14AL95G	Data Retrieval and Analysis from Nanosatellite Microwave Radiometers	43.001	81,764	-
NASA	NNX14AP38G	How sensitive are global climate forcing and surface air quality estimates to aerosol properties?	43.001	121,011	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NASA	NNX14AQ03G	Geodetic Analysis Enhancements for Real-Time and Millimeter Accuracy Reference Frames	43.001	203,291	-
NASA	NNX14AT22A	Global Environmental Impact of Supersonic Cruise Aircraft in the Stratosphere	43.004	254,911	-
NASA	NNX15AC43G	NRA Research Opportunities in Space and Earth Sciences-2013 (ROSES-2013): Advanced Packaging for Critical Angle X-ray Transmission Gratings	43.001	871,335	-
NASA	NNX15AC76G	MIT Participation in Calibration and Ground Software Development for Astro-H	43.001	128,318	-
NASA	NNX15AF85G	The Search for Extra-Terrestrial Genomes (SETG)	43.001	641,660	154,176
NASA	NNX15AG84G	Computer-Aided Discovery of Earth Surface Deformation Phenomena	43.001	297,800	-
NASA	NNX15AH72G	Experimental and Theoretical Investigations of Solar Nebula Magnetic Fields	43.001	107,064	22,920
NASA	NNX15AJ36G	Cooling of the super-heated neutron star in MAXI J0556-332 (XMM 74487)	43.001	38,029	-
NASA	NNX15AK10G	Lunar Orbiter Laser Altimeter Investigation and Associated Science	43.001	81,962	-
NASA	NNX15AK23G	Probing the debris disk-planet connection with collisional cascades	43.001	12,535	-
NASA	NNX15AL14G	Continuing Progress in Soft X-ray Polarimetry	43.001	290,882	45,000
NASA	NNX15AL48G	ROSES: Cassini Data Analysis and Participating Scientists	43.001	50,155	7,986
NASA	NNX15AL62G	Investigating the Ancient Lunar Dynamo	43.001	93,607	-
NASA	NNX15AL83G	A Tall Ship and a Star to Steer Her By	43.012	99,789	-
NASA	NNX15AM43G	Temporal Variations in the Particle Sizes of Martian Atmospheric Dust	43.001	2,102	-
NASA	NNX15AM91A	Aircraft and Technology Concepts for an N+3 Subsonic Transport-Phase 3	43.002	214,117	37,590
NASA	NNX15AQ50A	Search and Rescue under the Tree Canopy	43.002	89,353	-
NASA	NNX15AR20G	NRI: Exosuit System Design Parameters as Revealed by an Integrated, Human Musculoskeletal Computational Model	43.012	176,754	-
NASA	NNX15AR43G	Studying the Onset of Propeller Accretion in SAX J1808.4-3658 with NuSTAR and Swift	43.001	3,749	-
NASA	NNX15AU41A	Rapid Viscous Aerodynamic Analysis/Design Methodology Utilizing Inviscid Coupling with a 3D Integral Boundary Layer	43.002	137,315	-
NASA	NNX15AU66A	Swept time-space domain decomposition rule for breaking the latency barrier	43.002	26,831	2,723
NASA	NNX15AU90G	Tradespace Analysis Tool for Designing Earth Science Distributed Missions	43.001	83,804	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NASA	NNX15AV35G	THE SUPER-EDDINGTON ACCRETION FLOW IN GX 5-1	43.001	29,435	-
NASA	NNX15AW03A	BASALT: Biologic Analog Science Associated with Lava Terrains	43.001	51,585	-
NASA	NNX15AW35G	Design and Evaluation of Automated Electronic Checklists for Robotics Operations	43.003	34,595	-
NASA	NNX16AC49A	Robust Autonomy for Extreme Space Environments: Hosting R5 at MIT	43.012	60,053	-
NASA	NNX16AC98G	Advanced Global Atmospheric Gases Experiment [AGAGE] Collaborative Project: MIT Component	43.001	340,381	79,468
NASA	NNX16AD01G	High Precision Assembly of Thin Mirror X-ray Telescopes	43.001	11,561	-
NASA	NNX16AD29G	Experimental and Petrologic Investigations of Chemical Differentiation on the Ureilite Parent Body	43.001	59,917	-
NASA	NNX16AE12G	Search for Thermal Emission from the Quiescent Neutron Star SAX J1810.8-2609 (XMM 76310)	43.001	37,917	-
NASA	NNX16AE93G	Raising the Technology Readiness Level of 4.7-THz local oscillators	43.001	27,123	-
NASA	NNX16AF61A	Autonomy- and Autonomicity-Enhanced Air Traffic Management	43.002	13,683	-
NASA	NNX16AG82G	Electron Hole Instabilities in the Plasma Wake of Moons, Asteroids and Comets	43.001	14,738	-
		Total for National Aeronautics and Space Administration		**40,476,033**	**13,449,804**
		TOTAL for National Aeronautics and Space Administration		**40,476,033**	**13,449,804**

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NATIONAL SCIENCE FOUNDATION					
NSF	ACI-1313789	EAGER: Demonstrating Decentralized Social Software using Linked Data (Crosscloud)	47.070	38,990	-
NSF	ACI-1322254	VOSS: Collaborative Research: Is Larger Smarter? Investigating the Effect of Group Size on Collective Intelligence	47.070	46,711	-
NSF	ACI-1442997	CIF21 DIBBs: An Infrastructure for Computer-Aided Discovery in Geoscience	47.070	297,796	-
NSF	AGS-0940685	Collaborative Research: Intermittent Turbulence Study of Space Plasmas Using ROMA and DSRG	47.050	8,535	-
NSF	AGS-1005480	Collaborative Research: Dispersion of particles within and above plant canopies	47.050	101,739	-
NSF	AGS-1042569	Climate Change in the Upper Atmosphere	47.050	26,585	-
NSF	AGS-1053648	CAREER: Understanding Chemistry, Transport and Fate of Mercury and Persistent Organic Pollutants through Global Atmospheric Modeling	47.050	100,889	-
NSF	AGS-1056225	CAREER: Photochemical aging of atmospheric organic aerosol: Chamber studies of the chemical evolution of oxidized organic species	47.050	16,103	-
NSF	AGS-1132267	Ionospheric Disturbances Related to the Stratospheric Sudden Warnings	47.050	36,897	-
NSF	AGS-1136480	Collaborative Research: The Effect of Near-Equatorial Islands on Climate	47.050	42,598	-
NSF	AGS-1148594	Improved Understanding of Moist Atmospheric circulations Through an Effective Static Stability Framework	47.050	25,782	-
NSF	AGS-1202078	Theory of Trace Gas Distributions in the Lower Stratosphere and Near the Tropopause	47.050	11,108	-
NSF	AGS-1216707	Collaborative Research: Mercury in the Atmosphere Over the Eastern United States	47.050	-220	-
NSF	AGS-1238109	Impacts of the Biosphere on Global Tropospheric Chemistry and Climate	47.050	187,923	-
NSF	AGS-1242204	The Millstone Hill Geospace Facility	47.050	2,076,695	87,590
NSF	AGS-1243058	Collaborative Research:CEDAR --Large-scale Characterizationof the Sub-Auroral Polarization Stream and its Impact on the Ionosphere-Thermosphere System	47.050	28,538	-
NSF	AGS-1339264	Tropospheric Anthropogenic Aerosols and Climate	47.050	161,827	-
NSF	AGS-1342810	Trends and Variability of Temperatures near the Tropical Tropopause Layer and Implications for Tropical Cyclones	47.050	10,500	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	AGS-1343045	Collaborative Research: CEDAR--Study of Storm-time Large Scale Structures in the Subauroral Ionosphere with Coupled First-principles Model and Multi-instrument Observations	47.050	43,135	-
NSF	AGS-1343056	Collaborative Research: CEDAR -- Understanding the High-to-Mid Latitude Ionospheric Response to Stratospheric Warmings	47.050	61,944	-
NSF	AGS-1343967	INSPIRE Track 1: Mahali: Space Weather Monitoring Everywhere	47.050	323,096	94,772
NSF	AGS-1418508	Collaborative Research: Self-Aggregation of Moist Convection, Radiative-Convective Instability, and the Regulation of Tropical Climate	47.050	107,753	-
NSF	AGS-1419667	Linkages of Changes in Ozone to Arctic Climate Change in the Stratosphere and Troposphere	47.050	167,564	-
NSF	AGS-1461305	International Workshop on Comparing Ice Nucleation Measuring Systems 2014 (ICIS 2014)	47.050	-7	-
NSF	AGS-1461347	International Workshop on Comparing Ice Nucleation Measuring Systems 2014 (ICIS 2014) #3	47.050	88,325	-
NSF	AGS-1461517	Trends and Variability of Temperatures near the Tropical Tropopause Layer and Implications for Tropical Cyclones	47.050	110,909	-
NSF	AGS-1520825	Hazards SEES: Uncovering the hidden skeleton of environmental flows: advanced Langrangian methods for hazards prediction, mitigation and response	47.050	193,005	91,515
NSF	AGS-1523305	Collaborative Research: Lightning Studies in a Polluted Atmosphere	47.050	3,501	-
NSF	AGS-1536551	Collaborative Research: Laboratory Investigations of Particle-Organic Vapor Interactions: Effects on Particle Formation, Growth, and Properties	47.050	19,746	-
NSF	AGS-1539972	The Influence of Recent Volcanic Eruptions on Stratospheric Ozone Recovery: A Data Analysis and Modeling Study Including Estimated Uncertainties	47.050	56,358	-
NSF	AGS-1542134	International Symposium on Equatorial Aeronomy (ISEA); October 19-23, 2015; Bahir Dar, Ethiopia	47.050	25,150	-
NSF	AGS-1542590	2015 Graduate Climate Conference	47.050	18,347	-
NSF	AGS-1547733	Collaborative Research: Stratospheric Age in a Changing Climate: Connecting Theory, Models, and Observations	47.050	32,005	-
NSF	ANT-1141923	Investigation of the Relationship between Storm Enhanced Density and Scintillation in Antarctica	47.078	3,046	-
NSF	ARC-1203526	Collaborative Research: Evaluating the Competing Impacts of Global Emissions Reductions and Climate Change on the Distribution and Retention of selected POPs in the Arctic Ocean	47.078	64,035	-
NSF	AST-0747154	CAREER: Building Rocky Planets: From Mercury and Vesta to GL 581C	47.049	0	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	AST-0907766	SMASS- Next: Next Generation Asteroid Spectroscopic Survey	47.049	59,888	-
NSF	AST-1105835	MITEoR: a HERA pathfinder instrument for cheaper 21 cm precision cosmology	47.049	-6	-
NSF	AST-1156504	REU Site: Astronomy and Atmospheric Science at MIT Haystack Observatory	47.049	90,573	-
NSF	AST-1255160	CAREER: The origin of the metal-poor halo of the Milky Way	47.049	174,259	-
NSF	AST-1310930	The HI 21-cm Line as a Probe of Stellar Mass Loss and Evolution	47.049	28,270	3,582
NSF	AST-1343336	Realtime GHz-Wide Spectrum Sensing and Acquisition Using the Sparse FFT	47.049	90,152	-
NSF	AST-1411622	Collaborative Research: Observing the Epoch of Reionization with the Murchison Widefield Array	47.049	76,639	-
NSF	AST-1516106	Imaging the Radio Photospheres of Long-Period Variable Stars	47.049	18,568	-
NSF	AST-1547265	Collaborative Research:Dynamic Exclusion Zones: Balancing Incumbent Protection and Spectrum Utilization Efficiency	47.049	30,113	-
NSF	AST-1547331	Collaborative Research: Enhancing Access to Radio Spectrum for Real-Time Monitoring and Control	47.049	1,380	-
NSF	BCS-0955818	CAREER: Typical and atypical development of brain regions for Theory of Mind	47.075	101,838	-
NSF	BCS-1023596	Collaborative Research: Integrating shape, scaling, and alignment in a global approach to F0 events in Intonation Systems	47.075	820	-
NSF	BCS-1227892	Doctoral Dissertation Research: Causal Representations in Children's Transitive Sentences - GF Kline	47.075	2,673	-
NSF	BCS-1258640	MOOCs and the Ethnography of Media Socialization	47.075	129,133	-
NSF	BCS-1420785	Doctoral Dissertation: Investigating the role of grammatical representation in language learnability - GF L. Bergen	47.075	1,928	-
NSF	BCS-1429216	Lookit: Online interface for large-scale developmental studies	47.075	95,587	534
NSF	BCS-1440427	Doctoral Dissertation Research: Case Marking and the Left Periphery in Dinka	47.075	840	-
NSF	BCS-1445131	EAGER: Detection Of In Vivo Corticosterone In Mice Using Cophmore Engineering And Fluorescent Carbon Nanotube Sensors	47.075	190,365	-
NSF	BCS-1451173	Doctoral Dissertation Research: Investigating cognitive and communicative pressures on natural language lexicons	47.075	4,199	-
NSF	BCS-1454094	Career: Understanding Real-World Auditory Scene Analysis	47.075	50,020	-
NSF	BCS-1534318	The role of noise in information-theoretic models of sentence comprehension and production	47.075	78,452	-
NSF	BCS-1551543	Doctoral Dissertation Research: A Communicative Perspective on Quantitative Syntax	47.075	3,889	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	CBET-0939511	NSF Science and Technology Center: Emergent Behaviors of Integrated Cellular Systems	47.041	2,538,076	2,144,596
NSF	CBET-0939511	Science and Technology Center: Emergent Behavior of Integrated Cellular Systems (EBICS)	47.041	1,913,854	636,489
NSF	CBET-0954986	CAREER: Design, Construction and Characterization of Metabolite Valves	47.041	-1,942	-
NSF	CBET-1053233	CAREER: A Neurophotonic Platform for Causal Brain Analysis	47.041	10,050	-
NSF	CBET-1133813	Fundamental Studies of Graphene Solutions: Exfoliation, Dispersion, and Stability	47.041	28,469	-
NSF	CBET-1150615	PECASE: Dielectric Phenotyping of Bacteria for Energy and Medicine	47.041	72,913	-
NSF	CBET-1159695	Collaborative Research: Using a Fully Autonomous Brain-Body Interface to Study the Cortical Dynamics of Learning	47.041	-8,629	-
NSF	CBET-1253228	CAREER: Predicting granular flows: Amorphous continuum modeling with a length-scale	47.041	55,775	-
NSF	CBET-1253890	CAREER: Optoelectronic neural scaffolds: materials platform for investigation and control of neuronal activity and development	47.041	30,324	-
NSF	CBET-1258626	Collaborative Research: NSF/DOE Partnership on Advanced Combustion Engines: Advancing Low Temperature Combustion and Lean Burning Engines for Light- and Heavy-Duty Vehicles with Microwave Assisted Sp	47.041	230,582	-
NSF	CBET-1335938	Dynamics of self-entangled DNA molecules	47.041	77,998	-
NSF	CBET-1344219	INSPIRE Track 1: Nanotechnology for Adaptive Optics	47.041	224,924	-
NSF	CBET-1454299	CAREER: Molecular Catalysis for Waste Valorization	47.041	134,099	-
NSF	CBET-1507488	CDS&E: Collaborative Research: A Bayesian inference/prediction/control framework for optimal management of CO2 sequestration	47.041	12,879	-
NSF	CBET-1510768	Collaborative Research: Transport and Chemotaxis of Swimming Cells in Porous Media Flows	47.041	32,309	-
NSF	CBET-1511431	Rapid Prototyping and Manufacturing of Polyclonal Anti-Ebola Antibodies with Synthetic Biology and Microbioreactors	47.041	172,587	-
NSF	CBET-1511526	UNS: Modeling and Experimental Studies of the Interactions of 2D Materials with Solvents and Surfactants: Exfoliation, Self-Assembly of Composites, and Wetting.	47.041	64,004	-
NSF	CBET-1546990	EAGER: HOW DOES MUCOSALIVARY FLUID EVAPORATION SHAPE DISEASE TRANSMISSION FROM VIOLENT EXPIRATIONS?	47.041	34,262	-
NSF	CBET-1554398	CAREER: NANO-PARTICLE SELF-ASSEMBLY OUT OF EQUILIBRIUM	47.041	47,131	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	CBET-1605050	Collaborative Research: Dynamic simulation approaches to consequential life cycle assessment to evaluate recycling and substitution in metal and paper	47.041	4,396	-
NSF	CCF-0937274	CCF-AF: Abstract MAC Layers	47.070	11,659	-
NSF	CCF-0953960	CAREER: Towards a Constructive Theory of Networked Interactions	47.070	109,798	-
NSF	CCF-1058127	CIF: Medium: Collaborative Research: From Retroactivity to Modularity: Design and Implementation of a Genetic Insulation Device in Yeast	47.070	29,410	-
NSF	CCF-1065125	AF:Medium:Taming massive data with sub-linear algorithms	47.070	47,535	-
NSF	CCF-1101491	A Probabilistic Look At Algorithmic Game Theory	47.070	28,256	-
NSF	CCF-1111109	AF: Large: Collaborative Research: Algebraic Graph Algorithms: The Laplacian and Beyond	47.070	183,067	-
NSF	CCF-1111337	AF:Large:Collaborative Research: Reliable Quantum Communication and Computation in the Presence of Noise	47.070	395,266	-
NSF	CCF-1116362	SHF:Small:Human-Centered Software Synthesis	47.070	29,945	-
NSF	CCF-1116372	SHF: Small: Directoryless Shared Memory Using Execution Migration	47.070	68,372	-
NSF	CCF-1116501	CIF: Small: Foundations for Intrinsically Secure Networks: the Role of Network Interference	47.070	146,997	-
NSF	CCF-1117381	AF:Small:Applied Algorithims:Tech Transfer from the Algorithims Toolbox II	47.070	21,924	-
NSF	CCF-1124247	NEB: Integrated Biological and Electronic Computation at the Nanoscale	47.070	-11,679	-
NSF	CCF-1138967	Collaborative Research: An Expedition in Computing for Compiling Functional Physical Machines	47.070	1,195,274	129,430
NSF	CCF-1138986	Collaborative Research: Socially Assistive Robots	47.070	257,481	-
NSF	CCF-1139056	Collaborative Research: Expeditions in Computer Augmented Program Engineering (ExCAPE): Harnessing Synthesis for Software Design	47.070	32,467	-
NSF	CCF-1161626	AF: Medium Collaborative Research General Frameworks for Approximation and Fixed Parameter Algorithms	47.070	59,008	-
NSF	CCF-1161775	SHF: Medium Collaborative Research Marrying Program Analysis and numerical Search	47.070	254,892	-
NSF	CCF-1217498	SHF:Small-Fine Grain Tasking and Virtual Memory for Massively Parallel Computing	47.070	-7,093	-
NSF	CCF-1217501	SHF: Small: Capitalizing on First-Class SQL Support in the Ur/Web Programming Language	47.070	124,656	-
NSF	CCF-1217506	AF: Small: Bounded-Contention Coding for Wireless Networks	47.070	68,800	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	CCF-1217921	SHF: Small: Multicore Data-Structures: Relaxed, Flat, and Randomized	47.070	53,731	-
NSF	CCF-1218176	AF: Small: Physics Based Approaches to Quantum Information Science	47.070	73,356	-
NSF	CCF-1218547	AF: Small: Sliding Scale Problems in Probabilistic Checking of Proofs	47.070	222,439	-
NSF	CCF-1231216	A Center for Brains, Minds, and Machines: The Science and the Technology of Intelligence	47.070	5,200,924	1,264,048
NSF	CCF-1249349	2012 Waterman Award	47.070	276,869	-
NSF	CCF-1253205	CAREER: Information Theory Beyond Capacity	47.070	112,929	-
NSF	CCF-1253229	CAREER: A Formal Verification Platform Focused on Programmer Productivity	47.070	118,998	-
NSF	CCF-1301926	SHF: Medium: Collaborative Research: Transactional Software Infrastructures: Making the Most of Hardware Transactions	47.070	255,969	-
NSF	CCF-1314547	SHF: AF: Large: Collaborative Research: Parallelism without Concurrency	47.070	232,097	-
NSF	CCF-1317348	Collaborative Research: Visual Cortex on Silicon	47.070	113,561	-
NSF	CCF-1318384	SHF:Small: Scalable Memory Hierarchies with Fine-Grained QoS Guarantees	47.070	77,504	-
NSF	CCF-1318620	CIF: Small: Collaborative Research: Combinatorial Joint Source-Channel Coding	47.070	31,308	-
NSF	CCF-1319828	CIF:Small: Theory, Algorithms, and Applications of Super-Nyquist Coding	47.070	113,120	-
NSF	CCF-1348519	EAGER: Hybrid Analog-Digital Automata in Microbial Cells	47.070	21,512	-
NSF	CCF-1409228	CIF: Medium: Collaborative Research: Content Delivery over Heterogeneous Networks:Fundamental Limits and Distributed Algorithms	47.070	104,527	-
NSF	CCF-1420692	AF: Small: New directions in the design of local computation algorithms	47.070	240,189	-
NSF	CCF-1420956	AF: Small: Algebraic Tools for Coding, Complexity and Combinatorics	47.070	29,454	-
NSF	CCF-1438967	XPS: FULL: DSD: Collaborative Research: Moving the Abyss: Database Management on Future 1000-core Processor	47.070	85,328	-
NSF	CCF-1438969	XPS: FULL: FP: Collaborative Research: Model-based, Event Driven Scalable Programming for the Mobile Cloud	47.070	127,933	-
NSF	CCF-1442887	CyberSEES:Type 2: Collaborative Research: Combining Experts and Crowds to Address Challenging Societal Problems	47.070	208,117	-
NSF	CCF-1452616	[Revised Budget] CAREER: Applications of Quantum Information Theory	47.070	137,246	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	CCF-1452994	CAREER: A Hardware and Software Architecture for Data-Centric Parallel Computing	47.070	27,419	-
NSF	CCF-1453261	CAREER: Algorithmic Aspects of Machine Learning	47.070	198,505	-
NSF	CCF-1461559	AF: Medium: Distributed Algorithms for Resource-Constrained and Dynamic Settings	47.070	17,500	-
NSF	CCF-1512611	SHF: Medium: Fiat: Correct-by-Construction and Mostly Automated Derivation of Programs with an Interactive Theorem Prover	47.070	161,991	-
NSF	CCF-1521584	Collaborative Research: Expeditions in Computing: The Science of Deep Specification	47.070	212,008	-
NSF	CCF-1521925	Collaborative Research: Evolable Living Computing: Understanding and Quantifying Synthetic Biological Systems' Applicability, Performance and Limits	47.070	127,116	-
NSF	CCF-1525130	AF: Small: Quantum Algorithms Arising from Ideas in Physics	47.070	89,758	-
NSF	CCF-1525705	CIF:Small: Cooperative Interference Engineering for Network Secrecy	47.070	18,331	-
NSF	CCF-1527270	CIF: Small: Collaborative Research:Towards more Secure Systems: Uniformization for Secrecy	47.070	55,684	-
NSF	CCF-1533644	XPS: FULL: FP: A profile-centric IDE for science-based performance engineering in the cloud	47.070	94,496	-
NSF	CCF-1533753	XPS: FULL: DSD: Scalable High Performance with Halide and Simit Domain Specific Languages	47.070	195,175	-
NSF	CCF-1535851	AitF: FULL: Sparse Fourier Transform: From Theory to Practice	47.070	44,198	-
NSF	CCF-1547999	EAGER: Collaborative Research: Algorithmic design principles for programmed DNA nanocages	47.070	36,257	-
NSF	CCF-1551875	EAGER: Research in the Interface of Algorithmic Game Theory and Learning.	47.070	179,933	-
NSF	CCF-1564025	AF: Medium: Collaborative Research: Top-down algorithmic design of structured nucleic acid assemblies	47.070	2,772	-
NSF	CCF-1565516	CRII: CIF: Fast Algorithms for Learning Graphical Models from Scarce Data	47.070	30,909	-
NSF	CCF-1629809	AF: Large: Collaborative Research: Reliable Quantum Communication and Computation in the Presence of Noise	47.070	144,492	-
NSF	CHE-1111557	Coherent spectroscopy and Coherent control of collective modes through shaped optical fields	47.049	42,833	-
NSF	CHE-1111567	New Cycloaddition and Annulation Strategies for Organic Synthesis	47.049	-75,733	-
NSF	CHE-1112825	Theoretical studies of coherent energy transfer in photosynthetic systems	47.049	109,863	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	CHE-1212527	Highly Convergent and Stereoselective Synthesis of Heterodimeric Polycyclic Alkaloids	47.049	67,519	-
NSF	CHE-1213622	Near Infrared Fluorescent Single Walled Carbon Nanotubes as Novel Solution Phase Optical Sensing Materials	47.049	-959	-
NSF	CHE-1265624	Collaborative Research: SI2-CHE:Developing First Principles Monte Carlo Methods for Reactive Phase and Sorption Equilibria in the CP2k Software Suite	47.049	-18,523	-
NSF	CHE-1265770	Metal Coordination Compounds as Reporters for Biological NO	47.049	101,508	-
NSF	CHE-1306529	Collaborative Proposal: RUI:Functionalization of Single-Walled Carbon Nanotube Nanopores for Control of Molecular and Ionic Motion and Undergraduate Training in Nanopore Transport	47.049	23,410	-
NSF	CHE-1307664	Collaborative Research: Effects of Atmospheric Aging on the Surface vs. Bulk Composition of Atmospheric Organic Aerosol	47.049	78,705	-
NSF	CHE-1308839	A bioanalytical platform for interrogating the systems biology of tRNA modifications: Application to defining translational control mechanisms in bacterial stress responses	47.049	188,500	-
NSF	CHE-1314022	SEES Fellows: Recyclable Solid Supports as a Sustainable Platform Technology	47.049	152,072	-
NSF	CHE-1334703	DMREF: Analysis and Optimization of Polymer Networks for Emerging Applications	47.049	278,051	-
NSF	CHE-1351646	CAREER: Stable Carbenes as Surface Anchoring Groups	47.049	115,000	-
NSF	CHE-1351807	CAREER: Using chemistry to probe anthrax toxin protein translocation	47.049	182,498	-
NSF	CHE-1352132	CAREER: Coordination Chemistry of Zinc-Chelating S100 Proteins and Biochemistry Partnership with a Regional University	47.049	164,211	-
NSF	CHE-1361865	Mechanisms for the Exchange of Energy between a Rydberg Electron and Its Ion-Core: Free Induction Decay Detected Pure Electronic Spectroscopy	47.049	256,498	-
NSF	CHE-1362118	Synthesis of d- and p-Block Element Molecules, Reagents, and Precursors (revised budget)	47.049	180,391	-
NSF	CHE-1452857	CAREER: Ligand-Mediated Photothermal Energy Dissipation in Semiconductor Nanocrystals	47.049	219,215	-
NSF	CHE-1454060	CAREER: Oxygen Reduction Catalysis at Tunable Metal Sulfide Nanofilms	47.049	127,490	-
NSF	CHE-1463707	Multiple Metal-Carbon Bonds, Metallacycles and Catalytic Olefin Metathesis Reactions	47.049	116,233	-
NSF	CHE-1464799	New Cycloaddition and Annulation Strategies for Organic Synthesis	47.049	108,113	-
NSF	CHE-1464804	Tools for Accurate Photoelectrochemistry in Complex Environments	47.049	236,908	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	CHE-1565649	Metal Coordination Compounds as Reporters for Biological NO, HNO, and S□Nitrosothiols	47.049	25,351	-
NSF	CMMI-1029260	What Do Customers Like: A New Approach That Lets The Data Decide	47.041	4,798	-
NSF	CMMI-1029603	Online Optimization for Dynamic Resource Allocation Problems	47.041	-6,875	-
NSF	CMMI-1054034	CAREER: Large Scale Stochastic Control: A Math Programming & Discrete Optimization Lens	47.041	70,242	-
NSF	CMMI-1063626	A chemo-thermo-mechanics theory: Application to high-termperature thermal barrier coatings	47.041	100,865	-
NSF	CMMI-1120724	SNM:: Digital Optofluidic Self Assembly of Hetergeneous Metamaterials	47.041	131,811	46,776
NSF	CMMI-1129894	Collaborative Research: Experimental and computational foundations for nonlinear pattern formation in the deposition of elastic rods	47.041	146,211	-
NSF	CMMI-1130791	Collaborative Research: A framework for modeling and measuring collaborative creativity in engineering design teams	47.041	75,888	-
NSF	CMMI-1161893	GOALI:Hybrid Dynamic Feedback to Design Provably Correct Driving Support Systems for Safety and Efficiency	47.041	162,956	-
NSF	CMMI-1162034	Tractable Markdown Optimization for an E-tailer	47.041	52,553	-
NSF	CMMI-1234062	The Power Of Limited Flexibility And Resource Pooling	47.041	81,970	-
NSF	CMMI-1234113	DynSyst_Special_Topics/Collaborative Research: A New Braid Theoretic Approach To Uncovering Transport Barriers In Complex Flows	47.041	41,976	-
NSF	CMMI-1234169	Templated Self-Assembly for Nanomanufacturing	47.041	3,370	-
NSF	CMMI-1235109	DMREF-GOALI- Computational and Experimental Discovery and Development of Additives for Novel Polymer Morphology and Performance	47.041	139,054	-
NSF	CMMI-1246740	SNM: Inverse Design of Nanostructured Heterogeneous Materials	47.041	225,799	-
NSF	CMMI-1254768	CAREER: Novel designs for Kidney Exchange and Other Markets, in the Intersection of OR, Econ and CS	47.041	-14,282	-
NSF	CMMI-1332789	Computation of grain boundary energy landscapes as a tool for grain boundary engineering	47.041	181,945	-
NSF	CMMI-1333242	Pilot-wave Hydrodynamics	47.041	128,910	-
NSF	CMMI-1334267	Collaborative Research: TheDesignExchange, an interactive portal for the design community of practice	47.041	180,393	-
NSF	CMMI-1334304	Efficient Calibration Techniques for Stochastic Traffic Simulators	47.041	119,947	-
NSF	CMMI-1335155	Local Algorithms for Random Networks: Power, Limitations and Applications	47.041	-4,610	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	CMMI-1344222	INSPIRE: Track 1: Programming Digital Materials: Additive Assembly of Integrated Electronics	47.041	162,327	-
NSF	CMMI-1351449	CAREER: Smart Morphable Surfaces for Aerodynamic Drag Control	47.041	88,217	-
NSF	CMMI-1351512	CAREER: Simulation-based optimization techniques for urban transportation problems	47.041	82,996	-
NSF	CMMI-1351619	CAREER: Advanced Mixed Integer Programming Formulations	47.041	86,209	-
NSF	CMMI-1363167	Collaborative Research: Increasing Solar Panel Adoption by Modeling the Interrelated Impacts of Design Decisions, Industry Incentives, Public Policies, and Market Response	47.041	57,138	-
NSF	CMMI-1363391	Control-Configured Underwater Robots for Precision Multi-Axis Maneuvering	47.041	170,212	-
NSF	CMMI-1426799	NRI: Collaborative Research: Models and Instruments for Integrating Effective Human-Robot Teams into Manufacturing	47.041	3,145	-
NSF	CMMI-1449644	EAGER/SusChEM/Collaborative Research: Feasibility of Molten Oxide Inductolysis for Metal Alloy Processing	47.041	10,903	-
NSF	CMMI-1452875	CAREER: A Closed Loop Methodology for Investigating Trust, Culture, and Information Sharing in Global Supply Chains	47.041	64,309	-
NSF	CMMI-1462158	Learning Graphical Models: Hardness and Tractability	47.041	124,490	-
NSF	CMMI-1463181	GOALI: Collaborative Research: Nanomanufacturing of Integrated Metal-Carbon Nanotube Contacts for High-Performance MEMS Switches	47.041	62,008	-
NSF	CMMI-1463732	Transformative Skin: Controlled Electromechanical Instability on Polymer Surfaces	47.041	106,911	-
NSF	CMMI-1532136	CAREER: Electroactive Graphene-Polymer System with Extreme Actuation and Tunable Properties	47.041	47,137	-
NSF	CMMI-1536233	The Role of Genetic Modifications, Age and Exercise on Cartilage Biomechanics using Genetically Engineered Mice	47.041	50,239	-
NSF	CMMI-1537536	An Innovative Optimization and Computational Framework for Assortment Problems Under Consider-Then-Rank Choice Models	47.041	53,112	-
NSF	CMMI-1547130	EAGER: Cybermanufacturing: A Cybermanufacturing System for the Design and Fabrication of Manufacturing Equipment	47.041	136,226	-
NSF	CMMI-1547154	EAGER: Cybermanufacturing: A WYSIWYG Middleware for Additive Manufacturing	47.041	204,397	-
NSF	CMMI-1548501	EAGER: Collaborative Research: Challenging the Cognitive-Control Divide	47.041	19,429	-
NSF	CMMI-1549815	EAGER/Collaborative Research:Bumpless Re-Engagement in Shared Control	47.041	64,057	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	CMMI-1549958	Symposium on Advances in Multidisciplinary Engineering; International Mechanical Engineering Congress and Expo; Houston, Texas; November 13-19, 2015	47.041	25,727	-
NSF	CMMI-1562912	Analytical probabilistic traffic models for large-scale network optimization	47.041	4,641	-
NSF	CMMII-1334109	DMREF: Computational Design Principles for Functional DNA-based Materials	47.041	178,214	116,321
NSF	CNS-1053143	CAREER: System-Wide Intrusion Recovery Using Selective Re-execution	47.070	285,831	-
NSF	CNS-1065114	CSR:Medium:Collaborative Research:Programming parallel in memory data-center applications with Piccolo	47.070	-305	-
NSF	CNS-1111383	NeTS:Large:Collaborative Research: HyperFlow: A Novel Hybrid IP/ Flow Architecture	47.070	263,237	-
NSF	CNS-1116209	Nets: Small: Protection and Restoration in Wireless Mesh Networks	47.070	140,058	-
NSF	CNS-1161964	NeTS: Medium: Cortex: Rateless Wireless Networking Using Spinal Codes	47.070	33,817	-
NSF	CNS-1205402	CRI: CI-P: Collaborative: Reciprosody - A Repository for Prosodically Annotated Material	47.070	2,216	-
NSF	CNS-1212597	NeTs: LARGE: Collaborative Research: Exploration and Exploitation in Actuated Communication Networks	47.070	252	-
NSF	CNS-1217048	NeTS: Small: Toward Reducing Control Overheads in Wireless Networks	47.070	104,350	-
NSF	CNS-1219557	Integrated Future Internet Architecture	47.070	10,772	-
NSF	CNS-1228687	TWC: Medium: Collaborative Research: Policy Compliant Integration of Linked Data	47.070	64,564	-
NSF	CNS-1239054	CPS: Frontiers: Collaborative Research: Foundations of Resillent Cyber-physical Systems (FORCES)	47.070	499,635	-
NSF	CNS-1239182	CPS: Synergy:Collaborative Research: Formal Design of Semi-autonomous Cyberphysical Transportation Systems	47.070	244,584	-
NSF	CNS-1301934	CSR:Medium:Collaborative Research:The Commutativity Rule for Scalable Systems Software	47.070	173,181	-
NSF	CNS-1317763	TWC: Small: Ascend: Architecture for Secure Computation on Encrypted Data	47.070	97,337	-
NSF	CNS-1338976	Project MAC@50 Symposium	47.070	32,115	-
NSF	CNS-1345256	FIA-NP: Collaborative Research: The Next-Phase MobilityFirst Project - From Architecture and Protocol Design to Advanced Services and Trial Deployments	47.070	75,914	-
NSF	CNS-1347267	MIT VMS I-Corps Site	47.070	47,106	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	CNS-1347279	SATC: Collaborative Research: Holistic security for cloud computing: Oblivious computation	47.070	50,090	-
NSF	CNS-1347364	EAGER: Holistic Security for Cloud Computing: Computing on Encrypted Data	47.070	115,349	-
NSF	CNS-1350619	CAREER: Computing on Encrypted Data	47.070	61,550	-
NSF	CNS-1350685	CAREER: Practical Algorithms and Fundamental Limits for Complex Cyber-Physical Systems	47.070	54,969	-
NSF	CNS-1407470	NeTS:Medium:Collaborative Research:An App-Centric Transport Architecture for the Internet	47.070	87,545	-
NSF	CNS-1409238	CSR: Medium: Collaborative Research: FTFS: A Read/Write-optimized Fractal Tree File System	47.070	85,272	-
NSF	CNS-1413905	NeTS:Large:Collaborative Research:Mapping Interconnection in the Internet: Colocation, Connectivity and Congestion	47.070	193,377	-
NSF	CNS-1413920	TWC: TTP Option: Frontier: Collaborative: MACS: A Modular Approach to Cloud Security	47.070	751,702	-
NSF	CNS-1413973	NeTS Large: Collaborative Research: Location-Independent Networks: Evaluation Strategies and Studies	47.070	300,413	-
NSF	CNS-1446474	CPS: Frontier: Collaborative Research: BioCPS for Engineering Living Cells	47.070	309,414	-
NSF	CNS-1453126	CAREER: Resilient Design of Networked Infrastructure Systems: Models, Validation, and Synthesis	47.070	99,952	-
NSF	CNS-1513447	CSR: Medium: Collaborative Research: Fast and Simple Concurrency Through Data-Abstraction Transactions	47.070	48,361	-
NSF	CNS-1516130	Workshop: FIA Investigator meeting Fall 2014	47.070	9,950	-
NSF	CNS-1519135	EAGER:Self-Uncertainty in Mechanism Design	47.070	86,434	-
NSF	CNS-1523401	EAGER:Autonomy-enabled Shared Vehicles for Mobility on Demand and Urban Logistics	47.070	216,145	-
NSF	CNS-1523546	NeTS:Small: Low Latency Scheduling for Data Centers	47.070	1,565	-
NSF	CNS-1526791	NeTS: Small: A Programmable Network Data Plane for Resource Management in Datacenters	47.070	19,760	-
NSF	CNS-1526815	NSFSaTC-BSF: TWC: Small: Enabling Secure and Private Cloud Computing using Coresets	47.070	47,083	-
NSF	CNS-1542970	Track 2 EBP: Toward Using Virtual Identities in Computer Science Learning for Broadening Participation	47.070	110,428	-
NSF	CNS-1544413	CPS: Synergy: Collaborative Research: Design and Control of High-performance Provably-safe Autonomy-enabled Dynamic Transportation Networks	47.070	38,841	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	CNS-1544751	CPS: TTP Option: Synergy: Collaborative Research: Hardening Network Infrastructures for Fast, Resilient, and Cost-Optimal Wide-Area Control of Power S	47.070	4,309	-
NSF	CNS-1547509	Workshop: FIA Investigator meeting Spring 2015	47.070	49,476	-
NSF	CNS-1549671	RAPID: MIT in Nashik: Creating a Model for Smart Citizens	47.070	25,935	-
NSF	CNS-1551316	SASO Workshop Program	47.070	15,000	-
NSF	CNS-1555796	Workshop on Tracking Quality of Experience in the Internet	47.070	17,410	-
NSF	DBI-1146747	ABI Innovation: Interactive Learning Tools for Individual Identification in Large Biological Image Databases	47.074	165,403	-
NSF	DBI-1356260	Collaborative Research: ABI Innovation: BCSP: Understanding the design and usage of distributed biological networks	47.074	73,931	-
NSF	DBI-1451125	BRAINS EAGER: Massive-scale multi-area single neuron recordings to reveal circuits underlying short-term memory	47.074	158,054	-
NSF	DGE-0801525	IGERT: Interdisciplinary Quantum Information Science & Engineering	47.076	108	-
NSF	DGE-1122374	Graduate Research Fellowship Program	47.076	12,662,150	-
NSF	DGE-1544234	Collaborative Research: The Role of Instructor and Peer Feedback in Improving the Cognitive, Interpersonal, and Intrapersonal Competencies of Student	47.076	7,155	-
NSF	DMR-0819762	CMSE - Parent	47.049	153	-
NSF	DMR-1004147	Photophysical Studies of Nanocarbons	47.049	31,461	-
NSF	DMR-1005541	Physical Properties of Strongly Correlated Quantum Liquids	47.049	40,257	-
NSF	DMR-1006147	Collaborative Research: Hierarchically Assembled Viral-Synthetic Hybrid Microentities	47.049	-22,057	-
NSF	DMR-1054671	CAREER: Self-Healing Under Flow: From Single Molecule Dynamics to Regenerative Scaffold Formation	47.049	68,292	-
NSF	DMR-1055583	CAREER "Stretching" Oxides to Low Temperature Transport and Reactivity	47.049	16,569	-
NSF	DMR-1104610	Mechanisms of Stress and Structure Evolution During Processing of Polycrystalline Thin Films	47.049	-6,645	-
NSF	DMR-1150862	Career: Connecting interface structure to interface-defect interactions in metals	47.049	153,354	-
NSF	DMR-1206323	Perturbed Fluctuations & Patterns	47.049	103,137	-
NSF	DMR-1207469	Investigating Two-Dimensional Systems and Surface States Under the Influence of an Internal Exchange Field and Spin-Filtering	47.049	60,001	-
NSF	DMR-1242334	Future Faculty Workshop: Diverse Leaders of Tomorrow	47.049	4,687	-
NSF	DMR-1253306	CAREER: Self-Assembly of Fusion Proteins to Form Biofunctional Materials	47.049	57,999	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	DMR-1305741	Novel Phases of Electronic Mott insulators	47.049	125,594	-
NSF	DMR-1307064	Structured Rigid Rod Framework Gels from Clickable Synthetic Polypeptides	47.049	104,736	-
NSF	DMR-1405221	Quantum Transport in twisted van der Waals Heterostructures	47.049	196,897	-
NSF	DMR-1410636	Collaborative Research: Design of Low-Hysteresis High-Susceptibility Materials by Nanodomain Engineering	47.049	134,150	-
NSF	DMR-1410718	Shape Persistent, Dynamic, and Liquid Crystalline Materials for Sensor and Electronic Devices	47.049	125,326	-
NSF	DMR-1419807	NSF Materials Research Science and Engineering Centers (MRSEC) - Full Proposal	47.049	3,061,997	102,912
NSF	DMR-1452612	CAREER: Small Molecule Redox Reactivity at MOF Secondary Building Units	47.049	122,060	-
NSF	DMR-1505947	Solid-State Dewetting of Metallic Thin Films	47.049	120,561	-
NSF	DMR-1506475	Entanglement and emergence in new quantum states of matter	47.049	70,253	-
NSF	DMR-1506605	Collaborative Research: Thin film chalcogenide glass materials for high-quality integrated photonics	47.049	75,735	-
NSF	DMR-1507047	BaSnO3 as a Transparent Mixed Ionic-Electronic Conducting Material - Utilizing Novel In Situ Methods to Advance Understanding of Structure-Processing-Property Relations	47.049	98,719	-
NSF	DMR-1507806	Spectroscopic Studies on Layered Materials	47.049	165,297	-
NSF	DMR-1508072	SusChEM: Material and Morphometric Control of Bacterial Cellulose via Genetic Engineering, Post-Processing and 3D-Printed Molding	47.049	111,749	-
NSF	DMR-1509197	Collaborative Research: Nanostructured Conductive Tin Oxide for High-Efficiency Light Trapping in Thin Films and Photonic Devices	47.049	72,791	-
NSF	DMR-1522575	Physics of Strong Disorder and Correlation	47.049	191,391	-
NSF	DMR-1534340	DMREF: Collaborative Research: The Synthesis Genome: Data Mining for Synthesis of New Materials	47.049	98,259	-
NSF	DMR-1554891	CAREER: Geometrical Frustration in Spin Orbit Systems	47.049	103,170	-
NSF	DMR-1606911	Directed Self Assembly of Triblock Terpolymer Films	47.049	4,240	-
NSF	DMS-0943787	EMSW21-RTG: Geometry and Topology	47.049	35,483	-
NSF	DMS-1000113	Tensor categories, quantum groups, and Hecke algebras	47.049	27,733	-
NSF	DMS-1005696	Spectral problems in semi-classical analysis, wave and heat trace asymptotics and group actions on symplectic manifolds	47.049	-10	-
NSF	DMS-1056390	Growth of Random Surfaces	47.049	154,856	-
NSF	DMS-1068625	Studies in Algebraic and Enumerative Combinatorics	47.049	128,277	-
NSF	DMS-1068815	New perspectives on dispersive equations	47.049	-1,914	-
NSF	DMS-1069225	Free Boundaries, Level Surfaces, and Stochastic Growth	47.049	6,644	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	DMS-1069236	Random maximal isotropic subspaces and Selmer groups	47.049	114,991	-
NSF	DMS-1100147	Algebraic and Geometric Combinatorics	47.049	-24	-
NSF	DMS-1102434	Categories of sheaves, canonical bases and harmonic analysis	47.049	118,460	-
NSF	DMS-1104392	Mean Curvature Flow, Manifolds with Ricci curvature bounds, Representations of Isometry groups, and Eigenfunctions	47.049	1,975	-
NSF	DMS-1107335	Dynamics of Nonlinear Internal Wave Beams in Stratified Flows	47.049	-895	-
NSF	DMS-1115278	Collaborative Research: Numerical approaches for incompressible viscous flows with high order accuracy up to the boundary	47.049	36,264	-
NSF	DMS-1115455	Computational methods in arithmetic geometry	47.049	22,808	-
NSF	DMS-1162211	The Global Analysis of Fluids in General Relativity	47.049	-15	-
NSF	DMS-1208998	Exact solvability of the Kardar-Parisi-Zhang stochastic partial differential equation	47.049	-1,236	-
NSF	DMS-1209044	Liouville quantum gravity and conformal probability	47.049	138,667	-
NSF	DMS-1238309	MIT PRIMES: Program for Research In Mathematics, Engineering, and Science for High School Students	47.049	57,173	-
NSF	DMS-1255203	CAREER: Super-Resolution and Subwavelength Imaging	47.049	122,788	-
NSF	DMS-1265196	FRG: Collaborative Research: Wall-crossings in Geometry and Physics	47.049	36,352	-
NSF	DMS-1302000	Periods and special values of L-functions for unitary groups	47.049	24,898	-
NSF	DMS-1303060	Mathematical Sciences: Geometric methods in the representation theory of affine Hecke algebras, finite reductive groups and character sheaves	47.049	35,560	-
NSF	DMS-1307704	Random matrices, free probability and the enumeration of maps	47.049	86,147	-
NSF	DMS-1312831	Applied Free Probability Theory	47.049	757,433	-
NSF	DMS-1318942	Collaborative Research: Gradient-augmented level set methods and jet schemes	47.049	62,106	-
NSF	DMS-1339299	Foliation theory in Algebraic Geometry	47.049	321	-
NSF	DMS-1350472	CAREER: Motives: Voevodsky versus Kontsevich	47.049	65,257	-
NSF	DMS-1362326	Random and pseudorandom structures and their applications	47.049	27,765	-
NSF	DMS-1362336	Algebraic Combinatorics and its Applications	47.049	64,748	-
NSF	DMS-1362509	Dispersive partial differential equations: between a deterministic and a probabilistic approach	47.049	92,338	-
NSF	DMS-1400967	Algebraic theory of integrable systems. Representations of affine superalgebras and mock theta functions	47.049	56,102	-
NSF	DMS-1404540	Generic flows, Ricci curvature; Heegaard splittings and nodal sets	47.049	135,789	-
NSF	DMS-1406337	Investigation on Differential Geometry and General Relativity	47.049	40,226	-
NSF	DMS-1406348	Instantons, low dimensional topology and knotted graphs	47.049	206,610	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	DMS-1406356	2014-2016 Talbot Workshops	47.049	21,550	-
NSF	DMS-1406411	Gaussian Free Field and Conformal Loop Ensemble	47.049	35,224	-
NSF	DMS-1407562	Integrable probability and random matrices: 2d structures, limit theorems	47.049	57,798	-
NSF	DMS-1408398	Mean curvature flow and geometric analysis	47.049	225,995	-
NSF	DMS-1448873	Perspectives in Lie Theory	47.049	2,097	-
NSF	DMS-1454419	CAREER: Geometric Methods in Hyperbolic PDEs	47.049	146,404	-
NSF	DMS-1460466	Representation theory, Number theory and Invariant theory	47.049	38,769	-
NSF	DMS-1462401	FRG: Collaborative Research: Long-term dynamics of nonlinear dispersive and hyperbolic equations: deterministic and probabilistic methods	47.049	47,011	-
NSF	DMS-1500219	Extremal graph theory, graph limits, and algebraic invariants	47.049	53,434	-
NSF	DMS-1500771	Free boundaries and extremal inequalities	47.049	79,470	-
NSF	DMS-1500954	Lefschetz Fibrations, Mapping Tori, and Dynamics on Moduli Spaces of Objects	47.049	47,683	-
NSF	DMS-1502244	Tensor categories and representation theory	47.049	98,707	-
NSF	DMS-1508096	Equivariance and higher algebra in motivic homotopy theory	47.049	48,733	-
NSF	DMS-1509623	Young Topologists Meeting 2015	47.049	28,475	-
NSF	DMS-1510305	Flexibility in symplectic and contact geometry	47.049	55,428	-
NSF	DMS-1512925	Three-Dimensional Nonlinear Internal Wave Beams: Mathematical Models and Laboratory Experiments	47.049	37,661	-
NSF	DMS-1517842	Collaborative Research: From Biology to Mechanism: Harnessing Compliance in Locomoting Systems	47.049	72,124	-
NSF	DMS-1519580	PRIMES: Program for Research In Mathematics, Engineering, and Science for high school Students	47.049	52,065	-
NSF	DMS-1521765	Collaborative Research: Computational methods for ultra-high sensitivity magnetometry of geological samples	47.049	36,903	-
NSF	DMS-1522526	Computational methods in arithmetic geometry	47.049	51,995	-
NSF	DMS-1522577	Advancements in the Ultraspherical Spectral Method	47.049	40,763	-
NSF	DMS-1541099	CAREER: Large Scale Stochastic Optimization and Statistics	47.049	118,216	-
NSF	DMS-1541100	Statistical and Computational Tradeoffs in High Dimensional Learning	47.049	225,956	62,283
NSF	DMS-1600375	Quantum algebras, quiver varieties and applications	47.049	4,567	-
NSF	DMS-1601946	Topics in arithmetic geometry	47.049	29,855	-
NSF	DMS-1601953	Wall-crossing and dualities in representation theory	47.049	4,758	-
NSF	DMS-1607901	Integrable probability	47.049	498	-
NSF	DMS-1619754	L3 Graduate Student Workshop in Symplectic/Contact Geometry	47.049	3,228	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	DRL-0744213	CAREER: Curiosity, exploratory play, and the foundations of scientific inquiry	47.076	-7,049	-
NSF	DRL-1019228	DRK12-BioGraph: Graphical Programming for Constructing complex Systems Understanding in Biology	47.076	62,339	21,328
NSF	DRL-1020152	Collaborative Research: INK-12: Teaching and Learning Using Interactive Ink Inscriptions in K-12	47.076	289,404	-
NSF	DRL-1223256	Collaborative Research: Broad Implementation of Science Festival Alliance	47.076	314,420	-
NSF	DRL-1322623	Full-Scale Development: Collaborative Research: NEXT: The Youth Radio Innovation Lab	47.076	392,652	-
NSF	DRL-1417952	Collaborative Research: New Pathways into Data Science: Extending the Scratch Programming Language to Enable Youth to Analyze and Visualize Their Own Learning	47.076	169,803	-
NSF	DRL-1508911	Collaborative Research: Building Enhanced Scientific Thinking through Modeling Ecosystems	47.076	45,690	-
NSF	DRL-1639069	DRK-12 Teachers with GUTS (PI Irene Lee)	47.076	149,683	-
NSF	DUE-1122616	Development and evaluation of StarCellBio: a cell biology experiment simulator for science education	47.076	49,203	-
NSF	DUE-1225680	Collaborative Research: Computational Thinking through Mobile Computing	47.076	77	-
NSF	DUE-1439272	Learning Sciences and Online Learning - Interaction and Influence for Quality Practice and Research	47.076	162,333	-
NSF	DUE-1451399	Liberal Studies in engineering: Broadening the Path to the Profession. Phase I	47.076	568	-
NSF	DUE-1503793	Discovery-Based Student Learning with the Haystack 37-m Radio Telescope	47.076	43,566	-
NSF	DUE-1505007	Collaborative Research: Liberal Studies in Engineering - Broadening the Path to the Profession: Feasibility Study	47.076	10,164	-
NSF	EAR-0807475	Collaborative Research: The Siberian Traps and the End-Permian Extinction: Coincidence and Causality	47.050	43,013	-
NSF	EAR-0930166	Collaborative Research: Analytical Techniques and Software: Development of CyberInfrastructure to Support Laser-Ablation ICP Mass Spectrometry	47.050	-13,903	-
NSF	EAR-0946280	Environmental Determinants of Malaria Transmission in Africa: Hydrology of water Pools Near Villages	47.050	-10,932	-
NSF	EAR-0951672	Field and numerical studies of self-organization in high-order drainage networks	47.050	-29,406	-
NSF	EAR-0968863	Collaborative Research: CSEDI - Grand Challenge for Experimental study of Plastic Deformation Under Deep Earth Conditions	47.050	-7	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	EAR-1114161	Collaborative Research: Water and Carbon Dynamics in Tropical Peat Lands - Comparison of a Forested Peat Dome with A Deforested Peat Dome in Borneo	47.050	5,248	-
NSF	EAR-1118562	Microstructure in Marble: Evolution of strength in natural and laboratory deformation	47.050	10,032	-
NSF	EAR-1118598	Experimental Investigations on the Role of H2O in Subduction Zone Processes	47.050	7,249	-
NSF	EAR-1118883	Collaborative Research: Evaluating the Influence of Eocene Ridge Subduction on Magmatism, Deformation, and Basin Evolution, Pacific NW	47.050	49,542	-
NSF	EAR-1140970	The Impact of Blade Motion on the Flux to a Blade Surface	47.050	97,842	-
NSF	EAR-1159318	Physiological underpinnings of sulfur isotope effects produced by sulfate reducing microbes	47.050	-432	-
NSF	EAR-1225865	Collaborative research: Laboratory and numerical experiments on the response of wave ripples to changes in oscillatory flow	47.050	65,115	-
NSF	EAR-1246577	Collaborative Proposal: Postseismic deformation of the Izmit-Duzce, Turkey earthquake sequence: implications for the mechanics of the earthquake cycle and rheology of the continental lithosphere	47.050	-111	-
NSF	EAR-1250394	Application of quantum cascade laser-infrared absorption spectroscopy for methane clumped isotope thermometry using doubly isotope substituted methane (13CH3D)'	47.050	50,614	-
NSF	EAR-1321889	Influence of Titanium on Water Incorporation, Rheology and Seismic Properties of Olivine	47.050	11,843	-
NSF	EAR-1321952	Collaborative Research: Early earth evolution: Hf and Nd isotopic constraints from the ca 3.4--4.0 Ga Acasta Gneisses	47.050	54,421	-
NSF	EAR-1322032	A field study of the liquid line of descent of hydrous alkaline-rich magmas at elevated pressures (0.5-1.0 GPa): the Dariv alkaline intrusive complex	47.050	107,008	-
NSF	EAR-1361319	CSEDI Collaborative Research: Grand Challenge for Experimental Study of Plastic Deformation Under Deep Earth Conditions	47.050	31,524	-
NSF	EAR-1404414	Collaborative Research: Deep Drilling of Lake Junin, Peru: Continuous Tropical Records of Glaciation, Climate Change and Magnetic Field Variations Spanning the Late Quaternary	47.050	26,678	-
NSF	EAR-1411552	Collaborative Research: Toward a global timeline of biological and ocean geochemical change during the early Cambrian	47.050	47,468	-
NSF	EAR-1414499	Sediment Transport in Vegetated Channels: Evaluating the Roles of Mean Bed Stress and Turbulent Impulse	47.050	60,095	-
NSF	EAR-1415907	High-resolution attenuation structure from the ambient seismic field	47.050	73,268	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	EAR-1419822	Collaborative Research: Quantifying Laurentia's Motion, Advancing Paleogeography and Constraining Rifting with New Paired Dates and Paleomagnetic Data from the Midcontinent Rift	47.050	65,620	-
NSF	EAR-1419854	Active Tectonics of the Africa-Eurasia Zone of Plate Interaction in the W Mediterranean	47.050	55,145	-
NSF	EAR-1424892	High-precision U-Pb zircon geochronology and intracontinental correlation of terrestrial ecosystems during the zenith of dinosaur diversity in the Late Campanian of North America	47.050	95,343	-
NSF	EAR-1434138	Collaborative Research: Reconstructing interactions between the East Asian Monsoon and Westerly Jet at multiple timescales via the flux and provenance of eolian and fluvial supply	47.050	77,682	-
NSF	EAR-1439559	Early Career: Technical support for a uranium-series isotope geochemistry laboratory focused on Earth's climate and surface processes	47.050	117,796	-
NSF	EAR-1450922	New GPS Constraints on Africa-Arabia-Eurasia Plate Kinematics	47.050	110,779	-
NSF	EAR-1451022	Evolution of Microstructure and Creep Strength of Marble	47.050	75,516	-
NSF	EAR-1464024	Colaborative Research: Anelastic properties of the Earth from seismic to tidal timescales	47.050	40,353	-
NSF	EAR-1520762	Collaborative Research: Changes in river-aquifer exchange induced by groundwater pumping, and their effect on arsenic contamination in the Red River Delta, Vietnam	47.050	2,346	-
NSF	EAR-1520825	Hazards SEES: Uncovering the hidden skeleton of environmental flows: advanced Langrangian methods for hazards prediction, mitigation and response	47.050	9,614	-
NSF	EAR-1521534	Robust earthquake source scaling and seismic efficiency for intermediate-depth and deep earthquakes at global and regional scales.	47.050	127,006	-
NSF	EAR-1523027	Comparison of the Melt Distribution in Natural Analogues to Experimentally Produced microstructures	47.050	73,332	9,603
NSF	EAR-1551321	ABR: Experimental Studies of Hydrous Mantle Melting	47.050	26,277	-
NSF	EAR-1551753	Collaborative Research: A Community Velocity Field for East Africa	47.050	15,364	-
NSF	EAR-1552202	Processes and Rates of Arc Crust Growth and Differentiation in the Southern Sierra Nevada Crustal Section	47.050	8,158	-
NSF	EAT-1321796	Active deformation in the Arabia-Eurasia continental collision zone	47.050	-2,726	-
NSF	ECCS-1027905	A New Paradigm for Understanding and Controlling Systemic Risks in Financial Markets	47.041	99,429	-
NSF	ECCS-1027922	Novel Game-Theoretic Tools and Solution Concepts with Applications to Network Dynamics and Control	47.041	37,478	-
NSF	ECCS-1102050	EPAS: Hierarchical Characterization of Optoelectronic Hyperdoped Silicon Devices for Terawatt-Scale Photovoltaics	47.041	657	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	ECCS-1135843	CPS:Medium:Collaborative Research:Smart Power Systems of the Future:Foundations for Understanding Volatility and Improving Operational Reliability	47.041	168,762	-
NSF	ECCS-1150493	CAREER: Active Transducers for MEMS Resonators in Integrated Circuit Technology	47.041	84	-
NSF	ECCS-1150878	CAREER: Toward robust, scalable, and non-intermittent solar power: Silicon-based multijunction devices with integrated photocatalysis	47.041	20,119	-
NSF	ECCS-1201649	High Temperature Terahertz Quantum Cascade Lasers	47.041	-5,721	-
NSF	ECCS-1231348	Collaborative Research: Monolithic on-chip resonant cavity isolators for photonic integrated circuits	47.041	-7,388	-
NSF	ECCS-1307699	Advanced Technologies for Ultra-Efficient Grid-Level Power Converters	47.041	174,176	93,928
NSF	ECCS-1344005	EAGER: Super-Resolution Microscopy and Quantum Assisted Sensing Using Multifunctional Diamond Nanoprobes	47.041	20,234	-
NSF	ECCS-1348328	Collaborative Research: ARI-LA: Low-Dose Inspection for Nuclear Threats Using Monochromatic Gamma-Rays	47.041	105,664	-
NSF	ECCS-1408172	Spin-Orbitronics: Interfacial Design of Spintronic Materials and Devices	47.041	194,300	-
NSF	ECCS-1408495	Integrated Photonics for Trapped Ion Quantum Information Processing	47.041	161,994	-
NSF	ECCS-1449291	SNM: Knowledge-based Continuous and Scalable Manufacture of Quantum Dots	47.041	319,383	-
NSF	ECCS-1453218	CAREER: Glass-Based Fexible Integrated Photonic Devices	47.041	129,662	-
NSF	ECCS-1462254	EAGER-DynamicData: Collaborative Research: Dynamically Data-driven Morphing of Reduced Order Models and the Prediction of Transients	47.041	41,538	-
NSF	ECCS-1505733	Development of THz laser frequency combs	47.041	226,877	-
NSF	ECCS-1508666	Collaborative Research: Computational Methods for Stability Assessment of Renewable Integrated Power Systems	47.041	22,844	-
NSF	ECCS-1509486	Collaborative Research: Understanding and Engineering Timing Jitter of Superconducting-Nanowire Single Photon Detectors	47.041	133,013	-
NSF	ECCS-1532591	NCS-FO: Algorithmically explicit neural representation of visual memorability	47.041	162,715	-
NSF	ECCS-1550015	EAGER: Renewables: Market Designs for Distribution Systems with High Renewable Penetration	47.041	23,245	-
NSF	ECCS-1554171	CAREER: Computational toolbox for improved security of power systems	47.041	4,959	-
NSF	ECCS-1607865	Monolithic magneto-optical isolators for on-chip photonic integration	47.041	5,598	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	EECS-1135815	CPS: Medium: Collaborative Research: Co-Design of Multimodal CPS Architectures and Adaptive Controllers	47.041	74,536	-
NSF	EF-1137306	Type 2: The Future of Ecosystems and Extremes: Using Diverse Environmental Data Sets in Support of Regional to Global Earth□System Models and Predictions	47.074	889,556	602,823
NSF	EFRI-1240383	EFRI-ODISSEI: Programmable Origami for Integration of Self-Assembling Systems in Engineered Structures	47.041	447,592	111,245
NSF	EFRI-1332250	EFRI-BioFlex: A Flexible Glucose Fuel Cell.	47.041	21,061	-
NSF	EFRI-1441301	RIPS Type 2: Collaborative Research: Towards resilient computational models of electricity-gas ICI	47.041	593,869	-
NSF	IIP-1414293	PFI:AIR - TT: A Platform for Multi-Material Fabrication	47.041	74,319	-
NSF	IIP-1522517	I-Corps: BioBright - A platform for real-time tracking of biological experiments	47.041	27,814	-
NSF	IIP-1550871	I-Corps: Improving software project outcomes	47.041	43,880	-
NSF	IIP-1562925	Kytopen: Expanding the language of biology with pulsed electric fields	47.041	31,190	-
NSF	IIP-1611699	Solving Information-Integration Problems Using Category Theory	47.041	41,747	-
NSF	IIS-0904594	Computational Mechanisms for Storing Motor Memories in Noisy Neural Circuits: How Activity Patterns Evolve during Learning	47.070	-96	-
NSF	IIS-1018055	HC: Small: Enabling and Exploring Natural Interaction	47.070	-596	-
NSF	IIS-1028163	CDI-Type II: Collaborative Research: A Paradigm Shift in Ecosystem & Environmental Modeling: An Integrated Stochastic, Deterministic & Machine Learning Approach	47.070	-451	-
NSF	IIS-1029585	Collaborative Research: Behavior Imaging: Enabling a Quantitative Science of Behavior through Computational Sensing	47.070	82,904	76,042
NSF	IIS-1053398	CAREER Digital Privacy and Regulation	47.070	84,617	-
NSF	IIS-1064495	CAREER: Computing for Advanced Identity Representation	47.070	14,904	-
NSF	IIS-1065079	SHB: Collaborative Research:Medium:Novel Computational Techniques for Cardiovascular Risk Stratification	47.070	46,238	-
NSF	IIS-1065219	IIII: Medium Scalable and Secure Database as a Service	47.070	267,328	-
NSF	IIS-1111044	Collaborative Research: Programming with Crowds: Models and Tools for General-Purpose Crowdsourcing	47.070	76,621	-
NSF	IIS-1111371	III Large: Collaborative Research: SciDB- An Array oriented Data Management System for Massive Scale Scientific Data	47.070	-488	-
NSF	IIS-1111415	RI:Large:Collaborative Research:Analyzing images through time	47.070	213,397	-
NSF	IIS-1117178	RI:Small:Collaborative Research:Adaptive Sampling with Robots for Marine Observations	47.070	39,646	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	IIS-1122886	DIP: Collaborative Research: Social Robots as Mechanisms for Language Instruction, Interaction, and Evaluation in Pre-School Children	47.070	23,698	-
NSF	IIS-1161731	CGV: Medium: Collaborative Research: Understanding Translucency: Physics, Perception, and Computation	47.070	34,299	-
NSF	IIS-1161909	RI: Medium: Collaborative Research: Hybrid Unmanned Aerial Vehicles that Interact with Surfaces	47.070	9,390	-
NSF	IIS-1212849	RI: Large: Collaborative Research: Reconstructive recognition: Uniting statistical scene understanding and physics-based visual reasoning	47.070	149,888	-
NSF	IIS-1218411	CGV: Small: Collaborative Research: Diffractive masks and algorithms for light field capture	47.070	13,584	-
NSF	IIS-1226883	NRI-Large: Collaborative Research: Soft Compliant Robotic Augmentation for Human-Robot Teams	47.070	137,642	-
NSF	IIS-1227504	Collaborative Research: NRI-Large: Purposeful Prediction: Co-robot Interaction via Understanding Intent and Goals	47.070	122,158	-
NSF	IIS-1237136	SHB:Type II (INT): Collaborative Research: Algorithmic Approaches to Personalized Health Care	47.070	254,689	-
NSF	IIS-1248066	INSPIRE: Kreyol-based Cyberlearning for a New Perspective on the Teaching of STEM in local Languages	47.070	224,298	-
NSF	IIS-1250802	EAGER: Collaborative Research: Technology to Support | Mathematical Argumentation	47.070	35,985	-
NSF	IIS-1317445	NRI:Small:Collaborative Research: Adaptive Motion Planning and Decision-Making for Human-Robot Collaboration in Manufacturing	47.070	160,668	-
NSF	IIS-1318215	HCC:Small:Thermal Displays in Human Computer Interactions	47.070	166,665	-
NSF	IIS-1318392	RI: Small: Robust and Long-Term Visual Mapping and Localization	47.070	169,241	-
NSF	IIS-1348911	INDP: Collaborative Research: Coding for All: Interest-Driven Trajectories to Computational Fluency	47.070	213,490	-
NSF	IIS-1350160	CAREER: Human-Aware Autonomy for Team-Oriented Environments	47.070	12,033	-
NSF	IIS-1350879	CAREER: Gait Transition Principles in Quadruped Robots	47.070	109,240	-
NSF	IIS-1404494	SCH: EXP: Collaborative Research: THink - Inferring Cognitive State From Subtle Behaviors	47.070	73,816	21,727
NSF	IIS-1405259	NRI-Small: Improved safety and reliability of robotic systems by faults/anomalies detection from uninterpreted signals of computation graphs	47.070	263,140	-
NSF	IIS-1409310	CHS: Medium: Collaborative Research: Computational Design and 3D Printing of Textiles	47.070	211,588	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	IIS-1420122	CHS: CGV: Small: Collaborative Research: Sampling and Reconstruction for Computer Graphics Rendering and Imaging	47.070	122,105	-
NSF	IIS-1420316	RI: Small: A Systematic Approach to Robot Task and Motion Planning in Belief Space	47.070	85,439	-
NSF	IIS-1421065	RI: Small: Enabling robust visual intelligence using propagators to model human competence	47.070	145,467	-
NSF	IIS-1427050	NRI: Collaborative: Efficient Algorithms for Contact-Aware State Estimation	47.070	256,691	5,332
NSF	IIS-1427547	NRI: Collaborative: Modeling and Verification of Language-based Interaction	47.070	94,198	30,897
NSF	IIS-1439355	CAREER: Social and Economic Consequences of Information Diffusion in Networks	47.070	306	-
NSF	IIS-1447476	BIGDATA: F: DKA: Collaborative Research: Structured Nearest Neighbor Search in High Dimensions	47.070	156,850	-
NSF	IIS-1447786	BIGDATA: IA: DKA: Collaborative Research: High-Thoughput Connectomics	47.070	219,796	-
NSF	IIS-1452019	EAGER: Compact Roadmaps for Planning Under Uncertainty	47.070	118,980	-
NSF	IIS-1453141	CAREER: Advances in Monitoring Human Performance: Moving Wearable Technology from the Expert to Nonexpert User	47.070	126,382	-
NSF	IIS-1513443	III: Medium: Collaborative Research:DataHub - A Collaborative Dataset Management Platform for Data Science	47.070	101,296	-
NSF	IIS-1523118	EXP: Collaborative Research: A Personalized Storyteller Companion to Promote Preschooler Language Skills	47.070	23,402	-
NSF	IIS-1523767	NRI: Learning to Plan for New Robot Manipulation Tasks	47.070	11,326	-
NSF	IIS-1524427	RI: Small: Theory and Algorithms for Learning Perturbation Models	47.050	103,720	-
NSF	IIS-1524817	RI: Small: Advancing Visual Recognition with Feature Visualizations	47.070	59,947	-
NSF	IIS-1527181	RI: Small: Time Resolved Imaging: New Methods for Capture, Analysis and Applications	47.070	79,216	-
NSF	IIS-1546290	BIGDATA: Collaborative Research: F: Making Big Data Accessible on Personal Computers: Big Network Algorithms and Data Streams	47.070	8,004	-
NSF	IIS-1546747	RSS 2015 Workshop on Women in Robotics	47.070	10,301	-
NSF	IIS-1551535	EAGER: Inferring Mechanical Explanations from Manipulation Demonstrations	47.070	124,527	-
NSF	IOS-1451202	BRAIN EAGER: Cell-type-specific optogenetics in wild-type animals	47.074	100,199	-

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Federal Research Support - On Campus
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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	MCB-0844442	Career Dissecting the Molecular Determinants of Specificity in Two Component Signal Transduction Systems	47.074	-106	-
NSF	MCB-1331195	Collaborative Research: Nitroplast: A Light-Driven, Synthetic Nitrogen-Fixing Organelle	47.074	224,906	-
NSF	MCB-1350625	CAREER: Deciphering and Engineering Biological State Machines with Synthetic Biology	47.074	212,189	-
NSF	MCB-1408243	Systematic Mapping of the Sequence Space Criticial to Bacterial Signal Transduction	47.074	282,801	-
NSF	MCB-1517913	Development and Analysis of Autonomous Metabolite Valves	47.074	85,435	-
NSF	OCE-0961713	Collaborative Research: The Physics and Statistics of Global Sea Level Change	47.050	62,547	-
NSF	OCE-1048926	Collaborative Research Type 2 - MOBY: Modeling Ocean Variability and Biogeochemical Cycles	47.050	279,163	-
NSF	OCE-1061160	Collaborative Research: Causes and Effects of Shelf-edge Internal Tide Variability	47.050	71,050	-
NSF	OCE-1129359	Linking single-cell growth rates and genomics of bacterioplankton	47.050	33,237	-
NSF	OCE-1153588	Nitrate assimilation and the ecology of Prochlorococcus: Features and implications of intraspecific diversity in a model marine phototroph	47.050	182,778	-
NSF	OCE-1155205	Collaborative Research: Forcing and the North Atlantic Spring Bloom	47.050	191,616	-
NSF	OCE-1155295	Models of the Ocean Carbonate cycle and the Glacial-Interglacial CO2 Variations	47.050	85,301	-
NSF	OCE-1232725	4D Imaging of Oceanic Transform Fault Material Properties Variations During the Earthquake Cycle	47.050	-6	-
NSF	OCE-1233257	Collaborative Research: Experimental Study of Mineral-Fluid Fractionation of Non-Traditional Isotopes (Fe, Cu, Zn, S) with Implications for Seafloor Hydrothermal Systems	47.050	-1,256	-
NSF	OCE-1233749	Collaborative Research: GEOTRACES Pacific section: Spatial variability of lead concentrations and isotopic compositions in the Eastern Tropical South Pacific	47.050	24,164	-
NSF	OCE-1233832	Collaborative Research: Diagnosing Eddy mixing in DIMES	47.050	264,645	-
NSF	OCE-1259388	Ocean carbon reservoirs and the air-sea flux of CO2 in a changing climate	47.050	203,851	-
NSF	OCE-1315201	Collaborative Research: Ocean Acidification: Impacts of Evolution on the Response of Phytoplankton Populations Rising CO2	47.050	94,841	-
NSF	OCE-1338814	FESD Type 1:The impact of the ozone hole on the climate of the Southern Hemisphere	47.050	829,001	655,930
NSF	OCE-1356460	Membrane vesicles produced by marine bacteria: origins, distributions, and functions	47.050	154,196	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	OCE-1357224	Filling Gaps in the Atlantic and Pacific Pb and Pb Isotope Spatial and Temporal Evolution	47.050	124,479	-
NSF	OCE-1357434	The vertical propagation of internal waves through the ocean	47.050	131,168	-
NSF	OCE-1434007	Size structure and function of phytoplankton communities in a changing ocean	47.050	119,089	-
NSF	OCE-1434149	Collaborative Research: Submarine Melting and Freshwater Export in Greenland's Glacial Fjords: The Role of Subglacial Discharge, Fjord Topography and Shelf Properties	47.050	82,667	-
NSF	OCE-1435993	Collaborative Research: How can bacterial viruses succeed in the marine environment?	47.050	316,071	-
NSF	OCE-1457916	Collaborative Research: Developing a New Model to Investigate the Dynamics of Melt Generation beneath Mid-Ocean Ridges	47.050	50,428	-
NSF	OCE-1459287	Collaborative Research: GEOTRACES Arctic section: Spatial variability of lead concentrations and isotopic compositions in the western Arctic basins	47.050	93,237	-
NSF	OCE-1459702	Theoretical studies of eddy mixing	47.050	32,586	-
NSF	OCE-1502985	Collaborative Research: Insights into North African climate variability over the last 1.1 million years from dust fluxes and leaf wax isotopes	47.050	56,046	-
NSF	OCE-1536515	Collaborative Research: An Ocean Tale of Two Climates: Modern and Last Glacial Maximum	47.050	11,622	-
NSF	OCE-1536521	Collaborative Research: Elucidating Algal Host-virus Dynamics in Different Nutrient Regimes-Mechanistic Interactions and Biogeochemical Impact	47.050	66,281	-
NSF	OCE-1558702	Collaborative Research: Predicting the Spatiotemporal Distribution of Metabolic Function in the Global Ocean	47.050	3,237	-
NSF	OCI-1147503	SI2-SSI Collaborative Research: A Computational Materials Data and Design Environment.	47.080	161,844	-
NSF	OCI-1152538	A Research Coordination Network Dedicated to Facilitating the Creation and Transfer of Knowledge	47.080	84,986	-
NSF	OISE-1258574	G8 Initiative: Structural Bamboo Products	47.079	73,446	-
NSF	PHY-0967299	Research in Theoretical Elementary Particle Physics	47.049	42,277	-
NSF	PHY-0969311	Stongly Interacting Quantum Mixtures of Ultracold Atoms	47.049	29,998	-
NSF	PHY-0969731	A Program in Ultra-Low-Temperature Atomic Physics	47.049	11,432	-
NSF	PHY-1004592	Exploring Spin-Dependent Interactions of Dark Matter with DMTPCino	47.049	42,166	-
NSF	PHY-1055154	CAREER: Exploration of Evolutionary Dynamics on Rugged Fitness Landscapes	47.049	196,945	-
NSF	PHY-1068772	Quantum Opto-mechanics on Multiple Scales	47.049	-1,270	-

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FY 2016 Expenditures

Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	PHY-1125846	Center for Ultracold Atoms	47.049	2,589,989	1,398,146
NSF	PHY-1201896	Collaborative Research: Understanding Turbulent Mixing in Laboratory Magnetospheres	47.049	72,948	-
NSF	PHY-1205100	Project 8: Measuring Neutrino Masses Using Radio-Frequency Techniques	47.049	10,948	-
NSF	PHY-1205175	Neutrino Physics at MIT	47.049	-11,983	-
NSF	PHY-1205554	Atomic Ensembles Entangled by Light for Measurements Below the Standard Quantum Limit	47.049	203,529	-
NSF	PHY-1305537	Inferring the Physics of Living Systems from Dynamic Light Microscopy Data	47.049	134,168	-
NSF	PHY-1306550	Flavor Physics at the LHC	47.049	119,380	-
NSF	PHY-1403261	Strong-gravity binary phenomenology and gravitational-wave astronomy	47.049	105,966	-
NSF	PHY-1404245	Quantum Optomechanics on Multiple Mass Scales	47.049	229,115	-
NSF	PHY-1415345	Spin Polarization and Transport at the Nanoscale	47.049	154,559	-
NSF	PHY-1415514	Dynamic Decoupling and Noise Characterization in Superconducting Qubits	47.049	154,289	-
NSF	PHY-1433156	Collaborative Research: Construction of the Upstream Tracker for the LHCb Upgrade	47.049	753	-
NSF	PHY-1437402	MRI Consortium: Collaborative Research: Development of the Phase-I DarkLight Experiment at Jefferson Laboratory	47.049	268,861	24,346
NSF	PHY-1454673	CAREER: SELECTIVE TRANSPORT IN BIOLOGICAL HYDROGELS - FROM DESIGN PRINCIPLES TO MECHANISMS	47.049	49,435	-
NSF	PHY-1504942	Physics of Chromosomes	47.049	11,613	-
NSF	PHY-1505678	New Experimental Techniques for Neutrino Experiments	47.049	170,809	-
NSF	PHY-1505855	The EPP-Supported Neutrino Program at MIT	47.049	214,600	-
NSF	PHY-1505858	The PA-Supported Neutrino Program at MIT	47.049	289,464	-
NSF	PHY-1505862	Entangled States of Light and Atoms for Measurements Below the Standard Quantum Limit	47.049	37,399	-
NSF	PHY-1506019	Strongly Interacting Fermi Gases of Ultracold Atoms	47.049	134,369	-
NSF	PHY-1506369	A Program in Ultralow-Temperature Atomic Physics	47.049	392,578	-
NSF	PHY-1541160	INSPIRE: Testing Bell's Inequality with Astrophysical Observations	47.049	176,110	31,898
NSF	PHY-1554875	Career: Next-Generation Liquid Scintillator Detectors: Picosecond Timing and Quantum-Dot-Doped Scintillator	47.049	639	-
NSF	PLR-1304050	Collaborative Research: A Bering Strait Ocean Observing System for the Pacific Inflow to the Arctic a fundamental part of the Arctic Observing Network	47.050	2,174	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	PLR-1503966	Collaborative Research: The combined influence of sea ice and snow cover on Northern Hemisphere atmospheric climate variability	47.050	42,913	-
NSF	PLR-1542950	Development of an air-droppable geodetic-seismic ice penetrator for response studies of Antarctic ice shelves and icebergs to ocean forcings	47.050	9,319	-
NSF	SES-1024619	Complexity, Uncertainty, and Macroeconomic Policy in the Global Economy	47.075	3,024	-
NSF	SES-1061841	Collaborative Research: Nonparametric Distributional and Quantile Methods in Econometrics	47.075	22,839	-
NSF	SES-1132399	Unrestricted Individual Heterogeneity in Three Econometric Models	47.075	57,459	-
NSF	SES-1155143	Collaborative Research: The American Mass Public in the Early Cold War Years	47.075	54,899	-
NSF	SES-1226924	Collaborative Proposal: Unintended Consequences of Behavior Change: An Examination of the Impacts on Child Health of Behavior Change in Response to Arsenic Mitigation in Bangladesh	47.075	81,040	-
NSF	SES-1260744	Intermediation, Information, and Diversity In Networks	47.075	62,185	-
NSF	SES-1424484	Doctoral Dissertation Research: Ethical Issues in Animal Experimentation	47.075	5,065	-
NSF	SES-1427231	Demand Analysis for Matching Markets	47.075	67,174	-
NSF	SES-1429914	Doctoral Dissertation Research: Conservation Science--Two Case Studies in Wetland Monitoring and Management	47.075	5,990	-
NSF	SES-1451178	An Investigation of Mutual Interactions between the Practice of Chinese Medicine and Biomedicine - PDF Lan Li	47.075	14,164	-
NSF	SES-1456130	Doctoral Dissertation Research: A Case Study of Traveling Abroad to Access Reproductive Technologies.	47.075	14,356	-
NSF	SES-1528487	Collaborative Research: A New Design for Identifying Persuasion Effects and Selection in Media Exposure Experiments via Patient Preference Trials	47.075	55,092	-
NSF	SES-1555071	CAREER: Dynamic Games and Institutions	47.075	35,499	-
NSF	SES-1555448	Doctoral Dissertation Research: History of Aflatoxin and Liver Cancer	47.075	7,061	-
NSF	SES-1559172	Collaborative Research: Inference Methods for Machine Learning and High-Dimensional Data in Policy Evaluation and Structural Economic Models	47.075	25,065	-
NSF	SMA-1262263	Collaborative Research: Technology, Collaboration, and Learning: Modeling Complex International Innovation Partnerships	47.075	15,773	-
NSF	SMA-1415129	SEES Fellowship - PDF - S. Pattinson	47.075	72,839	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NSF	SMMI-1346638	CAREER: High-Speed Continuous Assembly of Nanoparticle Monolayers and Discrete Cluster Arrays	47.041	68,083	-
		Total for National Science Foundation		**81,965,467**	**7,864,093**
		TOTAL for National Science Foundation		**81,965,467**	**7,864,093**
		TOTAL Federal Research Support - On Campus		**405,904,518**	**57,208,896**

Appendix A-2
Massachusetts Institue of Technology
Schedule of Expenditures of Federal Awards - Lincoln Laboratory
By Sponsor & Contract - FY 2016

Sponsor	Contract Number	Program Name	CFDA #	Total $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF DEFENSE					
AIR FORCE	FA8721-05-C-0002		12.RD	$ 280,519,915	$ 18,673,971
ARMY	FA8721-05-C-0002		12.RD	45,103,344	1,381,384
CLASSIFIED	FA8721-05-C-0002		12.RD	137,878,380	9,136,709
DEFENSE ADVANCED RESEARCH PROJECT AGENCY	FA8721-05-C-0002		12.RD	42,717,075	1,015,962
MISSILE DEFENSE AGENCY	FA8721-05-C-0002		12.RD	79,922,955	7,520,223
NATIONAL SECURITY AGENCY	FA8721-05-C-0002		12.RD	12,623,954	198,106
NAVY	FA8721-05-C-0002		12.RD	59,854,639	7,030,631
OTHER DEPARTMENT OF DEFENSE	FA8721-05-C-0002		12.RD	173,760,178	11,667,975
TOTAL DEPARTMENT OF DEFENSE				**$ 832,380,440**	**$ 56,624,961**
NON-DEPARTMENT OF DEFENSE					
U.S. DEPARTMENT OF ENERGY	FA8721-05-C-0002		81.RD	$ 783,226	$ -
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES	FA8721-05-C-0002		93.RD	29,266,945	625,310
FEDERAL AVIATION AUTHORITY	FA8721-05-C-0002		20.RD	28,325,321	1,466,991
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	FA8721-05-C-0002		43.RD	17,577,723	1,276,938
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	FA8721-05-C-0002		11.RD	8,468,164	1,995,293
OTHER NON DOD	FA8721-05-C-0002		Various	2,529,928	(13,684)
TOTAL NON-DEPARTMENT OF DEFENSE				**$ 86,951,307**	**$ 5,350,848**
TOTAL DIRECT AWARDS				**$ 919,331,747**	**$ 61,975,809**

Appendix A-2
Massachusetts Institue of Technology
Schedule of Expenditures of Federal Awards - Lincoln Laboratory
By Sponsor & Contract - FY 2016 Continued

Prime Sponsor and Sponsor	Passthrough Program Number	Program Name	CFDA #	Total	$ Amount Passed to Subrecipients
DEPARTMENT OF DEFENSE					
AIR FORCE					
University of Hawaii	FA9451-06-2-0338	OTA Dev. & Device Processing	12.RD	$ 360,325	$ -
ARMY					
STTR	W909MY-13-C-0032	VLWIR SLS-DFPA for Imaging Spectroscopy	12.RD	29,161	-
EOS Photonics, Inc.	W911SR-15-C-0001	Rugged High Power Quantum Cascade Laser	12.RD	1,273	-
Adaptive Methods, Inc.	N00014-15-P-1169 N15A-T015	Experimental Noise Measurement System	12.RD	22,590	-
Agiltron, Inc.	W911QY-16-P-0068	Ag Nanowire Grid on Amorphous Silicon	12.RD	24,884	-
Pendar Technologies	W911SR-16-C-0005	Tunable High Power Quantum Laser	12.RD	8,302	-
CLASSIFIED					
MITRE Corporation	1514TS7A-LL	MITRE Collaborative	12.RD	295,158	-
MITRE Corporation	1514TS7A-LL	MITRE Collaborative #2	12.RD	51,720	-
MISSILE DEFENSE AGENCY					
QmagiQ Inc.	HQ0147-12-C-7188	QmagiQ - DFPA	12.RD	167,941	-
NAVY					
EOS Photonics	N68335-11-C-0431	EOS Photonics	12.RD	84,136	-
Freedom Photonics	N68335-13-C-0380	Advanced EO Modulators	12.RD	201,606	-
Twinleaf, LLC	N15A-004-0120	In-Air E-field Sensor for Airborne Applications	12.RD	32,937	-
		Total Department of Defense		**$ 1,280,033**	**$ -**
DEPARTMENT OF ENERGY					
Argonne National Laboratory	DE-AC02-06CH11357	DOE Community Microgrid Technology	81.RD	$ 481,097	$ -
		Total Department of Energy		**$ 481,097**	**$ -**
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION					
Jet Propulsion Laboratory	NNN12AA01C	High Performance Geiger Mode Arrays	43.RD	$ 26,138	$ -
NASA	NNX15AE40A	Big Aviation Data Mining	43.RD	579,211	-
MIT Campus	MIT-300080	MiRa TA	43.001	843,978	-
MIT Campus	MIT-300086	NICER Detector Subsystem	43.001	92,274	-
MIT Campus	MIT-300087	REXIS X-ray Imaging Spectrometer	43.001	47,357	-
		Total National Aeronautics and Space Administration		**$ 1,588,958**	**$ -**
NATIONAL INSTITUTE OF HEALTH					
MIT Campus	1-R01-CA173712-01	Microfluidics MicroRNA Sensors	93.859	$ 209,230	$ -
MIT Campus	5-P50-GM098792-03	NIH Synthetic Biology Center	93.859	241,526	-
MIT Campus	2-R01-DA029639-05	Optical Control of Neural Circuits	93.859	247,525	-
		Total National Institute of Health		**$ 698,281**	**$ -**

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Massachusetts Institue of Technology
Schedule of Expenditures of Federal Awards - Lincoln Laboratory
By Sponsor & Contract - FY 2016 Continued

Prime Sponsor and Sponsor	Passthrough Program Number	Program Name	CFDA #	Total	$ Amount Passed to Subrecipients
NATIONAL SCIENCE FOUNDATION					
University of Southern California	IIS-1514544	Understanding Individual Speech Variability	47.RD	$ 20,116	$ -
MIT Campus	CCF-1124247	Nanoelectronics Beyond 2020	47.070	59,704	-
MIT Campus	EFRI-1332250	Flexible Glucose Fuel Cell	47.070	278,203	-
MIT Campus	CCF-1521759	Evolvable Living Computing	47.070	154,948	-
		Total National Science Foundation		**$ 512,971**	**$ -**
Total Passthrough Awards				**$ 4,561,340**	**$ -**
Total Federal Awards				**$ 923,893,087**	**$ 61,975,809**

Appendix A3
Massachusetts Institute of Technology
Federal Research Support - Passthrough - On Campus
FY 2016 Expenditures by Prime Sponsor and Sponsor

Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF DEFENSE						
Brown University						
DEPARTMENT OF DEFENSE	6920882	00000272	Multi-Scale Fusion of Information for Uncertainty Quantification and Management in Large-Scale Simulations - BASE & OPTION	12.800	57,700	-
DEPARTMENT OF DEFENSE	6926780	00000554	Quantum Metaphotonics and Metamaterials: from Single Emitters to Strongly Correlated Systems	12.800	127,088	-
DEPARTMENT OF DEFENSE	6931095	00000727	A New Mathematical Framework for Design Under Uncertainty	12.910	129,875	-
DEPARTMENT OF DEFENSE	6933009	00000827	Mathematical Framework for Design Under Uncertainty	12.910	225,949	-
			Total for Brown University		**540,613**	**-**
University of California						
DEPARTMENT OF DEFENSE	6929140	0145 G RA504	Modeling and Analysis of Representations for Sensing-Action Systems	12.910	10,174	-
DEPARTMENT OF DEFENSE	6933077	KK9151	Institute for Collaborative Biotechnology (ICB)	12.431	56,355	-
DEPARTMENT OF DEFENSE	6925894	KK9151-24	Institute for Collaborative Biotechnology (ICB)	12.431	62,690	40,180
DEPARTMENT OF DEFENSE	6929257	KK9151-31	Institute for Collaborative Biotechnology (ICB)	12.431	577,330	-
DEPARTMENT OF DEFENSE	6929262	KK9151-33	Institute for Collaborative Biotechnology (ICB)	12.431	357,330	-
DEPARTMENT OF DEFENSE	6929265	KK9151-35	Institute for Collaborative Biotechnology (ICB)	12.431	484,407	-
DEPARTMENT OF DEFENSE	6927669	0157GQA206	Tailoring the conformality and electronic property of thin films by atomic layer deposition	12.300	102,701	-
DEPARTMENT OF DEFENSE	6933105	1015 G TA243	Understanding Scenes and Events through Joint Parsing, Cognitive Reasoning and Lifelong Learning	12.300	166,612	-
DEPARTMENT OF DEFENSE	6923078	1015GNA126	Knowledge Representaion, Reasoning and Learning for Understanding Scenes and Events	12.300	-23,294	-
			Total for University of California		**1,794,306**	**40,180**
Scientific Systems Company, Incorporated						
DEPARTMENT OF DEFENSE	6926767	1570-MIT-SSCI	Automated Bayesian CrossCat (ABC) Family of Machine Learning Systems for XDATA	12.RD	-25,120	-
			Total for Scientific Systems Company, Incorporated		**-25,120**	**-**
Universal Technology Corporation						
DEPARTMENT OF DEFENSE	6932079	15-S2606-04-C19	Adaptive Flight Control for Hypersonic Vehicles with Integrated Loops	12.RD	100,040	-

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Massachusetts Institute of Technology
Federal Research Support - Passthrough - On Campus
FY 2016 Expenditures by Prime Sponsor and Sponsor

Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
			Total for Universal Technology Corporation		**100,040**	**-**
University of New Hampshire						
DEPARTMENT OF DEFENSE	6933544	16-054	Mechanics of Bio-inspired CNT - Modified Hierarchical/ Fractal Interfaces	12.800	31,776	-
			Total for University of New Hampshire		**31,776**	**-**
Old Dominion University						
DEPARTMENT OF DEFENSE	6933167	16-137-300345-010	Nanoelectropulse-induced electromechanical signaling and control of biological systems	12.800	95,074	-
			Total for Old Dominion University		**95,074**	**-**
Massachusetts General Hospital						
DEPARTMENT OF DEFENSE	6932393	223307	Letter of Agreement - SangYeon Cho	12.800	25,007	-
DEPARTMENT OF DEFENSE	6932072	MGH/FA9550-13-1-0068	Letter of Agreement - Meena Siddiqui	12.800	6,665	-
DEPARTMENT OF DEFENSE	6927871	222252	(ADVANCE) Rapid Immunity via Gene Transfer of Oligoclonal Fc-Enhanced mAbs	12.910	236,533	-
DEPARTMENT OF DEFENSE	6928220	221647	A Randomized, Controlled Trial of Intranasal Oxytocin as an Adjunct to Behavioral Therapy for Autism Spectrum Disorder	12.420	51,174	-
			Total for Massachusetts General Hospital		**319,380**	**-**
Vanderbilt University						
DEPARTMENT OF DEFENSE	6930785	2784-018400	Science of Secure and Resilient Cyber-Physical Systems	12.300	74,677	-
			Total for Vanderbilt University		**74,677**	**-**
University of Michigan						
DEPARTMENT OF DEFENSE	6924558	3002085646	Michigan/AFRL Collaborative Center in Control Sciences (MAX)	12.800	21,626	-
DEPARTMENT OF DEFENSE	6917323	SUBCONTRACT #3000913650	Michigan/AFRL Collaborative Center for Control Sciences (MACCCS)	12.800	-390	-
DEPARTMENT OF DEFENSE	6933569	3003660082	AN AUTOMATED MEASUREMENT SYSTEM FOR WARFIGHTER PERFORMANCE QUANTIFICATION IN NATURALISTIC SETTINGS	12.RD	47,675	-
DEPARTMENT OF DEFENSE	6924853	SUBCONTRACT 3001996313	Value-centered Information Theory for Adaptive Learning, Interference, Tracking, and Exploitation (VITALITE)	12.431	682,575	-
DEPARTMENT OF DEFENSE	6927214	3002565045	The Center for Future Architectures Research (C-FAR)	12.RD	223,908	-

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DEPARTMENT OF DEFENSE	6926853	3002453814	PASSIVE AND ACTIVE FRICTION DRAG REDUCTION OF TURBULENT FLOWS OVER SUPER-HYDROPHOBIC SURFACES	12.300	56,051	-
DEPARTMENT OF DEFENSE	6931058	3003267787	Flow structure interaction: dam break wave impinging on flexible plate	12.RD	21,064	-
DEPARTMENT OF DEFENSE	6931059	3003267790	Supervised Teleautonomy for Agile Mobility and Dexterous Manipulation	12.RD	32,693	-
DEPARTMENT OF DEFENSE	6931069	3003268775	Quantification for Extreme Events in Ocean Waves	12.RD	18,179	-
DEPARTMENT OF DEFENSE	6931497	3003383551	Supplemental Funds To MIT Flow structure interaction: dam break wave impinging on flexible plate	12.300	21,420	-
			Total for University of Michigan		**1,124,801**	**-**
University of Delaware						
DEPARTMENT OF DEFENSE	6929807	38805	Architecture and Planning Programming Models for High Performance Interactive Computation	12.800	90,024	-
			Total for University of Delaware		**90,024**	**-**
Rutgers University						
DEPARTMENT OF DEFENSE	6931685	5562	Dynamic Integration of Motion and Neural Data to Capture Human Behavior	12.800	48,631	-
DEPARTMENT OF DEFENSE	6930216	5298 (W81XWH-14-1-0100)	A theragnostic system solution for optimal nerve repair	12.420	485,095	-
			Total for Rutgers University		**533,726**	**-**
Lincoln Laboratory						
DEPARTMENT OF DEFENSE	6920775	7000087748	Reliable Networking on Unreliable Substrates under Severe Stress	12.RD	112,746	-
DEPARTMENT OF DEFENSE	6923385	7000139390	High Power-Per-Weight Organic Solar Cell	12.RD	14,189	-
DEPARTMENT OF DEFENSE	6923783	7000151056	Designing Optimal Clinical Trials for Cancer	12.RD	18,328	-
DEPARTMENT OF DEFENSE	6924995	7000174664	Phase II: Demonstration of Reduced Surface Congestion through Pushback Rate Control	12.RD	15,158	-
DEPARTMENT OF DEFENSE	6926591	7000211420	Connectivity Analysis: Latent Structure and Anomaly Detection in Graphs	12.RD	338	-
DEPARTMENT OF DEFENSE	6927127	7000221325	High-Fidelity Dispersive Readout and Noise Characterization of Superconducting Qubits	12.RD	62,888	-
DEPARTMENT OF DEFENSE	6927414	7000224798	Modular UAV Demonstration Program	12.RD	40,807	-
DEPARTMENT OF DEFENSE	6928379	7000241837	High-fidelity Amplification and Readout of Long-Lived Superconducting Qubits	12.RD	-320	-
DEPARTMENT OF DEFENSE	6928933	7000243692	Innovation in Unmanned Air Vehicle Development	12.RD	91,007	-

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DEPARTMENT OF DEFENSE	6928592	7000249226	Next Generation Environmental Monitoring	12.RD	-2	-
DEPARTMENT OF DEFENSE	6928790	7000254279	Code Randomization Technique	12.RD	9,365	-
DEPARTMENT OF DEFENSE	6929057	7000259332	Design, Fabrication, & Testing of An Aluminum-Seawater Reaction Engine for Autonomous Undersea Vehicles	12.RD	-441	-
DEPARTMENT OF DEFENSE	6929033	7000259333	Campus/Lincoln Photonics Initiative	12.RD	2,550	-
DEPARTMENT OF DEFENSE	6930026	7000276328	Ultra-Low Intensity Nonlinear Optics Using Graphene Plasmons	12.RD	-10,001	-
DEPARTMENT OF DEFENSE	6930859	7000290592	Coherent Spin Qubits for Quantum-Enhanced Optimization	12.RD	1,598,345	-
DEPARTMENT OF DEFENSE	6930899	7000290834	Photon-Efficient 3D Laser Radar	12.RD	15,376	-
DEPARTMENT OF DEFENSE	6930986	7000291604	Study of JCIDS Semantic Architecture Framework	12.RD	179,813	-
DEPARTMENT OF DEFENSE	6931035	7000293260	Secure Communications via Quantum Illumination	12.RD	77,151	-
DEPARTMENT OF DEFENSE	6931296	7000299412	A Facile and Versatile Method to Produce High Surface Area, Low Density Functional Materials	12.RD	49,821	-
DEPARTMENT OF DEFENSE	6931371	7000300182	MIT Campus Contributions to Microladar Line-Funded Project	12.RD	-44	-
DEPARTMENT OF DEFENSE	6931428	7000302406	Tunneling NanoElectroMechanical Systems	12.RD	30,000	-
DEPARTMENT OF DEFENSE	6931550	7000304584	Electroquasistatic Imaging of 3D Doping Profiles	12.RD	105,495	-
DEPARTMENT OF DEFENSE	6931611	7000306158	Advanced GaN Transistor Technology (AGT2)	12.RD	189,834	-
DEPARTMENT OF DEFENSE	6931691	7000308296	LILYPADS/PUPS	12.RD	240,087	-
DEPARTMENT OF DEFENSE	6932909	7000330949	Conductive, Biocompatible Hydrogel Development and Characterization	12.RD	79,980	-
DEPARTMENT OF DEFENSE	6933199	7000335585	Multimaterial Fiber Devices	12.RD	17,940	-
DEPARTMENT OF DEFENSE	6933332	7000337700	Power-Grid Resiliency Under Climate Change: Assessment and Options	12.RD	62,288	-
DEPARTMENT OF DEFENSE	6933360	7000337934	High Energy Density Portable Power Pack	12.RD	49,939	-
DEPARTMENT OF DEFENSE	6933725	7000345364	Demonstration of Quantum Enhanced Imaging with Trapped Ions	12.RD	35,297	-
DEPARTMENT OF DEFENSE	6933719	7000345926	HOW BUBBLES BURST? Effect of Contamination on Water-Air Material Transport and Dissemination	12.RD	46,865	-
DEPARTMENT OF DEFENSE	6925434	PO #7000184872	Support of the Radio Communication Link Project Using the Westford Radio Telescope	12.RD	220,563	-
DEPARTMENT OF DEFENSE	6926167	PO #7000201843	Computational Imaging and Compressive Sensing for Phase Retrieval	12.RD	-281	-
DEPARTMENT OF DEFENSE	6929540	PO #7000267637	Support of the LAKATT Program 370 Using the Westford Radio Telescope	12.RD	8,294	-

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DEPARTMENT OF DEFENSE	6930852	PO #7000289543	MIT Haystack Observatory Engineering Support for the Lincoln Space Surveillance Complex (LSSC)	12.RD	2,039,997	-
DEPARTMENT OF DEFENSE	6931297	PO #7000299111	Autonomy for Autonomous Undersea Vehicles – Surface Ship Engagement	12.RD	140,403	-
DEPARTMENT OF DEFENSE	6933724	PO #7000346015	Statistics Without Affirmed Ground Truth (StatSWAG)	12.RD	50,021	-
DEPARTMENT OF DEFENSE	6929045	PO 7000255976	New Directions in Computational Imaging	12.RD	204,623	-
DEPARTMENT OF DEFENSE	6929066	PO 7000259926	Graduate Student Research in FY14 in support of Data-driven Autonomy for Group Operations in Uncertain Scenarios	12.RD	134,594	-
DEPARTMENT OF DEFENSE	6929207	PO 7000260956	RF Signal Acquisition and Compression using the Sparse FFT	12.RD	20,630	-
DEPARTMENT OF DEFENSE	6929208	PO 7000261350	Low Power Embedded Analytics	12.RD	81,040	-
DEPARTMENT OF DEFENSE	6929209	PO 7000261954	LL/MIT Research Collaboration on Functional Encryption	12.RD	-419	-
DEPARTMENT OF DEFENSE	6929210	PO 7000261956	LL/MIT Research Collaboration on Trusted and Secure Computing	12.RD	264,974	-
DEPARTMENT OF DEFENSE	6929506	PO 7000264837	Methods for Robust Automatic Speech Recognition from Video using Visual Grounding	12.RD	54,701	-
DEPARTMENT OF DEFENSE	6929625	PO 7000270451	Robust Communication and Navigation for Unmanned UAVs	12.RD	14,338	-
DEPARTMENT OF DEFENSE	6929634	PO 7000271094	Julia Improvements for XDATA	12.RD	-80	-
DEPARTMENT OF DEFENSE	6930049	PO 7000277003	Decentralized Multi-Agent Cooperation with Macro-Actions	12.RD	76,179	35,951
DEPARTMENT OF DEFENSE	6930245	PO 7000280509	Threat Resilient Multi-Agent Communication Networks	12.RD	56,570	-
DEPARTMENT OF DEFENSE	6930319	PO 7000282375	Engineered synthetic gene circuits in Lactobacillus for autonomous in vivo sensing of blood	12.RD	-11,336	-
DEPARTMENT OF DEFENSE	6930317	PO 7000282490	A New Bottom-up 3D Printing Strategy: Photo-growth of Magic Sheets	12.RD	-561	-
DEPARTMENT OF DEFENSE	6930659	PO 7000286794/ LETTER 16 -S-14-0235	ERS Tradespace Exploration	12.RD	20,593	-
DEPARTMENT OF DEFENSE	6930671	PO 7000287371	ACC Funding for Bistable Thin Films with Dynamic Magnetic or Conductive Layouts	12.RD	2,567	-
DEPARTMENT OF DEFENSE	6930854	PO 7000290327	DARPA Squad-X Super Seedling	12.RD	7,115	-
DEPARTMENT OF DEFENSE	6930851	PO 7000290410	Transparent displays enabled by wavelength-selective light scattering	12.RD	-4,158	-
DEPARTMENT OF DEFENSE	6930876	PO 7000290426	Fluorinated Coatings for High Performance Electrodes	12.RD	8,848	-
DEPARTMENT OF DEFENSE	6930855	PO 7000290454	Research on Advanced Algorithms for Speaker & Language Recognition	12.RD	80,105	-
DEPARTMENT OF DEFENSE	6930872	PO 7000290627	Robust Subspace Methods for Speaker and Language Recognition	12.RD	163,097	-

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DEPARTMENT OF DEFENSE	6931101	PO 7000294843	Coordinated Nanosatellite Imaging and Communications Systems	12.RD	26,717	-
DEPARTMENT OF DEFENSE	6931130	PO 7000295944	Integrated WDM Lasercomm Transceivers	12.RD	127,139	-
DEPARTMENT OF DEFENSE	6931172	PO 7000297585	Conceive, Design, Fabrication, and Testing of Portable 2.5kW Power System	12.RD	2,382	-
DEPARTMENT OF DEFENSE	6931169	PO 7000297666	Engineering Novel Genetic Codes in Bacteria	12.RD	4,315	-
DEPARTMENT OF DEFENSE	6931521	PO 7000304326	Functional Connectivity Analysis in Learning	12.RD	22,117	-
DEPARTMENT OF DEFENSE	6931695	PO 7000308473	Student Based Development of a Small-UAV Marine Surveillance System with a Semisubmersible Resupply Network	12.RD	51,995	-
DEPARTMENT OF DEFENSE	6931811	PO 7000311358	Reconfigurable Virtual Phononic Crystals in AlGaN/GaN	12.RD	31,826	-
DEPARTMENT OF DEFENSE	6931836	PO 7000311990	Vector Sensor for Radio Mapping	12.RD	103,645	-
DEPARTMENT OF DEFENSE	6932133	PO 7000313070	Big Aviation Data Mining for Robust Ultra-Efficient Air Transportation	12.RD	177,445	-
DEPARTMENT OF DEFENSE	6932138	PO 7000315536	Fabrication of High Density Electrospray Thrusters	12.RD	115,468	-
DEPARTMENT OF DEFENSE	6932232	PO 7000319358	Aquaticus A Mixed Human-Machine Robotic Competition	12.RD	136,472	-
DEPARTMENT OF DEFENSE	6932283	PO 7000320786	Single-Cell Omni-Omic Profiling (SCOOP)	12.RD	47,062	-
DEPARTMENT OF DEFENSE	6932764	PO 7000326660	Platform Device for Non-Invasive Gastrointestinal Disease Monitoring	12.RD	1,070	-
DEPARTMENT OF DEFENSE	6932870	PO 7000330171	Measurement and Determination of Key Factors that Drive Effective Use of Design, Analysis, and Optimization Tools	12.RD	74,112	-
DEPARTMENT OF DEFENSE	6932975	PO 7000331617	Dynamic Deep Learning for High-Dimensional Data Analytics	12.RD	76,531	-
DEPARTMENT OF DEFENSE	6932987	PO 7000332718	Integration of Renewables with Desalination	12.RD	38,084	-
DEPARTMENT OF DEFENSE	6932991	PO 7000332744	Integration of Departure Metering Concepts into Surface Capabilities	12.RD	62,768	-
DEPARTMENT OF DEFENSE	6932993	PO 7000332838	ROBUST COMMUNICATION FOR AIRBORNE MULTI-AGENT ROBOTIC SYSTEMS	12.RD	102,026	-
DEPARTMENT OF DEFENSE	6932995	PO 7000332975	3D Printing of Metal-Ceramic Microlattices	12.RD	117,982	-
DEPARTMENT OF DEFENSE	6933005	PO 7000333383	System Authentication for Wireless Power Transfer	12.RD	4,641	-
DEPARTMENT OF DEFENSE	6933018	PO 7000334071	Development of Penetrators for Planetary Exploration	12.RD	95,601	-
DEPARTMENT OF DEFENSE	6933166	PO 7000334320	Electro-AeroDynamic (EAD) Unmanned Aerial Vehicle (UAV) Prototype	12.RD	131,774	-
DEPARTMENT OF DEFENSE	6933385	PO 7000337977	Non-parametric Recommendation Systems	12.RD	33,488	-
DEPARTMENT OF DEFENSE	6933392	PO 7000338443	Integrated Magnetooptical Isolators for IR-Vis Wavelengths	12.RD	96,188	-

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DEPARTMENT OF DEFENSE	6933423	PO 7000339130	Biomimetic Adaptive Forward-Looking Sonar for Object Recognition	12.RD	47,778	-
DEPARTMENT OF DEFENSE	6933541	PO 7000339337	Support of the Radio Communication Link Program Using the Westford Radio Telescope	12.RD	125,582	-
DEPARTMENT OF DEFENSE	6933722	PO 7000341743	STUDENT BASED DEVELOPMENT OF THE JUNGLE HAWK OWL LONG ENDURANCE UAV	12.RD	4,528	-
DEPARTMENT OF DEFENSE	6933700	PO 7000342060	Synthetic Biology - Artificial Gut for Engineering Microbial Communities	12.RD	82,332	-
DEPARTMENT OF DEFENSE	6933645	PO 7000344422	Development of Aluminum Fueled Electric Vehicle and Submersible Power Systems (Lilypads II)	12.RD	161,438	-
DEPARTMENT OF DEFENSE	6930871	PO NO. 7000290755	High-Speed Photoprinting of Digital Solids	12.RD	47,683	-
DEPARTMENT OF DEFENSE	6932866	PO#7000328711	Terahertz Computational Imager	12.RD	28,091	-
DEPARTMENT OF DEFENSE	6932872	PO#7000328712	Lincoln Laboratory Group 63 Program 370 (LAKATT) Support	12.RD	13,663	-
DEPARTMENT OF DEFENSE	6932795	PO#7000329421	Predictions using Time-Series Data	12.RD	100,026	-
DEPARTMENT OF DEFENSE	6932735	PURCHASE ORDER 7000328100	Imaging for NCLUS	12.RD	94,334	-
DEPARTMENT OF DEFENSE	6933364	PURCHASE ORDER 7000337650	Functional Encryption Research	12.RD	63,657	-
DEPARTMENT OF DEFENSE	6931068	7000294429	Proposal for A Low-Torque Pan Tilt System for Directional Scanning in a Marine Environment	12.RD	104,499	-
DEPARTMENT OF DEFENSE	6931362	PO 7000300034	Robust Transportation Models and Algorithms for USTRANSCOM	12.RD	169,476	-
			Total for Lincoln Laboratory		**9,491,148**	**35,951**
BAE Systems, PLC						
DEPARTMENT OF DEFENSE	6928213	842801	GLIDES: Generalized Learning & Inferencing for Distributed Environments & Sources	12.RD	90,323	-
			Total for BAE Systems, PLC		**90,323**	**-**
Research Foundation S.U.N.Y.						
DEPARTMENT OF DEFENSE	6933046	AGMT. DTD. 3/22/2016	IP-IMI	12.800	532,808	-
			Total for Research Foundation S.U.N.Y.		**532,808**	**-**
College of Nanoscale Science and Engineering						
DEPARTMENT OF DEFENSE	6933048	AGMT. DTD. 3/22/2016	IP-IMI	12.800	26,544	-
			Total for College of Nanoscale Science and Engineering		**26,544**	**-**
National ICT Australia Limited						

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DEPARTMENT OF DEFENSE	6931992	AGREEMENT DATED 5/14/15	Negotiating Mission Plans uder Risk Bounds	12.800	66,805	-
			Total for National ICT Australia Limited		**66,805**	**-**
Diversified Technologies, Inc.						
DEPARTMENT OF DEFENSE	6932529	AGREEMENT DATED 7/27/15	A Next Generation Incoherent Scatter Radar	12.RD	32,728	-
			Total for Diversified Technologies, Inc.		**32,728**	**-**
TIPD, LLC						
DEPARTMENT OF DEFENSE	6930803	AGREEMENT DATED 7/31/14	Holographic Video Display Using Novel Guided-wave Scanning System (HVD-GWSS) - SBIR Phase II	12.RD	36,128	-
			Total for TIPD, LLC		**36,128**	**-**
Securboration						
DEPARTMENT OF DEFENSE	6932840	AGREEMENT DATED 9/30/15	Joint Collaborative Augmentation for Sensemaking Environment (JCAUSE)	12.RD	23,884	-
DEPARTMENT OF DEFENSE	6933150	SUB UNDER ARL CONTRACT W911QX-15-C-0015	Augmented Reality for Tactical Edge Analysis (ARTEA) II	12.RD	25,214	-
			Total for Securboration		**49,098**	**-**
Weston Geophysical Corporation						
DEPARTMENT OF DEFENSE	6926327	FA9453-12-C-0220	Three-Dimensional Crust and Upper Mantle Structure Beneath Eurasia from the Joint Inversion of P- and S-Wave Travel Times and Multi-Mode	12.RD	20,899	-
			Total for Weston Geophysical Corporation		**20,899**	**-**
University of Connecticut						
DEPARTMENT OF DEFENSE	6921257	FRS NO. 525227	Production, Manipulation and Applications of Ultracold Polar Molecules	12.800	16,423	-
			Total for University of Connecticut		**16,423**	**-**
Defense Engineering Corporation						
DEPARTMENT OF DEFENSE	6930379	PO #10103	Fabrication of Conformal Electromagnetic Structures and Circuits	12.800	16,290	-
DEPARTMENT OF DEFENSE	6932934	PO #10180	Fabrication of Conformal Electromagnetic Structures and Circuits	12.800	60,141	-
			Total for Defense Engineering Corporation		**76,431**	**-**

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Georgia Institute of Technology						
DEPARTMENT OF DEFENSE	6920503	R6756-G2	MURI-09: Distributed Learning and Information Dynamics in Networked Autonmnous Systems	12.800	-1,486	-
DEPARTMENT OF DEFENSE	6925152	RC413-G3	MURI: Multi-Functional Light-Matter Interfaces Based on Neutral Atoms and Solids	12.800	397,633	-
DEPARTMENT OF DEFENSE	6923504	RB492-G1	Neuro-Inspired Adaptive Perception and Control for Agile Mobility of Autonomous Vehicles in Uncertain and Hostile Environments	12.431	166,939	-
DEPARTMENT OF DEFENSE	6918937	R0897-G1	Game Theoretic Learning for Distributed Autonomous Collaboration	12.300	17,332	-
			Total for Georgia Institute of Technology		**580,418**	**-**
Ohio State University						
DEPARTMENT OF DEFENSE	6923049	RF01224242	Cryogenic Peltier Cooling	12.800	38,902	-
DEPARTMENT OF DEFENSE	6922491	SUB 60028687 PO RF01224242	Cryogenic Peltier Cooling	12.800	17,100	-
DEPARTMENT OF DEFENSE	6931042	60040869/RF01385268	Modeling, Analysis and Control for Robust Interdependent Networks	12.351	109,869	-
			Total for Ohio State University		**165,872**	**-**
Draper Laboratory Incorporated						
DEPARTMENT OF DEFENSE	6929746	SC001-0000000843	Field Emission Cathodes for Ion Pumps	12.RD	176,411	-
DEPARTMENT OF DEFENSE	6932696	SC001-0000000918	Unifying Perception and Control via Fast Approximations for Fast Flight in Cultured Enviroments	12.RD	403,669	-
			Total for Draper Laboratory Incorporated		**580,080**	**-**
Physical Sciences, Incorporated						
DEPARTMENT OF DEFENSE	6932131	SC-6597-01	SBIR Phase I: Integrated Optical Circulator	12.RD	19,463	-
DEPARTMENT OF DEFENSE	6931959	SC-6597-01/PO 67653	SBIR Phase I: Integrated Optical Circulator	12.RD	19,518	-
			Total for Physical Sciences, Incorporated		**38,981**	**-**
Northwestern University						
DEPARTMENT OF DEFENSE	6932465	SP0013487-PROJ0009454	[MURI] BioProgrammable One-, Two-, and Three-Dimensional Materials	12.800	199,938	-
DEPARTMENT OF DEFENSE	6928761	SP0005442-PROJ0001738	Multiscale Design and Manufacturing of Hybrid DWCNT-Polymer Fibers	12.431	21,621	-
DEPARTMENT OF DEFENSE	6920867	SUBAWARD SP0005442 - PROJ0001738	Multiscale Design and Manufacturing of Hybrid DWCNT-Polymer Fibers	12.431	-5,203	-

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			Total for Northwestern University		**216,356**	**-**
Busek Company, Incorporated						
DEPARTMENT OF DEFENSE	6930264	STTR RESEARCH AGREEMENT EFFECTIVE 12/16/2013	Ultra-High Density Ion Propulsion From Ionic Liquids Phase II	12.RD	219,683	-
			Total for Busek Company, Incorporated		**219,683**	**-**
Princeton University						
DEPARTMENT OF DEFENSE	6926616	SUBAWARD NO 00002068	CARS: A Platform for Scaling Formal Verification to Component-based Vehicular Software Stack	12.300	409,977	-
			Total for Princeton University		**409,977**	**-**
Rice University						
DEPARTMENT OF DEFENSE	6933218	SUBAWARD NO. R19091	Proteus: Controlling Resource-Adaptive Embedded Softward	12.300	206,303	-
			Total for Rice University		**206,303**	**-**
BAE						
DEPARTMENT OF DEFENSE	6933705	SUBCONTRACT NUMBER: 921019	BAE DARPA BRASS	12.RD	85,693	-
			Total for BAE		**85,693**	**-**
DCG Systems, Inc						
DEPARTMENT OF DEFENSE	6923294	SUBCONTRACT UDR. FA8650-11-C-7105	Development of Superconducting Nanowire Photodetectors for Failure Analysis Systems	12.RD	2,834	-
			Total for DCG Systems, Inc		**2,834**	**-**
University of New Mexico						
DEPARTMENT OF DEFENSE	6926768	SUBCONTRACT: 271387-875J	(MURI) Innovative use of Metamaterials in Confining, Controlling, and Radiating Intense Microwave Pulses	12.800	318,132	-
DEPARTMENT OF DEFENSE	6925887	433396-875J	MEMS Based Millimeter-Scale Advanced Thermophotovoltaic Power System with Ultra-High Density	12.RD	261	-
			Total for University of New Mexico		**318,393**	**-**
Zona Technology, Inc.						
DEPARTMENT OF DEFENSE	6930242	ZTI-MIT-ZEUSAD-2	Multi-Layer Multi-Disciplinary Design Strategies for Complex Aeronautics Systems	12.RD	106,736	-

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			Total for Zona Technology, Inc.		**106,736**	**-**
University of California - Berkeley						
DEPARTMENT OF DEFENSE	6931650	00008426 / BB00344334	Realization of High Fidelity, On-Chip Readout of Solid State Quantum Bits	12.431	55,440	-
DEPARTMENT OF DEFENSE	6933761	00009042/PO#BB00650967	Helio: Program Synthesis for Efficient, Privacy-Preserving Distributed Computation	12.RD	7,039	-
			Total for University of California - Berkeley		**62,479**	**-**
University of Utah						
DEPARTMENT OF DEFENSE	6926864	10022273-MIT	Visualization of Discontinuous Galerkin Based High-Order Methods	12.431	10,565	-
DEPARTMENT OF DEFENSE	6932906	10037637-MIT	In Situ Visualization of Discontinuous Galerkin Based High-Order Methods	12.431	32,347	-
			Total for University of Utah		**42,913**	**-**
Carnegie-Mellon University						
DEPARTMENT OF DEFENSE	6929741	1130171-323817	OmniTrans: An Omnivorous Framework for the Translation of Low Density Languages	12.431	136,137	-
DEPARTMENT OF DEFENSE	6921196	1141207-236214	Decentralized Reasoning in Reduced Information Spaces	12.300	3,912	-
			Total for Carnegie-Mellon University		**140,049**	**-**
Harvard University						
DEPARTMENT OF DEFENSE	6932206	133668-5079809	Measuring, Understanding, and Responding to Covert Social Networks:Passive and Active Tomography	12.431	59,517	-
DEPARTMENT OF DEFENSE	6932898	134062-5093041	Imaging and Control of Biological Transduction using NV-Diamond	12.431	293,027	-
DEPARTMENT OF DEFENSE	6931186	FUND# 123753	Letter Agreement: Oren Rippel	12.910	60,111	-
DEPARTMENT OF DEFENSE	6933356	123950-5092636	Quantum Opto-Mechanics with Atoms and Nanostructured Diamond (QOMAND)	12.300	87,790	-
			Total for Harvard University		**500,445**	**-**
Columbia University						
DEPARTMENT OF DEFENSE	6927968	2 (GG008784)	Imaging How a Neuron Computes	12.431	0	-
DEPARTMENT OF DEFENSE	6927216	2 (GG008784) / PO G10346	Imaging How a Neuron Computes	12.431	31,490	-
DEPARTMENT OF DEFENSE	6927546	1(GG007792)	Power Grid Vulnerability and Resilience to Geographically Correlated Failures	12.351	132,102	-

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
			Total for Columbia University		**163,592**	**-**
Center for Integration of Medicine & Innovative Technology						
DEPARTMENT OF DEFENSE	6930832	225479	2014 - 2015: MIT-CIMIT Precision Medical Devices Design Course	12.420	13,279	-
			Total for Center for Integration of Medicine & Innovative Technology		**13,279**	**-**
University of Maryland - College Park						
DEPARTMENT OF DEFENSE	6932951	28725-Z8401005	Center for Distributed Quantum Information	12.431	177,801	-
DEPARTMENT OF DEFENSE	6932890	2875-Z8401005	Center for Distributed Quantum Information	12.431	205,585	-
			Total for University of Maryland - College Park		**383,386**	**-**
Boston University						
DEPARTMENT OF DEFENSE	6924758	4500000571	Synthetic Mammalian Gene Regulatory Circuits for in Vivo Biomedical Applications	12.431	163,722	-
DEPARTMENT OF DEFENSE	6924737	4500000552	MURI: Utilizing Synthetic Biology to Create Programmable Micro-Bio-Robots	12.300	106,418	-
DEPARTMENT OF DEFENSE	6922340	450000228	MURI: Topic #2 Adaptive Cognitive maps for Autonomous Systems Project Title: Grid Cells and Cognitive maps for Autonomous Systems	12.300	385,101	-
			Total for Boston University		**655,241**	**-**
Boston University Medical Campus						
DEPARTMENT OF DEFENSE	6931794	4500001684	A Tool for Determining the Number of Contributors: Interpreting Complex, Compromised, Low-Template DNA	12.RD	31,361	-
			Total for Boston University Medical Campus		**31,361**	**-**
University of Pennsylvania						
DEPARTMENT OF DEFENSE	6926839	560102	Evolution of Cultural Norms and Dynamics of Socio Political Change	12.431	486,524	-
DEPARTMENT OF DEFENSE	6927251	568770	New Paradigms for Scalable Online Decentralized Optimization	12.300	103,070	-
			Total for University of Pennsylvania		**589,595**	**-**
BAE Systems Info & Electronic Systems Integration, Inc						
DEPARTMENT OF DEFENSE	6923517	741274	Coverage by Teams of Autonomous Ground and Aerial Vehicles	12.RD	228,728	-

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DEPARTMENT OF DEFENSE	6931694	892730	Ultra-high energy density TPV generator for small robotic platforms: First ever demonstration of fuel powered robot with extreme range	12.RD	96,222	-
			Total for BAE Systems Info & Electronic Systems Integration, Inc		**324,950**	**-**
Aurora Flight Sciences Corporation						
DEPARTMENT OF DEFENSE	6925499	AFS12-0207	Distributed Satellite Systems	12.RD	-1,101	-
			Total for Aurora Flight Sciences Corporation		**-1,101**	**-**
The Fab Foundation						
DEPARTMENT OF DEFENSE	6931452	AGMT DATED 10/1/14	Distributed Technical Education: Bringing the campus to the student.	12.431	430,377	-
			Total for The Fab Foundation		**430,377**	**-**
Quantum Signal LLC						
DEPARTMENT OF DEFENSE	6918601	AGMT. DTD. 9/5/08	STTR: A Unified Approach to Sensor Based Terrain Characterization and UGV Mobility Prediction	12.RD	874	-
DEPARTMENT OF DEFENSE	6930850	STTR AGRMNT DTD 9/25/14	Robust Terrain-Adaptive Vehicle Planning and Control	12.RD	536	-
			Total for Quantum Signal LLC		**1,410**	**-**
Perfuzia Medical, Inc.						
DEPARTMENT OF DEFENSE	6934191	AGRMT DTD 2/17/15	Development of novel wound dressing technology combining advanced hydrogel and perfusion enhancement technologies	12.RD	28,214	-
			Total for Perfuzia Medical, Inc.		**28,214**	**-**
University of Washington						
DEPARTMENT OF DEFENSE	6930866	BPO4415, SUB# UWSC7968	Muscle's Energetic Versatility Arises From Its Crystalline and Multi-Component Structure	12.431	114,691	-
			Total for University of Washington		**114,691**	**-**
Yale University						
DEPARTMENT OF DEFENSE	6926770	C13J11492(J00210)	High-Resolution Quantum Control of Chemical Reactions	12.431	361,023	-
			Total for Yale University		**361,023**	**-**
University of Chicago						
DEPARTMENT OF DEFENSE	6929146	FP054294-C	Fundamental Issues in Non-equilibrium Dynamics (MURI)	12.431	264,057	-

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			Total for University of Chicago		**264,057**	**-**
University of Sydney						
DEPARTMENT OF DEFENSE	6932130	G174385 RESEARCH COLLABORATION AGREEMENT	Quantum Control Engineering	12.431	244,943	-
			Total for University of Sydney		**244,943**	**-**
University of California-Santa Barbara						
DEPARTMENT OF DEFENSE	6925317	KK1238	MULTI-SCALE SYSTEMS BIOLOGY OF MILITARY-RELEVANT CAUSES OF SYSTEMIC INFLAMMATORY RESPONSE SYNDROME AND MULTIPLE ORGAN DYSFUNCTION	12.431	-701	-
DEPARTMENT OF DEFENSE	6932998	KK1622	QUANTA: Quantitative Network-based Models of Adaptive Team Behavior	12.431	126,963	-
DEPARTMENT OF DEFENSE	6923035	KK1131	DEFINE "Dielectric Enhancements for Innovative Electronics"	12.300	15,180	-
			Total for University of California-Santa Barbara		**141,443**	**-**
General Dynamics						
DEPARTMENT OF DEFENSE	6933358	PO #40240163 LINE 001 - 1.1.1.4.1.4	M1-4 Design Optimization Method of Total Actuation System for Limbed Locomotion; 1.1.1.4.1.4	12.431	94,213	-
DEPARTMENT OF DEFENSE	6927976	PURCHASE ORDER #2013-01032	Interpretation of Spatial Language	12.431	-9,291	-
DEPARTMENT OF DEFENSE	6932389	PURCHASE ORDER #40228357	Robotics Collaborative Technology Alliance - RCTA	12.431	272,523	-
			Total for General Dynamics		**357,445**	**-**
General Electric Global Research						
DEPARTMENT OF DEFENSE	6932059	PO 401010631	Digital Manufacturing Commons Foundation	12.RD	4,483	-
			Total for General Electric Global Research		**4,483**	**-**
BBN Technologies Corporation						
DEPARTMENT OF DEFENSE	6931118	PO 9500012484 : BBN REF ID #14400	Superconducting Nanowire Electronics	12.RD	588,093	-
DEPARTMENT OF DEFENSE	6927051	P.O. #9500010426; BBN REF ID #13901	Photon Information Efficient Communications (PIECOMM)	12.RD	-400	-
DEPARTMENT OF DEFENSE	6932243	PO 9500012779	A Stochastic Network Optimization Approach to Providing Robust Communications Over an Unreliable Underlay Network (TA1)	12.RD	124,652	-

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			Total for BBN Technologies Corporation		**712,346**	**-**
Raytheon BBN Technologies Corp.						
DEPARTMENT OF DEFENSE	6932572	PO#9500012846	Scalable Engineering of Quantum Optical Information-Procession Architectures (SEQUOIA)	12.RD	156,511	-
			Total for Raytheon BBN Technologies Corp.		**156,511**	**-**
J. David Gladstone Institutes						
DEPARTMENT OF DEFENSE	6931841	R02116-B	Engineering therapies that evolve to autonomously control epidemics	12.910	15,258	-
			Total for J. David Gladstone Institutes		**15,258**	**-**
Exponent, Inc.						
DEPARTMENT OF DEFENSE	6927538	S15-0551	Development of Standard Methods and Approaches for the Use of Passive Samplers in Assessment and Management of Contaminated Sediment with Particular Emphasis on Polyethylene Passive Samplers	12.RD	10	-
			Total for Exponent, Inc.		**10**	**-**
University of Innsbruck						
DEPARTMENT OF DEFENSE	6930821	SQUIP AGREEMENT UNDER W911NF-10-1-0284	Scalable Quantum Information Processing (SQIP) with Trapped Ions	12.431	128,110	-
			Total for University of Innsbruck		**128,110**	**-**
Sri International						
DEPARTMENT OF DEFENSE	6931008	SUBCONTRACT 27-001441, REL 2	Mining and Understanding Software Enclaves (MUSE)	12.RD	207,554	-
			Total for Sri International		**207,554**	**-**
CREARE, Incorporated						
DEPARTMENT OF DEFENSE	6933527	SUBCONTRACT NO. 81523	Piezoelectric Nanofibers for Wearable Energy Scavenging	12.RD	78,535	-
DEPARTMENT OF DEFENSE	6932855	SUBCONTRACT NO. 78380	Ship Airwake Measurement System	12.RD	38,211	-
			Total for CREARE, Incorporated		**116,746**	**-**
University of Maryland						
DEPARTMENT OF DEFENSE	6923071	Z841801	MURI: Atomtronics: Material and Device Physics of Quantum Gases	12.431	199,512	-
			Total for University of Maryland		**199,512**	**-**

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New Jersey Institute of Technology						
DEPARTMENT OF DEFENSE	6932677	(NP) 996402	PALISADE: Program obfuscation Advancement with Lattice Implementation for Scalable Application Demonstration of Efficiency	12.RD	252,585	-
			Total for New Jersey Institute of Technology		**252,585**	**-**
HRL Laboratories, LLC						
DEPARTMENT OF DEFENSE	6931367	12105-301702-DS	Unconventional Processing of Signals for Intelligent Data Exploitation (UPSIDE)	12.RD	133	-
DEPARTMENT OF DEFENSE	6933521	15026-503667-DS/BCX3.150.MIT000/1	Microwave Quantum Engineering for Semiconductor Quantum Dot Qubits	12.RD	104,676	-
			Total for HRL Laboratories, LLC		**104,808**	**-**
Harvard Medical School						
DEPARTMENT OF DEFENSE	6933876	152220.0006.BA	Active Context - Billing Agreement for Chelsea Voss	12.910	24,032	-
			Total for Harvard Medical School		**24,032**	**-**
SYSTEMS & TECHNOLOGY RESEARCH LLC						
DEPARTMENT OF DEFENSE	6929040	2014-1036	STTR - Forecasting Dynamic Group Behavior in Social Media - Phase II	12.RD	191,126	-
			Total for SYSTEMS & TECHNOLOGY RESEARCH LLC		**191,126**	**-**
University of California-San Diego						
DEPARTMENT OF DEFENSE	6927945	39244040	Porous Si-based Therapeutic Nanoplatforms	12.910	511,656	-
DEPARTMENT OF DEFENSE	6928757	PO #S9000381, SUB #43019208	The Information Content of Ocean Noise: Theory and Experiment - Imaging the Changing Arctic with Ice Noise	12.300	362,268	-
			Total for University of California-San Diego		**873,924**	**-**
Dynamic Object Language Labs, Inc.						
DEPARTMENT OF DEFENSE	6932241	AGMT DATED 2/25/15 UNDER D15PC00034	Context-driven Active-sensing for Repair Tasks (CART)	12.RD	71,101	-
			Total for Dynamic Object Language Labs, Inc.		**71,101**	**-**
IBM Thomas J. Watson Research Center						
DEPARTMENT OF DEFENSE	6933545	AGREEMENT # 4915012803	IOPS: Improving Obfuscation Practicality and Security	12.RD	78,018	-
DEPARTMENT OF DEFENSE	6933416	AGREEMENT # 4915012803 / PO# 5004820179	IOPS: Improving Obfuscation Practicality and Security	12.RD	104,630	-
			Total for IBM Thomas J. Watson Research Center		**182,648**	**-**

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Boston Dynamics, Incorporated						
DEPARTMENT OF DEFENSE	6931696	AGREEMENT DATED 11/1/14	Perception, Planning and Control for Cheetah	12.RD	186,320	-
			Total for Boston Dynamics, Incorporated		**186,320**	**-**
International Business Machine						
DEPARTMENT OF DEFENSE	6925544	AGREEMENT NUMBER 4911028171.0	Broad Operational Language Translation (BOLT): Activity C	12.RD	-1,876	-
DEPARTMENT OF DEFENSE	6929745	4913900052	MAGANIMOS: Integrated Magnetic, GaN, and SOI CMOS for Power conversion and RF power amplification	12.RD	-3,821	-
			Total for International Business Machine		**-5,697**	**-**
Agentase LLC						
DEPARTMENT OF DEFENSE	6929428	ENZ-1302-002	Bulk Agent Defeat System for Chemical Warfare Agents	12.910	-750	-
			Total for Agentase LLC		**-750**	**-**
University of Virginia						
DEPARTMENT OF DEFENSE	6923012	GG11371-136709	Reconfigurable Array of Magnetic Automata (RAMA): A New Paradigm for Non-Volatile Logic	12.910	-1,070	-
			Total for University of Virginia		**-1,070**	**-**
Zymergen, Inc.						
DEPARTMENT OF DEFENSE	6932943	PO #4284	The Factory: Any Microbe. Any Molecule	12.910	73,134	-
			Total for Zymergen, Inc.		**73,134**	**-**
Sandia National Laboratories						
DEPARTMENT OF DEFENSE	6934229	PO 1685489	Uncertainty Quantification in LES Computations of Turbulent Multiphase Combustion in a SCRAMJET Engine	12.RD	18,180	-
			Total for Sandia National Laboratories		**18,180**	**-**
Ministry of Defense of Israel						
DEPARTMENT OF DEFENSE	6930221	PO 4440560793	Terahertz Quantum-Cascade Lasers and Imaging	12.RD	100,224	-
DEPARTMENT OF DEFENSE	6931680	PO 4440637448	Planning and Sensing Algorithms for Underwater Persistent Monitoring	12.RD	74,552	-
DEPARTMENT OF DEFENSE	6931844	PO 4440656472	Novel multimaterial fiber system for magnetic wave detection	12.RD	152,392	-

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DEPARTMENT OF DEFENSE	6931907	PO 4440661300	Rapidly Exploring Random Trees for Pursuit-Evasion Games	12.RD	109,458	-
			Total for Ministry of Defense of Israel		**436,626**	**-**
Vencore Labs, Inc.dba Applied Communication Sciences						
DEPARTMENT OF DEFENSE	6932420	PO-0004102	Distributed Enclave Defense Using Configurable Edges (DEDUCE)	12.RD	329,178	-
			Total for Vencore Labs, Inc.dba Applied Communication Sciences		**329,178**	**-**
University of Texas - Austin						
DEPARTMENT OF DEFENSE	6933717	UTA15-001067	Inference, Simulation, and Optimization of Complex Systems Under Uncertainty: Theory, Algorithms, and Applications to Turbulent Combustion	12.RD	150,409	-
DEPARTMENT OF DEFENSE	6934067	UTA16-000556	Phonon Hydrodynamics and Spectroscopy in High Thermal Conductivity Materials	12.300	5,021	-
			Total for University of Texas - Austin		**155,429**	**-**
University of Massachusetts Medical Center						
DEPARTMENT OF DEFENSE	6933701	WA00393758/OSP2016151	Vectored Delivery of Oligoclonal Antibodies for Protection Against Enterotoxin Mediated Diarrheal Diseases (EMDD)	12.910	26,680	-
			Total for University of Massachusetts Medical Center		**26,680**	**-**
American Lightweight Materials Manufacturing Innovation Institute						
DEPARTMENT OF DEFENSE	6931266	0001	Sub-Award Agreement 0001: Cross-Cut Pillar Lead - Cost Modeling v.2	12.RD	55,978	-
DEPARTMENT OF DEFENSE	6932706	0002B-11	Sub-Award Agreement 0001: Cross-Cut Pillar Lead - Cost Modeling v.2	12.RD	87,528	-
			Total for American Lightweight Materials Manufacturing Innovation Institute		**143,506**	**-**
University of Southern California						
DEPARTMENT OF DEFENSE	6920416	137760	Intelligent Coordination and Adaptive Classification for Naval Autonomous Systems	12.300	24,927	-
DEPARTMENT OF DEFENSE	6921645	138802	ANTIDOTE: Adaptive Networks for Threat and Intrusion Detection or Termination	12.300	662	-
DEPARTMENT OF DEFENSE	6920504	138802, P.O.#10058889	ANTIDOTE: Adaptive Networks for Threat and Intrusion Detection or Termination	12.300	87,045	-
			Total for University of Southern California		**112,634**	**-**
Duke University						

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DEPARTMENT OF DEFENSE	6928294	13-ONR-1109	Expanding the Limits of Acoustic Metamaterials	12.300	182,524	-
			Total for Duke University		**182,524**	**-**
Stanford University						
DEPARTMENT OF DEFENSE	6931094	60744752-114407	Role of Bidirectional Computation in Visual Scene Analysis	12.300	508,415	-
			Total for Stanford University		**508,415**	**-**
Cornell University						
DEPARTMENT OF DEFENSE	6933365	77497-10576	Dexterous Manipulation Specification Via Language and Context Constraints	12.300	100	-
			Total for Cornell University		**100**	**-**
Woods Hole Oceanographic Institution						
DEPARTMENT OF DEFENSE	6924238	A100847	Unified Four-dimensional Multi-resolution Oceanographic, Acoustic and Atmospheric Modeling and Dynamics	12.300	453,072	77,879
DEPARTMENT OF DEFENSE	6929292	A101085	Impacts of Changing Climate on Pacific Island-based Defense Installations	12.RD	183,049	-
			Total for Woods Hole Oceanographic Institution		**636,120**	**77,879**
Vector Controls, Inc.						
DEPARTMENT OF DEFENSE	6928000	AGMT DTD 7/23/13	STTR: N10A-T036 (Phase II) Mitigation of USV Motions via Wave Sensing and Predictions	12.RD	22,445	-
			Total for Vector Controls, Inc.		**22,445**	**-**
Mimosa Acoustics Inc.						
DEPARTMENT OF DEFENSE	6932239	AGMT EFF. DATE 7/29/15	Novel Methods to Monitor Health Status and Clinical Laboratory Data: Portable Acquisition, Assessment, and Reporting of Middle Ear Function and Hearing	12.RD	104,669	-
			Total for Mimosa Acoustics Inc.		**104,669**	**-**
Mide Technology						
DEPARTMENT OF DEFENSE	6931299	AGRMNT EFFECTIVE 12/16/2014	STTR Phase II: Light Weight Atmospheric Diving Suit	12.RD	95,114	-
			Total for Mide Technology		**95,114**	**-**
Applied Physical Sciences Corp.						

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DEPARTMENT OF DEFENSE	6931085	APS-14-12 SLIN 0001, S.P 3470-167, TASK 4.12	DASH Phase 4: Ocean Sensing Concepts	12.RD	114,232	-
			Total for Applied Physical Sciences Corp.		**114,232**	**-**
Arizona State University						
DEPARTMENT OF DEFENSE	6926159	SUBAWARD NO. 13-950	Translating Biochemical Pathways to Non-Cellular Environment	12.431	103,488	-
			Total for Arizona State University		**103,488**	**-**
Advanced Technology International dba SCRA						
DEPARTMENT OF DEFENSE	6931548	TASK ORDER 01: BASE TO AGREEMENT 2015-461	Base Task Order Agreement	12.RD	226,083	-
			Total for Advanced Technology International dba SCRA		**226,083**	**-**
Brigham & Women's Hospital						
DEPARTMENT OF DEFENSE	6933104	112729	Novel Strategies to improve immunomodulation and non-invasive clinical monitoring in VCA	12.420	40,948	-
			Total for Brigham & Women's Hospital		**40,948**	**-**
Clemson University						
DEPARTMENT OF DEFENSE	6923393	1501-203-2008185	Gradient Films from Shape Memory Nanofoams for Waveguide Coating	12.351	4,909	-
			Total for Clemson University		**4,909**	**-**
Stevens Institute of Technology						
DEPARTMENT OF DEFENSE	6934069	2102620-02	(SERC) Collaboration Agreement: Systems Engineering Research Center	12.RD	24,325	-
DEPARTMENT OF DEFENSE	6933776	AGMT DTD 03/02/2016	(SERC) Collaboration Agreement: Systems Engineering Research Center	12.RD	121,002	-
DEPARTMENT OF DEFENSE	6931282	HQ0034-13-D004/ TO #037	(SERC) Collaboration Agreement: Systems Engineering Research Center	12.RD	76,701	-
DEPARTMENT OF DEFENSE	6931637	HQ0034-13-D004/TO #043	(SERC) Collaboration Agreement: Systems Engineering Research Center	12.RD	388,152	-
			Total for Stevens Institute of Technology		**610,181**	**-**
University of Minnesota						
DEPARTMENT OF DEFENSE	6920941	A000649301	Towards a Theory for Network Robustness and Inter-Dependence under Attacks	12.351	34	-
			Total for University of Minnesota		**34**	**-**

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Pennsylvania State University						
DEPARTMENT OF DEFENSE	6923452	S11-07	High Intensity Superconducting Cyclotron Demonstration for Active Interrogation (Thrust Area 1-Science of WMD Sensing and Recognition)	12.RD	6,252	6,252
			Total for Pennsylvania State University		**6,252**	**6,252**
			TOTAL for Department of Defense		**30,270,185**	**160,263**

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DEPARTMENT OF ENERGY						
Battelle Energy Alliance, LLC						
DEPARTMENT OF ENERGY	6926209	00126858	Optimization of Deep Borehole Systems for HLW Disposal	81.RD	57,036	18,336
DEPARTMENT OF ENERGY	6926607	128728	Scholarship for Nuclear Communications and Methods for Evaluation of Nuclear Project Acceptability	81.RD	261,773	-
DEPARTMENT OF ENERGY	6930873	REALEAS02/CONTRACT00112583	Identify Key Technological Needs for a Zero Carbon Energy System for the United States by Region	81.RD	56,371	-
DEPARTMENT OF ENERGY	6932205	REL 008 / CONTRACT 0112583	Integration of Nuclear and Renewables in Competitive Electricity Markets: Joint U.S.- Japan Study	81.RD	189,352	-
DEPARTMENT OF ENERGY	6933222	REL 009/CONTRACT 0112583	Neutron microscope to enable high-resolution neutron tomography at INL	81.RD	79,221	-
DEPARTMENT OF ENERGY	6925211	RELEASE #000050/CONTRACT#00000063	High-Temperature Salt-Cooled Reactor for Power and Process Heat	81.RD	-7,268	-7,268
DEPARTMENT OF ENERGY	6931265	RELEASE 00003/CONTRACT 00112583	INL-NUC Collaboration Activities at Massachusetts Institute of Technology	81.RD	52,337	-
DEPARTMENT OF ENERGY	6933487	RELEASE 003/CONTRACT 0112583	INL-NUC Collaboration Activities at Massachusetts Institute of Technology	81.RD	105,560	-
DEPARTMENT OF ENERGY	6931403	RELEASE 01/CONTRACT 00112583	Multivariate Calibration of Complex Simulation Codes Using Disparate Types of Evidence	81.RD	21,200	-
DEPARTMENT OF ENERGY	6933641	RELEASE 10 / CONTRACT 112583	Implementation and Validation of Radiation Defect Cluster Dynamics in MOOSE	81.RD	42,179	-
DEPARTMENT OF ENERGY	6933632	RELEASE 11/CONTRACT 00112583	Integration of Nuclear and Renewables in Competitive Electricity Markets: Joint U.S.-Japan Study Phase II	81.RD	87,411	-
DEPARTMENT OF ENERGY	6928756	RELEASE 56/CONTRACT 00000063	Cross-Section Generation of High-Fidelity Multi-Physics Simulations from High-Fidelity Monte Carlo Calculations	81.RD	-22,533	-
DEPARTMENT OF ENERGY	6931525	RELEASE 6 / CONTRACT 112583	Transient Modeling of Integrated Nuclear Energy Systems: Firebrick Resistance-Heated Energy Storage at Massachusetts Institute of Technology	81.RD	55,863	-
DEPARTMENT OF ENERGY	6931188	RELEASE NO 004 / CONTRACT NO 0112583	Development of State of the Art Capabilities to Support TREAT Modeling and Simulation	81.RD	135,357	-
DEPARTMENT OF ENERGY	6931396	RELEASE NO. 005 / CONTRACT NO. 00112583	Cross Section Generation in High Fidelity Multi-Physics Simulations from High Fidelity Monte Carlo Calculations	81.RD	168,325	-
DEPARTMENT OF ENERGY	6931261	RELEASE00055/CONTRACT 00000063	NUCLEAR HYBRID SYSTEM FOR VARIABLE ELECTRICITY AND OIL SHALE	81.RD	3,681	-
DEPARTMENT OF ENERGY	6925178	RELEASE49/CONTRACT63	3117 Life Prediction of Spent Fuel Storage Canister Material	81.RD	53,055	-

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF ENERGY	6927656	RELEASE55/CONTRAC63	NUCLEAR HYBRID SYSTEM FOR VARIABLE ELECTRICITY AND OIL SHALE	81.RD	-28	-
			Total for Battelle Energy Alliance, LLC		**1,338,893**	**11,068**
Jefferson Science Associates, LLC						
DEPARTMENT OF ENERGY	6926116	12-P2092	MOLLER Engineering	81.049	34,841	-
DEPARTMENT OF ENERGY	6930896	15-P0048	BaBar DIRC Focusing Study	81.RD	17,158	-
DEPARTMENT OF ENERGY	6930721	RFQ JSA 14Q346822 / PO 15-P0048	BaBar DIRC Focusing Study	81.RD	973	-
			Total for Jefferson Science Associates, LLC		**52,972**	**-**
Harvard University						
DEPARTMENT OF ENERGY	6920743	133512-5028381	Transport and Imaging of Mesoscopic Phenomena in Single and Bilayer Graphene	81.049	299,530	-
			Total for Harvard University		**299,530**	**-**
Sandia National Laboratories						
DEPARTMENT OF ENERGY	6933928	1670661 / CPA 1340868	Robust Heterogeneous Networks	81.RD	9,768	-
DEPARTMENT OF ENERGY	6933920	1678103 / CPA 1340868	Deformable Structures	81.RD	14,603	-
DEPARTMENT OF ENERGY	6933746	PO #1630435	Millimeter-wave Thermal Analysis for In-Process Assessment	81.RD	60,481	-
DEPARTMENT OF ENERGY	6933745	PO1619650/ CPA1340868	Utilization of CR39 on Z for DD yield, yield anisotropies, and neutron spectroscopy	81.RD	36,168	-
			Total for Sandia National Laboratories		**121,020**	**-**
Columbia University						
DEPARTMENT OF ENERGY	6930075	2(GG008553)	Device and Fabrication Technology for the Next Generation of Medium Voltage Vertical Transistors	81.135	275,519	-
			Total for Columbia University		**275,519**	**-**
University of Wyoming						
DEPARTMENT OF ENERGY	6930170	2014-1100-20966-MIT	The MIT-EMAR Process for CO2 Capture as Feedstock for Production of Commodity Chemicals	81.087	11,868	-
			Total for University of Wyoming		**11,868**	**-**
Research Triangle Institute						
DEPARTMENT OF ENERGY	6931152	2-340-0214469-51895L	Engine fuel reformer for natural gas	81.135	218,187	-
			Total for Research Triangle Institute		**218,187**	**-**

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University of Nebraska						
DEPARTMENT OF ENERGY	6932940	25-1217-0014-002	Radiation tolerance and mechanical properties of nanostructured amorphous-ceramic/metal composites	81.121	58,343	-
DEPARTMENT OF ENERGY	6926701	SUBAWARD 25-1217-0013-003	Radiation tolerance and mechanical properties of nanostructured ceramic/metal composites	81.121	569	-
			Total for University of Nebraska		**58,912**	**-**
Brookhaven Science Associates, LLC						
DEPARTMENT OF ENERGY	6930719	276503	Maintenance of the Intermediate Silicon Tracker (IST) for the STAR Experiment at Brookhaven Nation Laboratory	81.RD	13,495	-
			Total for Brookhaven Science Associates, LLC		**13,495**	**-**
University of Michigan						
DEPARTMENT OF ENERGY	6929602	3002219006	CERC-CV: U.S. -China Clean Energy Research Center for Clean Vehicles	81.087	274,604	-
DEPARTMENT OF ENERGY	6931203	3003222367	Consortium for Verification Technology (CVT)	81.113	842,804	-
			Total for University of Michigan		**1,117,407**	**-**
Los Alamos National Security, L.L.C.						
DEPARTMENT OF ENERGY	6932544	334926	Charged Particle Stopping Power Models	81.RD	128,217	-
DEPARTMENT OF ENERGY	6933394	SUBCONTRACT # 365489	Source-independent Converted Phase Imaging of MEQ Data to Provide Fracture Locations	81.RD	73,761	-
DEPARTMENT OF ENERGY	6927651	SUBCONTRACT #232591	Phase Stability of Multi-Component Nanocomposites Under Irradiation	81.RD	-4,792	-
DEPARTMENT OF ENERGY	6931281	SUBCONTRACT #314311	Nanochannels 749674-001-10	81.RD	49,939	-
DEPARTMENT OF ENERGY	6928567	SUBCONTRACT 248341-1	Development of a New, Neutron, Time Correlated, Interrogation Method for Measurement of 235U Content in LWR Fuel Assemblies	81.RD	4,275	-
			Total for Los Alamos National Security, L.L.C.		**251,400**	**-**
UT- Battelle LLC						
DEPARTMENT OF ENERGY	6923813	4000102892	Consortium for Advanced Simulation of LWRs (CASL)	81.RD	462,999	-
DEPARTMENT OF ENERGY	6933205	4000102892	The Consortium for Advanced Simulation of Light Water Reactors (CASL)	81.RD	937,156	-
DEPARTMENT OF ENERGY	6925060	4000109825	Consortium for Advanced Simulation of LWRs (CASL)	81.RD	64,440	-
DEPARTMENT OF ENERGY	6923222	SUBCONTRACT NO. 4000100452	ITER ECH Transmission Line System: Research and Scientific Support	81.RD	106,257	-

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DEPARTMENT OF ENERGY	6925601	SUBCONTRACT NO. 4000111680	Quench Detection in ITER CS	81.RD	-407	-
			Total for UT- Battelle LLC		**1,570,444**	**-**
University of Rochester						
DEPARTMENT OF ENERGY	6928068	416107-G	Magnet PTOF	81.049	635,044	-
DEPARTMENT OF ENERGY	6921558	PO #415023-G, UR ACCOUNT #5-24431	Fusion Science Ceneter for Extreme States of Matter Fast Ignition Physics	81.049	14,205	-
			Total for University of Rochester		**649,249**	**-**
University of Wisconsin-Madison						
DEPARTMENT OF ENERGY	6926808	424K351	Enhancement of SOFC Cathode Electrochemical Performance Using Multi-Phase Interfaces	81.089	-19,215	-
			Total for University of Wisconsin-Madison		**-19,215**	**-**
Westinghouse Electric Company, LLC						
DEPARTMENT OF ENERGY	6926954	4500456715	High Temperature Accident Tolerant Cladding with High Density Fuel	81.121	-2,917	-
			Total for Westinghouse Electric Company, LLC		**-2,917**	**-**
Pennsylvania State University						
DEPARTMENT OF ENERGY	6931092	5023-MIT-DOE-2377	Ensemble cell-wide kinetic modeling of anaerobic organisms to support fuels and chemicals production	81.049	151,497	-
DEPARTMENT OF ENERGY	6930592	5028-MIT-DOE-1090	Center for Lignocellulose Structure and Formation (CLSF)	81.049	141,066	-
			Total for Pennsylvania State University		**292,563**	**-**
Bay Area Photovoltaic Consortium						
DEPARTMENT OF ENERGY	6927896	60212346-51077-J	Design Principles and Defect Tolerances of Silicon / III-V Multijunction Interfaces	81.087	23,050	-
DEPARTMENT OF ENERGY	6932020	60962268-51077	Defect Identification and Mitigation in High-Lifetime Silicon Materials: Growth, Processing, Reliability	81.087	64,064	-
			Total for Bay Area Photovoltaic Consortium		**87,114**	**-**
Stanford University						
DEPARTMENT OF ENERGY	6931109	60779061-115503	Perovskite Solar Cells for High Efficiency Tandems	81.087	172,885	-
			Total for Stanford University		**172,885**	**-**
State University of New York						

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DEPARTMENT OF ENERGY	6930984	68799	EFRC:NorthEast Center for Chemical Energy Storage (NECCES)	81.049	337,532	-
			Total for State University of New York		**337,532**	**-**
Advanced Conductor Technologies LLC						
DEPARTMENT OF ENERGY	6932115	AGMT DTD 6/8/15	Stable, low-loss joints for high-temperature fusion magnets	81.049	47,000	-
DEPARTMENT OF ENERGY	6927763	AGMT. DTD. 4/22/13	REBCO coated conductor cables for fusion magnets Phase II	81.049	51,354	-
			Total for Advanced Conductor Technologies LLC		**98,354**	**-**
Calabazas Creek Research, Inc						
DEPARTMENT OF ENERGY	6927699	AGMT. DTD. 4/10/13	Gyrotron Internal Mode Converter Research	81.049	48,787	-
			Total for Calabazas Creek Research, Inc		**48,787**	**-**
Philips Lumileds Lighting Company						
DEPARTMENT OF ENERGY	6932845	AGREEMENT DATED 9/1/2015	Improved InGaN LED System Efficacy and Cost via Droop Reduction	81.086	79,860	-
			Total for Philips Lumileds Lighting Company		**79,860**	**-**
Impact Technologies, LLC						
DEPARTMENT OF ENERGY	6932037	AMENDMENT 1	Deep Borehole Storage of Nuclear Waste Using MMW Technology	81.049	252,464	-
DEPARTMENT OF ENERGY	6932236	AMENDMENT 1 - PHASE II	Deep Borehole Storage of Nuclear Waste Using MMW Technology	81.049	30,664	-
DEPARTMENT OF ENERGY	6931028	STTR AGRMT DATED 07/28/2014	Deep Borehole Storage of Nuclear Waste Using MMW Technology	81.049	3,475	-
			Total for Impact Technologies, LLC		**286,603**	**-**
Aerodyne Research Incorporated						
DEPARTMENT OF ENERGY	6930649	ARI 10665-1	Dual Quantum Cascade Laser System for Simultaneous Measurements of 13CH4 and CH3D Methane Isotopologues	81.RD	203,152	-
DEPARTMENT OF ENERGY	6926432	SUBCONTRACT AGMT ARI 10747-1	Quantum Cascade Laser System for Simultaneous Measurements of 13CO and C18O Carbon Monoxide Isotopologues	81.049	10,293	-
			Total for Aerodyne Research Incorporated		**213,445**	**-**
Faraday Technology, Inc						

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DEPARTMENT OF ENERGY	6933715	AWD. DTD. 3/29/2016	Microfluidic system for CO2 reduction to hydrocarbons	81.049	30,805	-
			Total for Faraday Technology, Inc		**30,805**	**-**
Dawn Research, Inc.						
DEPARTMENT OF ENERGY	6931946	AWD. DTD. 5/12/2015	SBIR Phase II: Development of low cost method for fabrication of metal neutron guides	81.049	56,042	-
			Total for Dawn Research, Inc.		**56,042**	**-**
Harvard Medical School						
DEPARTMENT OF ENERGY	6932566	DANIEL_GOODMAN_152339_DE-FG02-02ER63445	Letter Agreement: Daniel Goodman	81.049	59,412	-
DEPARTMENT OF ENERGY	6930472	DOE:DE-F02ER63445	Letter Agreement: Daniel Goodman	81.049	-123	-
			Total for Harvard Medical School		**59,289**	**-**
Free Form Fibers LLC						
DEPARTMENT OF ENERGY	6933442	DE-SC0011954	SBIR: AN ADDITIVE MANUFACTURING TECHNOLOGY FOR THE FABRICATION AND CHARACTERIZATION OF NUCLEAR REACTOR FUEL	81.049	577	-
			Total for Free Form Fibers LLC		**577**	**-**
Filter Sensing Technologies, Inc.						
DEPARTMENT OF ENERGY	6932358	FST-MIT070115	SBIR Phase I: High Efficiency SI Engines by Generation of Multiple Fuels from Gasoline	81.049	3,646	-
			Total for Filter Sensing Technologies, Inc.		**3,646**	**-**
Oregon State University						
DEPARTMENT OF ENERGY	6932973	G0157A-B	Computational and Experimental Benchmarking for Transient Fuel Testing	81.121	87,288	-
			Total for Oregon State University		**87,288**	**-**
Honeywell						
DEPARTMENT OF ENERGY	6933853	N000189586	Additive Manufacturing of Porous Solids	81.RD	28,070	-
			Total for Honeywell		**28,070**	**-**
SURA / Jefferson Lab						
DEPARTMENT OF ENERGY	6921867	P.O. 10-P2471	Experimental Research Supervision at Jefferson Lab	81.049	-76	-
			Total for SURA / Jefferson Lab		**-76**	**-**

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General Atomics						
DEPARTMENT OF ENERGY	6932860	PO #4500058260	MIT Collaboration for DIII-D Program	81.049	323,884	-
			Total for General Atomics		**323,884**	**-**
Ford Motor Company						
DEPARTMENT OF ENERGY	6928693	PO 14164101_001 SUBAWARD RQ13-23R05	Rapid Freeform Sheet Metal Forming: Technology Development and System Verification	81.086	152,796	-
			Total for Ford Motor Company		**152,796**	**-**
ALSTOM Renewable US LLC						
DEPARTMENT OF ENERGY	6930624	PO 4101033513	Advanced Algorithms for the Forecasting of Free Surface Elevations in a Seastate	81.087	190,485	-
			Total for ALSTOM Renewable US LLC		**190,485**	**-**
University of Delaware						
DEPARTMENT OF ENERGY	6925185	PO NO. 28002	Low cost back contact heterojunction solar cells on thin c-Si wafers: integrating laser and thin film processing for improved manufacturability	81.087	-1,466	-
			Total for University of Delaware		**-1,466**	**-**
Bettis Atomic Power						
DEPARTMENT OF ENERGY	6926212	PO#7009771	The Effect of Environment, Chemistry and Microstructure on the Corrosion Fatigue Behavior of Austenitic Stainless Steels	81.RD	147,615	-
			Total for Bettis Atomic Power		**147,615**	**-**
Ohio State University						
DEPARTMENT OF ENERGY	6925099	RF01275008	III-V/Active-Si Integration for Low-Cost High-Performance Concentrator Photovoltaics	81.087	52,386	-
			Total for Ohio State University		**52,386**	**-**
Princeton Plasma Physics Laboratory						
DEPARTMENT OF ENERGY	6931075	S013882-U	SciDAC-3 EPSI Project	81.049	0	-
DEPARTMENT OF ENERGY	6933435	S014796-F	Transport and Turbulence Physics Studies and Data Analysis Collaboration on NSTX-U	81.RD	42,293	-
DEPARTMENT OF ENERGY	6933616	S-014906-W	Physics Support on ITER CIXS Diagnostic Development	81.049	17,591	-
DEPARTMENT OF ENERGY	6933815	S-014959-H	Conceptual Design of the NSTX-U Divertor Cryopump	81.RD	53,267	-

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DEPARTMENT OF ENERGY	6934059	S-015054-W	Conceptual Design of the NSTX-U X-Ray Imaging Crystal Spectrometer	81.049	10,258	-
DEPARTMENT OF ENERGY	6929228	SUBCONTRACT NO. S012981-U	MIT Collaborations on NSTX-U, D-NSTX-SOW-72-181	81.RD	62,164	-
			Total for Princeton Plasma Physics Laboratory		**185,573**	**-**
Texas A & M						
DEPARTMENT OF ENERGY	6933413	S162805	Advanced surface plasma nitriding for development of corrosion resistant and accident tolerant fuel cladding	81.121	53,025	-
			Total for Texas A & M		**53,025**	**-**
AdvR, Inc.						
DEPARTMENT OF ENERGY	6932147	STTR AGREEMENT 06/23/2015 UNDER DE-SC0011377	STTR PH II: Fiber-coupled Optical Waveguide Cross-Correlator for Attosecond Timing Synchronization	81.049	120,271	-
			Total for AdvR, Inc.		**120,271**	**-**
FuelCell Energy						
DEPARTMENT OF ENERGY	6931727	SUBAWARD 10001437	Dual Mode Intermediate Temperature Fuel Cell: Liquid Fuels and Electricity	81.135	36,444	-
			Total for FuelCell Energy		**36,444**	**-**
Arizona State University						
DEPARTMENT OF ENERGY	6929080	SUBAWARD 14-381	Thin Silicon Solar Cells: A Path to 35% Shockley-Queisser Limits	81.087	42,741	-
DEPARTMENT OF ENERGY	6928992	SUBAWARD NO. 13-175	In-situ X-ray Nanocharacterization of Defect Kinetics in Chalcogenide Solar Cell Materials	81.087	-37	-
			Total for Arizona State University		**42,704**	**-**
Princeton University						
DEPARTMENT OF ENERGY	6920547	SUBAWARD NO. 00001702	Energy Frontier Research Center in Combustion Science	81.049	-417	-
			Total for Princeton University		**-417**	**-**
University of California						
DEPARTMENT OF ENERGY	6925057	SUBAWARD NO. 0130 G PA291	Dynamic metabolic model building based on ensemble modeling approach	81.049	-4,946	-
			Total for University of California		**-4,946**	**-**

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Lawrence Berkeley National Laboratory						
DEPARTMENT OF ENERGY	6923287	SUBCONTRACT NO. 6947174	Natural Ventilation for Cooling in Commercial and Residential Buildings and Data Centers	81.RD	56,911	-
DEPARTMENT OF ENERGY	6927117	SUBCONTRACT NO. 7038094	A BES Predictive Theory and Modeling for Materials and Chemical Sciences	81.RD	1,661	-
DEPARTMENT OF ENERGY	6927680	SUBCONTRACT NO. 7056411	First Principles Calculations of Existing and Novel Electrode Materials	81.RD	59,188	-
DEPARTMENT OF ENERGY	6927681	SUBCONTRACT NO. 7056592	Design and Scalable Assembly of High Density Low Tortuosity Electrodes	81.RD	235,716	-
DEPARTMENT OF ENERGY	6928821	SUBCONTRACT NO. 7075314	High-throughput sorting of microbial cells with specific functional traits for single cell genomics by combining labeling with heavy water, Raman microspectroscopy, microfluidics and flow cytometry	81.RD	342,791	260,622
DEPARTMENT OF ENERGY	6931128	SUBCONTRACT NUMBER 7204982	Molecular Determinants of Community Activity, Stability and Ecology (MDCASE)	81.RD	492,349	-
			Total for Lawrence Berkeley National Laboratory		**1,188,617**	**260,622**
Technic Inc.						
DEPARTMENT OF ENERGY	6931508	SUBCONTRACT RSRCH AGRMNT EFFCTVE 01/01/2015	Silver-free Metallization Technology for Producing High Efficiency, Industrial Silicon Solar Cells	81.RD	73,323	-
			Total for Technic Inc.		**73,323**	**-**
National Renewable Energy Laboratory						
DEPARTMENT OF ENERGY	6924592	UGA-0-41029-04	Ordering and Corssover in Metamorphic AllinP Alloys	81.RD	-3,260	-
DEPARTMENT OF ENERGY	6927203	UGA-0-41029-09	Sustainable Photovoltaics and Scalable Concentrating Solar Power (SERIIUS) - MIT	81.RD	267,704	72,420
DEPARTMENT OF ENERGY	6929283	UGA-0-41029-12	Coupling of Mechanical Behavior of Cell Components to Electrochemical-Thermal Models Under Crush	81.RD	-10,875	-
DEPARTMENT OF ENERGY	6930865	UGA-0-41029-16/ER392000	Center for Next Generation of Materials by Design: Incorporating Metastablility	81.049	418,985	-
DEPARTMENT OF ENERGY	6931855	UGA-0-41029-17	Evaluate Degradation Mechanisms in old Photovoltaic (PV) Modules from Sacramento Municipal Utility District	81.RD	9,519	-
DEPARTMENT OF ENERGY	6933524	UGA-0-41029-18/ST6P1510	Bulk Defect Mitigation in Czochralski and Novel Silicon	81.049	62,412	-
DEPARTMENT OF ENERGY	6925379	ZGV-2-22438-01	Development and Validation of a Nonlinear Fluid-Impulse Hydrodynamics Module for FAST	81.087	52,990	-
			Total for National Renewable Energy Laboratory		**797,475**	**72,420**
Alliance for Sustainable Energy, LLC						

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DEPARTMENT OF ENERGY	6930122	UGA-0-41029-15/ TASK SA120386	ReEDS-USREP Model Collaboration	81.RD	-62	-
			Total for Alliance for Sustainable Energy, LLC		**-62**	**-**
University of Texas - Austin						
DEPARTMENT OF ENERGY	6928873	UTA13-000874	Extreme-scale Bayesian inference for uncertainty quantification of complex simulations)	81.049	145,699	-
DEPARTMENT OF ENERGY	6931037	UTA14-000839	Physics and Engineering Design Support for ITER Electron Cyclotron Emission (ECE) Diagnostic Front-End and X-Mode Radiometer	81.RD	53,190	-
DEPARTMENT OF ENERGY	6931207	UTA14-001222	Nuclear Technology R&D Strategies in an Era of Energy Price Uncertainty	81.121	94,117	-
			Total for University of Texas - Austin		**293,005**	**-**
University of Washington						
DEPARTMENT OF ENERGY	6933774	UWSC8904	Ultrafast Control of Emerging Electronic Phenomena in 2D Quantum Materials	81.049	16,119	-
			Total for University of Washington		**16,119**	**-**
UChicago Argonne, LLC						
DEPARTMENT OF ENERGY	6928492	WO 2J-30101-0005A	Draft Conversion SAR with Updated LEU Element Design for LEU Conversion of the MITR-II Research Reacto	81.RD	186,573	-
DEPARTMENT OF ENERGY	6928470	WO 2J-30101-0006A	Ancillary Safety Analysis for LEU Conversion of the MITR-II - work order #6	81.RD	11,551	-
DEPARTMENT OF ENERGY	6928779	WO 2J-30101-0007A	Task 7: LEU UZrH Feasibility Study in Support of LEU Conversion of the MITR-II Research Reactor	81.RD	144,828	-
			Total for UChicago Argonne, LLC		**342,952**	**-**
			TOTAL for Department of Energy		**11,849,332**	**344,111**

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DEPARTMENT OF HEALTH & HUMAN SERVICES						
University of Texas-MD Anderson Cancer Center						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931658	00002863	Project 3: Models for genetic assessment of tumor maitenance genes in PDAC	93.396	227,353	-
			Total for University of Texas-MD Anderson Cancer Center		**227,353**	**-**
Children's Hospital Boston						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930768	0000527996	Developmental biology of human erythropoiesis (Project 4)	93.839	-22,659	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	2746749	AGREEMENT #RSTFD 0000600634	Billing Agreement: Maimuna Manjumder (R01)	93.RD	-106	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932069	PO#0000635383	Gastrointestinal Microflora Changes in Children Treated with Proton Pump	93.847	44,675	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931050	RSTFD00000602424	Customized stem cells for clinical application in blood disorders	93.847	51,043	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931111	RSTFD0000603833	Apnea index as an outcome measure of IGF-1 treatment of Rett syndrome	93.865	28,724	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932318	RSTFD0000641564	Advanced Fetal Imaging	93.286	277,031	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932913	RSTFD0000652459	Customized stem cells for clinical application in blood disorders	93.847	219,304	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	2747296	RSTFD0000659190	HealthMap Computational Epidemiology Group - Maimuna Majumder - NIH	93.879	44,699	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933113	RSTFD0000659589	Generating Multiple Circuit and Neuron Type Specific AAV Vectors With Cross-Species Applicability	93.242	118,067	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933353	RSTFD0000667865	Noninvasive Realtime Assessment of Placental Structure and Function with Novel MR Imaging Methods	93.865	65,258	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933938	RSTFD0000687546	Developmental biology of human erythropoiesis (Project 4)	93.839	41,559	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6934060	RSTFD0000689449	Advanced Fetal Imaging	93.286	96,306	-
			Total for Children's Hospital Boston		**963,901**	**-**
University of Pittsburgh						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6925825	0025089 (122652-1)	Spatial Segregation of Cell Functioning During Motility	93.859	28,243	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931040	0038320(124919-1)	Novel Glaucoma Diagnostics for Structure and Function	93.867	74,459	-

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932531	0046606(126214-1)	Enhancing neutrophil responses to counter MDR gram negative bacterial pneumonia	93.855	56,757	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933995	NO. 0048768 (127337-1)	Spatial Segregation of Cell Functioning During Motility	93.859	11,792	-
			Total for University of Pittsburgh		**171,252**	**-**
Beth Israel Deaconess Medical Center						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6924819	01025254	Cortical Connectivity, Physiology, and Response to Stimulation in Human Epilepsy	93.853	-8,494	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6926207	01025585	Brain Function and Structure in Young Children at Familial Risk for Schizophrenia	93.242	-49,091	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931103	01026077	Research Resource for Complex Physiologic Signals	93.859	23,233	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932203	01027119	Complex function of Hsf1 in breast cancer	93.393	22,686	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932892	01028330	Research, Resource for Complex Physiologic Signals	93.859	372,189	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933417	1-U01-CA199252-01	A multi-faceted approach to identifying K-Ras synthetic lethal relationships	93.396	10,730	-
			Total for Beth Israel Deaconess Medical Center		**371,254**	**-**
Icahn School of Medicine at Mount Sinai						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6929774	0254-3162-4609	Epigenic Mechanisms of Depression	93.242	1,581	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931854	0254-3164-4609	Epigenic Mechanisms of Depression	93.242	73,207	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933899	0254-3165-4609	Epigenic Mechanisms of Depression	93.242	16,802	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932952	HHSN272201400008C/ COA #15	NAIAD Centers of Excellence for Influenza Research and Surveillance	93.RD	20,192	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931820	ISMMS NO. 0258-0509/HHSN272201400008C	NAIAD Centers of Excellence for Influenza Research and Surveillance	93.RD	262,821	-
			Total for Icahn School of Medicine at Mount Sinai		**374,604**	**-**
Mount Sinai Medical Center						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932699	0258-0544-4609	NAIAD Centers of Excellence for Influenza Research and Surveillance	93.RD	107,463	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933839	ISMMS NO. 0258-0509/HHSN272201400008C	NAIAD Centers of Excellence for Influenza Research and Surveillance	93.RD	101,163	-

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DEPARTMENT OF HEALTH & HUMAN SERVICES	6923327	MSSM NO. 0258-3921/HHSN268201000045C	Translational Nanomedical Therapies for Cardiac and Vascular Disease	93.RD	246,642	-
			Total for Mount Sinai Medical Center		**455,268**	**-**
Columbia University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931993	1 (GG006726-68)	Health effects of Geochemistry of arsenic and manganese	93.286	11,515	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6934117	1(GG012140)	Analysis of Cancer Cell Metabolism in Diverse Environmental Conditions	93.396	57,503	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931486	2(GG006338)	Myofibroblasts in GI Cancers: A novel GEMM to study tumor-CAF interactions	93.397	8,624	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930614	2(GG006413-57)	Understanding global reprograming of central carbon metabolism in cancer	93.310	37,777	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6929635	2(GG007617) - P O G04804	Mouse Models of Gastric Cancer	93.393	59,161	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932008	2(GG007699)	Regulation of the Ciliated Cell Program in Airway Progenitors	93.838	20,311	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930471	3(GG007773-04)	Integrated Heart-Liver-Vascular Systems for Drug Testing in Human Health Disease	93.286	4,651	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932412	3(GG012366-02) PO G10532	Integrated heart-liver-vascular systems for drug testing in human health and disease (Yr 5)	93.286	475,687	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6927142	PO G03501 AWARD 1 (GG007522)	Motor Neuron Selector Genes and Mechanism of Their Action	93.853	190,223	-
			Total for Columbia University		**865,452**	**-**
Dana Farber Cancer Institute						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6928787	1006718	Antigen Presentation and T Cell Programmimg in Human Autoimmune Diseases	93.855	332,688	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6923055	1188503	Eliciting B cells to produce anti-HIV gp41 MPER-specific neutralizing antibodies	93.855	17,085	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6926764	1214503	Assaying GBM growth and therapy response in single cells and tumorspheres (PQ17)	93.394	28,654	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6927451	1216401	Impact of MHC Genotype on Ex Vivo T cell Function in Type 1 Diabetes	93.847	267,350	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932278	1217703	The Dana-Farber Cancer Institute Cancer Target Discovery and Development Center	93.394	71,750	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930863	1225411	DFHCC SPORE in Prostate Cancer - Project 1	93.397	40,402	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932836	1238305	Eliciting B cells to produce anti-HIV gp41 MPER-specific neutralizing antibodies	93.855	30,257	-

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DEPARTMENT OF HEALTH & HUMAN SERVICES	6932882	1238405	Eliciting B cells to produce anti-HIV gp41 MPER-specific neutralizing antibodies (Supplement)	93.855	218,067	-
			Total for Dana Farber Cancer Institute		**1,006,252**	**-**
Tufts University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933368	100892-00001	Development of Blood Pressure Imager	93.286	53,151	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6929499	HS311 SUBCONTRACT AGMT	Assessment of Food Intake Using Speech-Understanding Technology	93.837	10,203	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932172	HS4976	Models to Predict Protein Biomaterial Performance	93.286	337,553	-
			Total for Tufts University		**400,908**	**-**
University Health Network						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6924932	101875.4	The RAs/Mapik Pathway in Cardiovascular Disease	93.837	52,473	-
			Total for University Health Network		**52,473**	**-**
Baylor College of Medicine						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930717	101991083 PO NUMBER 5601049168	Restricted Parent: Center for Protein Folding Machinery	93.867	19,718	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6925052	PO 101539551, PRIME 2-R56-AI075208-03	Structures of the Portal Vertex in ds DNA viruses and virus-infected cells	93.867	-31	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930718	PRIME AWARD NO. 5-PN-2EY016525-08	Restricted Parent: Center for Protein Folding Machinery	93.867	132,645	-
			Total for Baylor College of Medicine		**152,333**	**-**
Stowers Institute for Medical Research						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932380	102108 NIH 0070	Integrated Approaches to Understanding Circuit Function in the Nervous System.	93.173	50,018	-
			Total for Stowers Institute for Medical Research		**50,018**	**-**
Brigham & Women's Hospital						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6922066	105888	Engineered induction of a stem cell homing response	93.839	-3	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6925261	107667	DII4 in Macrophage Activation	93.837	120,244	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6925790	107958	Development of FcRn-Targeted Nanoparticles for Efficient Oral Delivery of Insulin	93.286	186,642	-

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DEPARTMENT OF HEALTH & HUMAN SERVICES	6928415	109443	Neuroimaging Analysis Center (NAC) - Technology Research and Development Core	93.286	197,170	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6928869	109687	Engineering a Biological Glucose Monitor	93.847	73,110	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931053	110548	Letter Agreement: Daniel Day	93.867	-61	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931909	111384	Detection of cell type specific effects of pathway manipulation in neural cells	93.866	92,540	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932444	112548	Monitoring peripheral blood leukocyte and immune responses in health and disease	93.855	134,912	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933473	113786	PARP9 and PARP14 in atherosclerosis	93.837	23,303	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6928788	113856	Multi-Scale Modeling of Sleep Behaviors in Social Networks	93.859	100,327	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933924	114237	Mucins and immune cell interactions in ovarian cancer pathogenesis & progression	93.396	62,869	-
			Total for Brigham & Women's Hospital		**991,052**	**-**
St. Jude Medical						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930761	111942010-7571874	Mechanisms to diversify repertoire and modify T cell activity after infection	93.855	33,798	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932794	111942030-7675542	Mechanisms to diversify repertoire and modify T cell activity after infection	93.855	47,316	-
			Total for St. Jude Medical		**81,114**	**-**
Harvard School of Public Health						
DEPARTMENT OF HEALTH & HUMAN SERVICES	2746118	112497-5069710	Safety and Health Management of Hazards Associated with Emerging Technologies	93.143	10,779	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	2746834	FINUCANE-001	Letter Agreement: Hilary Finucane	93.393	23,053	-
			Total for Harvard School of Public Health		**33,832**	**-**
Dartmouth College						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930389	1474R653	Applying High-Performance Protein Engineering Tools to HIV Immunogen Design	93.855	33,972	-
			Total for Dartmouth College		**33,972**	**-**
Harvard Medical School						

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DEPARTMENT OF HEALTH & HUMAN SERVICES	6931061	149739.5079223.0202	Clinical Translational Science Award (CTSA) - MIT-CRC	93.350	0	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932277	149739.5079223.0302	Clinical Translational Science Award (CTSA) - MIT-CRC	93.350	136,036	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6928300	150737.5073859.0002	Real time fMRI feedback and auditory processing in schizophrenia	93.242	66,700	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6929289	151529	Training for Speech and Hearing Sciences	93.173	20,174	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930548	151529.5063638.0104	Training for Speech and Hearing Sciences	93.173	-1	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932485	152297.5096012.0214	The Harvard Laboratory of Systems Pharmacology	93.859	31,231	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932398	152448.5079089.0208	Patient - Centered Information Commons	93.866	76,392	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933176	152474.5097230.0004	Metabolic Exchange between Marine Bacteria	93.859	16,665	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933667	152518.5097230.0006	Metabolic Exchange between Marine Bacteria	93.859	16,665	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931022	152754.5068079.0002	Targeting a Novel Regulator of Brain Aging and Alzheimer's Disease	93.866	286,381	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933269	153032.5091220.0102	4D Nucleome Network Data Coordination and Integration Center	93.393	40,056	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6934227	AGARWAL_2016_152774	Letter of Agreement: Radhika Agarwal	93.837	4,669	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930784	BA_FY15_CHAO	Letter Agreement: Chung-Yun (George) Chao	93.172	-123	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932394	GEORGE_CHAO_148893	Letter Agreement: Chung-Yun (George) Chao	93.172	59,412	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932941	HMS FUND #152433	Training Grant - Lydia Letham - Boston-Area Research Training Program in Biomedical Informatics	93.879	11,429	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933916	HMS FUND# 152433	Boston-Area Research Training Program in Biomedical Informatics: Training Grant-Marzyeh Ghassemi	93.879	16,262	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	2746746	HMS NO. 152433	Letter Agreement: Marzyeh Ghassemi	93.279	3,672	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	2746747	HMS NO. 152433	Letter Agreement: Tristan Naumann	93.279	3,672	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933497	SUBAWARD 152772.5906243.0105	Center for Genomically Engineered Organs	93.172	125,083	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932467	SUBAWARD: 152448.5093967.0209	Patient-Centered Information Commons	93.172	80,372	-

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			Total for Harvard Medical School		**994,749**	**-**
Research Foundation S.U.N.Y.						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931096	15-01	Translational control of ROS management	93.113	211,221	-
			Total for Research Foundation S.U.N.Y.		**211,221**	**-**
Harvard University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932074	152342_0002_JROSENTHAL_020115_011516	Letter Agreement - Joseph Rosenthal	93.866	9,328	-
			Total for Harvard University		**9,328**	**-**
New York University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932512	15-A1-00-002875-01/PO NO. 104698	Thalamic reticular nucleus-specific Cre mice for functional interrogation	93.242	152,644	-
			Total for New York University		**152,644**	**-**
Louisiana State University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932453	16-22-126	Role of Neuropeptides in Stress-Induced Escalation of Alcohol Drinking	93.273	114,478	-
			Total for Louisiana State University		**114,478**	**-**
LeafLabs, LLC						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931272	1R43MH101943-01A1	Electronics and computational hardware for ultra-high channel count electrophysiological recordings of neural activity	93.242	126,962	-
			Total for LeafLabs, LLC		**126,962**	**-**
The Wellcome Trust						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6934170	2186-05	GENCODE: Comprehensive gene annotation for human and mouse	93.172	39,218	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930351	SUBAWARD 2186-05	GENCODE: Comprehensive gene annotation for human and mouse	93.172	177,587	-
			Total for The Wellcome Trust		**216,805**	**-**
Massachusetts General Hospital						
DEPARTMENT OF HEALTH & HUMAN SERVICES	2746595	219396	Letter agreement: Joseph Keller	93.279	20,611	-

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DEPARTMENT OF HEALTH & HUMAN SERVICES	6933538	219396	Letter of Agreement: Emily Lindemer	93.279	38,889	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933539	219396	Letter of Agreement: Erica Mason	93.279	39,033	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933179	219423	Letter of Agreement: Agata Wisniowska	93.279	44,620	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933215	219423	Letter of Agreement: Giorgia Grisot	93.279	43,336	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6924807	219658	Parallel Excitation Methods for High Field MRI	93.286	122,223	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931468	222103	Optimizing human B and T cell vaccines against HIV using humanized BLT mice	93.855	102,043	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930931	223253	SPORE: Targeted Therapies for Gliomas	93.397	23,625	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6934226	223307	Letter of Agreement: Antoine Ramier	93.173	21,141	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930051	224256	Stable, High Relaxivity MRI Contrast Agents	93.286	85,532	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931354	225360	NIRF-OFDI of inflammation in atheroma progression and stent complications	93.837	2,544	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932581	226025	MRI-GENetics Interface Exploration (MRI-GENIE) Study	93.286	39,142	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932337	226205	An integrated Closed Loop Feedback System for Treatment of Cardio metabolic Disease	93.855	15,730	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932555	226789	Reversal of Liver Cirrhosis	93.847	0	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933014	227077	Genetic Determinants of Schizophrenia Intermediate Phenotypes	93.242	22,851	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6928119	227596	Stephanie Nam, Off-Campus RA – 1/13-1/15	93.394	62,349	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933460	AGREEMENT 227024	Development and testing of novel hydration sensors for use in pediatrics	93.286	47,713	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	2746758	MGH ACCOUNT NO. 219423	Billiing Agreement: Bassel Khoury	93.279	-4,169	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	2746696	MGH ACCOUNT PS NO. 219423	Advanced Mulitmodal Neuroimaging Training Grant R90 (Adrian Dalca)	93.279	5,709	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932144	MGH/NIH 2013D003195 [224473]	Letter of Agreement - Antoine Ramier	93.173	4,917	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932565	MGH/NIH 224473	Letter of Agreement - Antoine Ramier	93.173	21,038	-

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DEPARTMENT OF HEALTH & HUMAN SERVICES	6932073	MGH/NIH 225486	Letter Agreement: Sheldon Kwok	93.838	60,635	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6926604	SUBAWARD 227784	Hypoxia-induced Metabolic Changes in Cancer	93.866	298,975	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6925861	SUBAWARD NO. 220701	Ambulatory Monitoring of Vocal Function to Improve Voice Disorder Assessment	93.173	105,314	-
			Total for Massachusetts General Hospital		**1,223,804**	**-**
Stanford University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930457	26699040-47281-C	Center for Cancer Nanotechnology Excellence and Translation (CCNE-T) - Year 4	93.397	5,588	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931981	60391945-106845-A	Dynamic Imaging of EMT in the Breast Cancer Microenvironment	93.396	205,486	-
			Total for Stanford University		**211,074**	**-**
Albert Einstein College						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931783	31521R	Stem cell-based Therapies for Mitigation of Acute Radiation Syndromes	93.855	48,003	-
			Total for Albert Einstein College		**48,003**	**-**
University of Wisconsin-Madison						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6927748	375K351	Year 2: Resistance and Resiliency in a Natural Host-Microbe Symbiosis	93.859	779	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931908	601K414	Human iPS/ES Cell-Based Models for Predictive Neural Toxicity and Teratogenicity Administrative Supplement	93.350	4,131	-
			Total for University of Wisconsin-Madison		**4,910**	**-**
Georgetown University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930175	410646-GR409880-MIT	Non-Invasive Evaluation of Transplant Kidney using OCT	93.847	88,961	-
			Total for Georgetown University		**88,961**	**-**
National Bureau of Economic Research, Inc.						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6934165	4117B.MIT	The Design of Social Insurance for the Elderly: Public Pensions and Health Insurance	93.866	18,852	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6929071	JPAL-33-4135-08	Intervention to Fight Anemia & Improve Well-Being in a Very Low Income Setting	93.866	11,105	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930308	MIT-33-4126	What Does Health Insurance Do? Evidence from the Oregon Health Insurance Lottery	93.866	20,868	-

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			Total for National Bureau of Economic Research, Inc.		**50,825**	**-**
Rutgers University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6924848	4482/PO#S1579843/ACCT#4 33885/ORGID10648	Transient Behaviors Of Adapting Biological Systems	93.859	-920	-
			Total for Rutgers University		**-920**	**-**
Boston University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930177	4500001279	Modeling bi-directional signaling and cytoskeletal dynamics in 3D cell migration	93.393	-285	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6929218	4500001446	Causal Analysis of Electrically Connected Neural Networks	93.242	122,946	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932350	4500001788	Center for Innovation in Point of Care Technologies for the Future of Cancer Care	93.286	131,033	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932284	4500001791	Center for Innovation in Point of Care Technologies for the Future of Cancer Care	93.286	147,632	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932353	4500001821	Modeling bi-directional signaling and cytoskeletal dynamics in 3D cell migration	93.393	295,249	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932552	4500001882	Prefrontal and Medial-Temporal Interactions in Memory	93.242	74,162	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933002	4500001922	Engineering Multicellular Tissue Structure, Function, and Vascularization	93.286	242,613	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933804	4500002031	Inflammation in human obesity and type 2 diabetes	93.847	583	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933944	4500002049	Modeling bi-directional signaling and cytoskeletal dynamics in 3D cell migration	93.393	27,255	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931004	FRN 4500001670	Prefrontal and Medial-Temporal Interactions in Memory	93.242	64,811	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6920709	SUBAWARD NO. 4500000222	CRCNS: GAMMA Rythms and Cell Assemblies	93.853	-22,467	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6927158	SUBAWARD NO. 4500001147	CRCNS: GAMMA Rythms and Cell Assemblies	93.853	22,524	-
			Total for Boston University		**1,106,057**	**-**
Northeastern University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6926399	500252	Impact of Lipids on Compound Absorption: Mechanistic Studies and Modeling	93.859	80,634	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933466	500449-78050	Predictability in Complex Object Control	93.865	10,009	-

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			Total for Northeastern University		**90,643**	**-**
The Broad Institute, Inc.						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930692	5310123-5500000519	High-throughput sequencing of chromatin regulatory elements	93.172	169,628	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933198	5500000814-5000091	SYSTEMATIC IDENTIFICATION OF ONCOGENIC KRAS SYNTHETIC LETHAL INTERACTIONS	93.396	87,183	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930972	5610221-5500000694	There and Back Again: Epigenetic	93.310	32,618	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932661	5610222-5500000694	There and Back Again: Epigenetic	93.310	383,177	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931601	5700171-5500000731	RNA based diagnostics for rapid pathogen identification and drug resistance	93.855	108,979	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933531	5700172-5500000731	RNA based diagnostics for rapid pathogen identification and drug resistance	93.855	173,342	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930880	SUB NO: 5500000428-6030040 -YR 4	Functional Genomics of Neuroplasticity in Schizophrenia	93.242	-1,631	-
			Total for The Broad Institute, Inc.		**953,296**	**-**
The Scripps Research Institute						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930699	5-50914	Center for HIV/AIDS Vaccine Immunology and Immunogen Discovery (CHAVI-ID)	93.855	-12,405	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932263	5-52300	CHAVI-ID: Research Focus 2	93.855	531,598	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930700	PO NO. 5-50915	CHAV-ID Administrative Supplement – Project 9	93.855	4,440	-
			Total for The Scripps Research Institute		**523,633**	**-**
University of Pennsylvania						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931139	565369	A vascularized three-dimensional biomimetic for islet function and physiology	93.847	98,373	-
			Total for University of Pennsylvania		**98,373**	**-**
Mayo Clinic						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931353	5-U01-AI089859-05 REVISED	Novel Technologies to define functional attributes of T Cells in West Nile virus	93.855	21,366	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931979	64016218	caCDE-QA: A Quality Assurance Platform for Cancer Study Common Data Elements	93.394	59,572	-

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DEPARTMENT OF HEALTH & HUMAN SERVICES	6931830	PO 64653198	Mechanisms of prolonged initial disease-free survival in glioblastoma	93.396	175,646	-
			Total for Mayo Clinic		**256,584**	**-**
Northwestern University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932474	60039739 MIT	Spatio-temporal organization of chromatin and information transfer in cancer	93.397	75,295	-
			Total for Northwestern University		**75,295**	**-**
Ohio State University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931586	60043772-MIT; PO RF01392642	A model-based examination of behavioral and social science workforce: Improving health outcomes	93.859	24,767	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933637	60052953; PO# RF01430493	A model-based examination of behavioral and social science workforce: Improving health outcomes	93.859	40,369	-
			Total for Ohio State University		**65,136**	**-**
University of California - San Francisco						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6924455	6680SC	Deconstructing and Reconstructing the T Cell Signaling Network	93.855	248,498	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6924456	6681SC	Deconstructing and Reconstructing the T Cell Signaling Network	93.855	97,022	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6926089	7083SC	A Toolkit for Light-Control of Molecular Processes in Living Cells	93.859	-33,287	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932939	8943SC	Balanced Signaling Cues to Guide Cell Transitions in the Blood Lineage Continuum	93.839	69,612	-
			Total for University of California - San Francisco		**381,845**	**-**
The Research Institute at Nationwide Children's Hospital						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932896	82114515	Role of stress-induced reduction in Lactobacillus reuteri on colonic inflammation	93.213	43,364	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6934118	82114516	Role of stress-induced reduction in Lactobacillus reuteri on colonic inflammation	93.213	3,455	-
			Total for The Research Institute at Nationwide Children's Hospital		**46,819**	**-**
Greenwood Genetic Center						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933107	82561-01	Apnea index as an outcome measure of IGF-1 treatment of Rett syndrome	93.865	10,002	-
			Total for Greenwood Genetic Center		**10,002**	**-**

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University of California - Irvine						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930461	A1101784/ SUBAWARD 2014-3096	Targeting iron acquisition in Salmonella with siderophore-based immunization	93.855	73,164	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932202	A1114625/ SUBAWARD 2015-3206	Development of siderophore-based vaccines against non-typhoidal Salmonella infection	93.855	133,298	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930941	SUBAWARD NO. 2014-3129	Neuron and Glial cellular signatures from normal and diseased iPS cells	93.853	215,917	-
			Total for University of California - Irvine		**422,379**	**-**
Praevium Research Inc.						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6928842	AGMT. DTD. 11/26/13	VCSEL technology for ultrahigh speed OCT retinal and anterior eye imaging	93.867	76,002	-
			Total for Praevium Research Inc.		**76,002**	**-**
Superconducting Systems, Inc.						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932990	AGMT. DTD. 9/22/15	Compact light weight superconducting bending magnets for gantries	93.395	54,316	-
			Total for Superconducting Systems, Inc.		**54,316**	**-**
Boston Medical Center						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931135	AGREEMENT 4292	Biomarkers and Mechanisms of Paucibacillary and Latent Tuberculosis	93.855	120,166	-
			Total for Boston Medical Center		**120,166**	**-**
Trevigen, Inc.						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6929288	AGREEMENT DATED 5/30/12	SBIR: DNA Repair-on-a-Chip: Spatially Encoded Microwell Arrays	93.113	153,559	-
			Total for Trevigen, Inc.		**153,559**	**-**
Ferro Solutions, Inc.						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6928800	AGREEMENT DATED 8/1/13	Phase II SBIR: Closed Loop Wireless Optical Neuromodulation Systems	93.RD	18,212	-
			Total for Ferro Solutions, Inc.		**18,212**	**-**
Boulder Nonlinear Systems Inc.						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932530	AGREEMENT DATED 8/15/15	A next-generation spatial light modulator for mapping of neural networks	93.286	11,636	-
			Total for Boulder Nonlinear Systems Inc.		**11,636**	**-**

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Integrated Laboratory Systems, Inc.						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930834	AGREEMENT EFFECTIVE 9/26/14	SBIR CometChip: Development of a high throughput DNA damage assay in hepatocytes	93.113	119,400	-
			Total for Integrated Laboratory Systems, Inc.		**119,400**	**-**
Yale University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6928682	C14A11716 (A09395)	High-throughput, multiplexed detection of miRNA biomarkers in single cancer cells	93.396	97,067	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930878	CA14A11955(A10063)	Analysis of signaling and mechanical cues promoting invasion in melanoma	93.396	2,476	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930363	M12A11190(A08872)	Defining Signatures for Immune Responsiveness by Functional Systems Immunology	93.855	31,087	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6928778	M14A11743(A09391)	Modeling human phosphorylation networks through kinome-wide profiling	93.859	255,801	-
			Total for Yale University		**386,432**	**-**
Battelle-Pacific Northwest Laboratories						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931329	CONTRACT NUMBER 248143	Center for Application of Advanced Clinical Proteomic Technologies for Cancer	93.394	45,417	-
			Total for Battelle-Pacific Northwest Laboratories		**45,417**	**-**
Burke Medical Research Institute						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6925488	DE3849-01C	Transcranial Direct Current Stimulation and Robotic Training in Chronic Stroke	93.865	-26	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931663	DE3849-04C	Transcranial Direct Current Stimulation and Robotic Training in Chronic Stroke	93.865	72,190	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933362	DE3849-05C	Transcranial Direct Current Stimulation and Robotic Training in Chronic Stroke	93.865	48,097	-
			Total for Burke Medical Research Institute		**120,260**	**-**
Oregon Health and Science University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931472	GCAEI0303A_MIT	Guiding the Treatment of Anterior Eye Diseases with Optical Coherence Tomography	93.867	148,408	-
			Total for Oregon Health and Science University		**148,408**	**-**
Case Western Reserve University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930791	GRISWOLD RES508442 INVOICE	Magnetic Resonance Fingerprinting (MRF) for Improved High Field MR	93.286	99,678	-

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			Total for Case Western Reserve University		**99,678**	**-**
University of Massachusetts						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930349	PO WA00463637 / RFS2015003	Structural annotation of the human genome	93.172	75,631	-
			Total for University of Massachusetts		**75,631**	**-**
University of Colorado Boulder						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932230	PO#1000513987 SUBAWARD#1552654	Genetic Association Meta-Analyses of Smoking and Drinking for the Sequencing Age	93.279	88,025	-
			Total for University of Colorado Boulder		**88,025**	**-**
University of Florida						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933008	PRIME 00124227, SUB UFDSP00010950	Complex Modifications of tRNA: Regulatory Roles and Crosstalk with DNA Metabolism	93.859	42,089	-
			Total for University of Florida		**42,089**	**-**
Rockefeller University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6924440	R01DK085713-03	Modeling human hepatotropic infections in complex tissue organoids	93.310	4,739	-
			Total for Rockefeller University		**4,739**	**-**
J. David Gladstone Institutes						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930606	R2216-A	The Epigenetic Landscape of Heart Development	93.837	25,229	-
			Total for J. David Gladstone Institutes		**25,229**	**-**
Magee-Womens Research Institute & Foundation						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932950	RSA 3503	Extracellular vesicles and their ncRNAs cargo as markers of trophoblast injury	93.865	31,856	-
			Total for Magee-Womens Research Institute & Foundation		**31,856**	**-**
University of Vermont						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930705	SUB51514MIT	Analysis and Characterization of Trauma-Induced Coagulopathy	93.859	174,062	-
			Total for University of Vermont		**174,062**	**-**
Brown University						

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DEPARTMENT OF HEALTH & HUMAN SERVICES	6930813	SUBAWARD 00000624	Multiscale Modeling of Sickle Cell Anemia: Methods and Validation	93.839	258,358	-
			Total for Brown University		**258,358**	**-**
Rehabilitation Institute of Chicago						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930094	SUBAWARD AGREEMENT # 3024	Recording Neural Activities onto DNA	93.242	172,818	-
			Total for Rehabilitation Institute of Chicago		**172,818**	**-**
University of California/Davis						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6926330	SUBAWARD AGREEMENT NO. 201017009-01	Mechanisms of how nuclear envelope bridges link nuclei to the cytoskeleton	93.859	16,935	-
			Total for University of California/Davis		**16,935**	**-**
Forsyth Institute						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931386	SUBCONTRACT NO. MIT024468-2495	Cultivation, Nature, Ecology & Pathogenicity of the Uncultivated Oral Microbiome	93.121	74,899	-
			Total for Forsyth Institute		**74,899**	**-**
University of Connecticut Health Center						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930288	UCHC6-53445043	Dynamics and Topology of Phosphotyrosine-SH2 Interaction Networks	93.396	-4,943	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930469	UCHC6-54577930	Comprehensive Analysis of Functional RNA Elements Encoded in the Human Genome	93.172	53,080	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932499	UCHC6-64194473	Dynamics and Topology of Phosphotyrosine-SH2 Interaction Networks	93.396	151,808	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932765	UCHC6-66263781	Comprehensive Analysis of Functional RNA Elements Encoded in the Human Genome	93.172	494,192	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933062	UCHC6-67937397	Comprehensive Analysis of Functional RNA Elements Encoded in the Human Genome	93.172	76,108	-
			Total for University of Connecticut Health Center		**770,245**	**-**
Vanderbilt University Medical Center						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933078	VUMC 36112	Etiologic Studies of Gastric Carcinoma	93.393	50,916	-
			Total for Vanderbilt University Medical Center		**50,916**	**-**
Vanderbilt University						

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DEPARTMENT OF HEALTH & HUMAN SERVICES	6928646	VUMC 36112	Etiological Studies of Gastric Carcinoma	93.393	-84	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6926720	VUMC38861	Vanderbilt Proteome Characterization Center (Year 2-5)	93.394	274,244	-
			Total for Vanderbilt University		**274,160**	**-**
University of Massachusetts Medical Center						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6923380	WA00223268/RFS2013096	Systems Biology of Insulin Resistance	93.847	297,256	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6923382	WA00223269/RFS2013095	Systems Biology of Insulin Resistance	93.847	65,282	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6923381	WA00223270/RFS2013097	Systems Biology of Insulin Resistance	93.847	168,383	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6930824	WA00226494/RFS2015051	EDAC: Encode Data Analysis Center	93.172	28,986	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933151	WA00343851/RFS2016059	EDAC: Encode Data Analysis Center	93.172	550,942	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933260	WA00363842/OSP2016100	Center for 3D Structure and Physics of the Genome	93.310	144,482	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933357	WA00363868/OSP2016102	Center for 3D Structure and Physics of the Genome	93.310	69,208	-
			Total for University of Massachusetts Medical Center		**1,324,538**	**-**
Wayne State University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6932770	WSU15133	Computational and Functional Characterization of the Molecular Steps in Membran	93.242	59,679	-
			Total for Wayne State University		**59,679**	**-**
Washington University						
DEPARTMENT OF HEALTH & HUMAN SERVICES	6931688	WU-15-56	Cross-scale interactions between mineral and collagen for tendon-bone attachment	93.286	4,097	-
DEPARTMENT OF HEALTH & HUMAN SERVICES	6933457	WU-16-102	Cross-scale interactions between mineral and collagen for tendon-bone attachment	93.286	12,878	-
			Total for Washington University		**16,975**	**-**
			TOTAL for Department of Health & Human Services		**18,528,586**	**-**

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MISCELLANEOUS FEDERAL GOVT						
University of New Hampshire						
MISCELLANEOUS FEDERAL GOVT	6925804	12-085	Gulf of Maine Regional Aquatic Nuisance Species Proposal	11.417	2,140	-
			Total for University of New Hampshire		**2,140**	**-**
North Pacific Research Board						
MISCELLANEOUS FEDERAL GOVT	6931400	1411	Influenza in synanthropic gulls: are congregation sites hotspots for viral evolution?	11.472	98,629	-
			Total for North Pacific Research Board		**98,629**	**-**
International Electronics Manufacturing Initiative						
MISCELLANEOUS FEDERAL GOVT	6930571	70NANB14H053-0001	Integrated Photonics	11.609	172,286	-
			Total for International Electronics Manufacturing Initiative		**172,286**	**-**
Harvard Medical School						
MISCELLANEOUS FEDERAL GOVT	6933698	167937-5093336	Cortical Architecture and Algorithms for Machine Listening	15.RD	52,381	-
			Total for Harvard Medical School		**52,381**	**-**
University of Southern California						
MISCELLANEOUS FEDERAL GOVT	6929768	49245188	Contributions to the CGM and non-secular motion representation	15.808	30,956	-
			Total for University of Southern California		**30,956**	**-**
Colorado State University						
MISCELLANEOUS FEDERAL GOVT	6928840	G-9870-1	Estimating the Effects of Changing Climate on Fires and Consequences for U.S. Air Quality, Using a Set of Global and Regional Climate Models	15.232	16,141	-
			Total for Colorado State University		**16,141**	**-**
University of Illinois-Urbana Champaign						
MISCELLANEOUS FEDERAL GOVT	6925791	2012-02061-03	Intercity Passenger Rail	20.701	89,344	-
MISCELLANEOUS FEDERAL GOVT	6929700	2013-05178-01	Intercity Passenger Rail - Phase II	20.701	4,852	-
			Total for University of Illinois-Urbana Champaign		**94,196**	**-**
University of Maryland - College Park						

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MISCELLANEOUS FEDERAL GOVT	6933219	30567-Z9004101	Modeling of Secondary Benefits of PBN Procedures	20.RD	66,030	-
MISCELLANEOUS FEDERAL GOVT	6930567	Z987701	Analysis and Modeling of Passenger Delay in the NAS	20.RD	80,851	-
MISCELLANEOUS FEDERAL GOVT	6925073	Z990002	Wake Turbulence Analysis and Research to Study NextGen Operations	20.RD	62,250	-
			Total for University of Maryland - College Park		**209,131**	**-**
Lincoln Laboratory						
MISCELLANEOUS FEDERAL GOVT	6926777	7000213564	En-Route and Terminal Speed & Altitude Optimization	20.RD	74,831	-
			Total for Lincoln Laboratory		**74,831**	**-**
Honeywell International Inc.						
MISCELLANEOUS FEDERAL GOVT	6933626	AGREEMENT DTD 2/1/16 PO # 4206594602	Identify Safety Issues in Integration of Complex Digital Systems	20.RD	21,267	-
			Total for Honeywell International Inc.		**21,267**	**-**
General Electric Global Research						
MISCELLANEOUS FEDERAL GOVT	6930428	PO 400203914	Investigation of New Roles for Humans and Automation in Next Generation Rail Systems	20.RD	201,290	-
			Total for General Electric Global Research		**201,290**	**-**
Siemens Medical Solutions USA, Inc.						
MISCELLANEOUS FEDERAL GOVT	6929661	102-01	Knowledge Representation in Neural Systems	12.RD	472,441	43,297
			Total for Siemens Medical Solutions USA, Inc.		**472,441**	**43,297**
Harvard University						
MISCELLANEOUS FEDERAL GOVT	6929123	105211-5064644	Testing the National Digital Stewardship Residency (NDSR) Model in Boston, MA	45.313	6,217	-
MISCELLANEOUS FEDERAL GOVT	6934046	138076-5093553	Algorithms for Representation and Inference informed by the Acquisition of Data from Neuroscience Experiments (ARIADNE)	12.RD	91,028	-
MISCELLANEOUS FEDERAL GOVT	6934070	138076-5093555	MICrONS	12.RD	331,331	-
			Total for Harvard University		**428,576**	**-**
Harvard School of Public Health						
MISCELLANEOUS FEDERAL GOVT	6931110	111136.5082827	Rapid Diagnosis of Frail and Sick Newborns with a Handheld Vital Sign Monitor	98.001	16,248	-
			Total for Harvard School of Public Health		**16,248**	**-**

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Duke University						
MISCELLANEOUS FEDERAL GOVT	6924804	12-DHS-1036	X-Ray Scatter and Phase Imaging for Explosive Detection	97.RD	68,067	-
			Total for Duke University		**68,067**	**-**
University of Pennsylvania						
MISCELLANEOUS FEDERAL GOVT	6933436	562731	Enabling Citizens and Owners to Invest in Green Infrastructure in Philadelphia	66.509	67,036	-
			Total for University of Pennsylvania		**67,036**	**-**
BAE Systems, PLC						
MISCELLANEOUS FEDERAL GOVT	6930167	797597	FINDER Program	12.RD	11,807	-
			Total for BAE Systems, PLC		**11,807**	**-**
ESPACE						
MISCELLANEOUS FEDERAL GOVT	6928454	AGMT. DTD. 8/14/13	IMPACT: Validation of iEPS in Space	12.RD	813,776	-
			Total for ESPACE		**813,776**	**-**
Radiation Monitoring Devices						
MISCELLANEOUS FEDERAL GOVT	6928922	C14-13	Photonic Crystal Structures for Transformational Gain in Scintillator Performance	97.RD	127,927	-
MISCELLANEOUS FEDERAL GOVT	6928889	RMD C14-07	TIBr Spectrometers With Improved Long Term Stability at Room Temperature	97.RD	-8,486	-
			Total for Radiation Monitoring Devices		**119,441**	**-**
Development Alternatives, Inc.						
MISCELLANEOUS FEDERAL GOVT	6931471	CDI-G-002	The Desal Prize Phase Two	98.RD	13,500	-
			Total for Development Alternatives, Inc.		**13,500**	**-**
Council on Library and Information Resources						
MISCELLANEOUS FEDERAL GOVT	6928937	CON-479	Closing the Gap: Identifying Needs in Continuing Education for Managing Cultural Heritage Data.	45.313	17,476	-
			Total for Council on Library and Information Resources		**17,476**	**-**
The QED Group LLC						
MISCELLANEOUS FEDERAL GOVT	6932640	KDAD-15-001	eLearning Assessment	98.RD	46,918	-
			Total for The QED Group LLC		**46,918**	**-**

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Missouri Botanical Garden						
MISCELLANEOUS FEDERAL GOVT	6931485	MLS0564MI	IMAGINE: Innovative Modeling Across the Garden to Investigate Neighborhood Ecology	45.301	-576	-
			Total for Missouri Botanical Garden		**-576**	**-**
BBN Technologies Corporation						
MISCELLANEOUS FEDERAL GOVT	6930273	PO #9500011262	Babelon	12.RD	235,778	-
			Total for BBN Technologies Corporation		**235,778**	**-**
			TOTAL for Miscellaneous Federal Govt		**3,283,737**	**43,297**

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION						
Brown University						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930189	00000677	SSERVI: Environment and Evolution of Exploration Destinations: Science and Engineering Synergism	43.001	529,260	39,260
			Total for Brown University		**529,260**	**39,260**
Applied Physics Lab of Johns Hopkins						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6927060	111556	Are Saturn tori variable?	43.RD	28,866	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931748	126755	Research Opportunities in Space and Earth Sciences 2014	43.001	104,995	-
			Total for Applied Physics Lab of Johns Hopkins		**133,861**	**-**
CalTech - Jet Propulsion Lab						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6899758	1283622	Voyager Interstellar Mission (VIM) Plasma Science	43.RD	377,312	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931070	1516097	Wearable Interface for Natural Gesture Control and Tele-Operation of Robotic Systems	43.RD	39,881	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931134	1516434	Exoplanet Radio Data Analysis	43.RD	5,315	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931786	1524876	JPL Innovation Foundry	43.RD	11,692	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932364	1532689	EUROPA - MISE Co-I Subcontract	43.RD	20,451	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932902	1538010	Wearable Interface for Natural Gesture Control and Tele-Operation of Robotic Systems	43.RD	46,488	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933115	1540342	Europa Project Gravity Science Working Group (GSWG)	43.RD	13,181	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933469	1541064	The Eccentric Exoplanets: A Survey of Atmospheric Heating and Variability	43.RD	26,229	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932365	CREI 1532602	EUROPA - ICEMAG	43.RD	9,983	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6927191	RSA 1474483	Characterization of a Low-density Exo-Neptune & Understanding Other Worlds w/ spritzer: From Hot Supeters to Super-Earths	43.RD	26	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929298	RSA 1499620	Measuring the masses of the shortest-period planets	43.RD	2,899	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929419	RSA 1499636	The First Orbital Phase Curve of a Rocky Exoplanet	43.RD	105	-

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930629	RSA 1511192	KECK 2014B Critical Support Data for Seasonal Change in Pluto's Atmosphere	43.RD	2,912	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931007	RSA 1515125	Novel Readout of Superconducting Nanowire Single Photon Detectors	43.RD	7,534	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933764	RSA 1544195	Exoplanet Radio Data Analysis	43.RD	9,158	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930202	RSA NO. 1501510	Exoplanet Atmospheres in High Definition: 3D Eclipse Mapping of HD 209458b and HD 189733b	43.RD	87,014	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932219	RSA NO. 1523679	Consortium on Ultracold Atoms in Space	43.RD	140,572	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932305	RSA NO. 1532007	A Proposal for an Extreme Precision Doppler Spectrometer Instrument for the WIYN Telescope: the WIYN Spectrograph for DOppler Monitoring (WISDOM)	43.RD	249,970	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6923183	SUBCONTRACT 1422439	A Global Ocean and Sea Ice Reanalysis for Studying the Role of Sea Ice in the Global Ocean Circulation	43.RD	-24	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6923676	SUBCONTRACT 1428190	Estimating the Circulation and Climate of the Ocean for CLIVAR	43.RD	177,374	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6925312	SUBCONTRACT 1449788	Benchmarking Thermolysis and Pyrolysis of Organic Matter on the SAM Instrument Suite	43.RD	83,036	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6925531	SUBCONTRACT 1453629	Planning for MIT Comet Magnetization Investigations	43.RD	48,460	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930713	SUBCONTRACT NO. 1510842	Soil Moisture Science and Product Development	43.RD	128,950	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931399	SUBCONTRACT NO. 1517907	The Mars Oxygen ISRU Experiment (MOXIE)	43.RD	413,347	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6934038	SUBCONTRACT NO. 1546769	JPL Innovation Foundry	43.RD	9,412	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6934039	SUBCONTRACT NO. 1547169	JPl/MIT Collaboration	43.RD	20,027	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933894	SUBCONTRACT NO. 1547496	MIT Support to SOXE Stack Post-Test Evaluation	43.RD	73,759	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932016	SUBCONTRACT NO. 517907	The Mars Oxygen ISRU Experiment (MOXIE)	43.RD	71,788	47,630
			Total for CalTech - Jet Propulsion Lab		**2,076,852**	**47,630**
University of Colorado Boulder						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932162	1552615	Rock Powered Life	43.001	28,105	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6924661	PO # 1000017191	Thermospheric Oxygen Mapper	43.002	-16,123	-

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930573	PO# 1000381071	TST: Response of the Atmosphere to Impulsive Solar Events (RAISE)	43.001	34,786	-
			Total for University of Colorado Boulder		**46,768**	**-**
Scientific Systems Company, Incorporated						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931010	1601-MIT	Implementation & Flight Testing of IMPACT System for Autonomous ISR	43.RD	52,534	-
			Total for Scientific Systems Company, Incorporated		**52,534**	**-**
Lowell Observatory						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932482	2015-81520	Occultation Studies of Small Bodies in the Outer Solar System	43.RD	75,468	-
			Total for Lowell Observatory		**75,468**	**-**
Southwest Research Institute						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6893453	299433Q/SUB UNDER NASW-02008	New Horizon Science Team Member 05310-SOW-02 Rev O Chg O	43.RD	185,345	-
			Total for Southwest Research Institute		**185,345**	**-**
University of Michigan						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929673	3002970419	Scalable Multidelity Design Optimization: Next Generation Aircraft and their Impact on the Air Transportation System	43.002	1,832	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933514	3003768337	Scalable Multifidelity Design Optimization: Next Generation Aircraft and their Impact on the Air Transportation System--Phase II	43.002	41,074	-
			Total for University of Michigan		**42,905**	**-**
University of Southern California						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6927488	34714188	Land Information System for SMAP Tier-1 and AirMOSS Earth Venture-1 Decadal Survey Missions	43.001	23,053	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6926431	38686495/PO 10178888	Airborne Microwave Observatory of Subcanopy and Subsurface (AirMOSS)	43.RD	226,625	-
			Total for University of Southern California		**249,678**	**-**
Purdue University						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929534	4103-60255	Regional and Global Climate and Societal Impacts of Land-Use and Land-Cover Change in Northern Eurasia: A Synthesis Study Using Remote Sensing Data and An Integrated Global System Model	43.001	76,412	-

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			Total for Purdue University		**76,412**	**-**
California Institute of Technology						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6927547	44A-1093689	Analysis of NuSTAR Observations of Sgr A* and the Galactic Center	43.001	34,268	-
			Total for California Institute of Technology		**34,268**	**-**
Pennsylvania State University						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6928017	4855-MIT-NASA-I80G	Carbon Biosignatures of Early Ecosystems: Picomolar Scale Compound-Specific Isotope Analyses (Pico-CSIA)	43.001	74,882	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931728	5190-MIT-NASA-C46G	Fast Event Recognition for the ATHENA Wide Field Imager	43.001	11,149	-
			Total for Pennsylvania State University		**86,030**	**-**
Stanford University						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931197	60777964-112312(MIT)	Spacecraft/Rover Hybrids for the Exploration of Small Solar System Bodies	43.001	20,448	-
			Total for Stanford University		**20,448**	**-**
Connecticut Analytical Corporation						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932447	AGREEMENT EFFECTIVE 06/17/2015	Low Power Miniature Colloidal High Vacuum Pump	43.RD	30,000	-
			Total for Connecticut Analytical Corporation		**30,000**	**-**
ESPACE						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930807	AGREEMENT EFFECTIVE 3/26/14	Precision Electrospray Thruster Assembly (PETA) Phase 3 - BaseLine	43.RD	-484	-
			Total for ESPACE		**-484**	**-**
ProtoInnovations, LLC						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931960	AGRMNT EFFECTIVE 5-1-15	Advanced Algorithms and Controls for Superior Robotic All-Terrain Mobility (Phase 2)	43.RD	83,324	-
			Total for ProtoInnovations, LLC		**83,324**	**-**
Aurora Flight Sciences Corporation						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932984	AMA-16-0001	D8 Conceptual Sizing Sensitivity Analysis	43.RD	27,530	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931044	SUBCONTRACT AFS14-1207	SBIR Phase II: Enhanced Dynamic Load Sensor for ISS (EDLS-ISS)	43.RD	58,087	-

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			Total for Aurora Flight Sciences Corporation		**85,617**	**-**
University of Idaho						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933536	AMK162-SB-001	Titan Waves & Glints	43.001	12,743	-
			Total for University of Idaho		**12,743**	**-**
Smithsonian Inst. - Astrophysical Observatory						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931555	AR5-16003X	The Evolution of Disk Winds with X-ray Spectral States in Neutron Star Low Mass X-ray Binaries (Chandra 16400627)	43.001	14,977	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929558	G04-15007X	The eye of the hurricane. Exploring the innermost wind region of the massive star QV Nor	43.001	16,863	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931105	G04-15027X	Investigating New Integral Sources with Chandra	43.001	1,250	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929382	G04-15032X	Precise Localization of Transient Low-Mass X-ray Binaries	43.001	950	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930578	G04-15037X	LETGS Spectroscopy of the Ultracompact Binary 4U 1626-67 (Chandra 15400308)	43.001	37,675	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929699	G04-15048X	The cooling neutron star in the super-Eddington accretor XTE J1701-462 (Chandra 15400856)	43.001	16,850	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6924743	GO2-13006B	Cosmology and Cluster Evolution from the 80 Most Massive Clusters in 2000 deg 2 from the South Pole Telescope Survey (Chandra 13800883)	43.RD	28,288	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6925654	GO2-13034X	A Further Drop into Quiescence by the Neutron Star and Possible Hierarchical Triple 4U2129+47 (Chandra 13400103)	43.RD	12,907	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6924744	GO2-13052X	Quasi-persistent neutron-star X-ray binaries in quiescence (Chandra 13400639)	43.RD	-3	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6925032	GO2-13105B	Colliding Galaxies Arp 256 and NGC 5754/52 (Chandra 13620198)	43.RD	-2	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6925445	GO2-13110A	Chandra HETG Ultra-deep Gratings Spectroscopy of Sgr A* (CHUGSS) (Chandra 13620807)	43.RD	35,602	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6926210	GO2-13131A	Variability and particle acceleration in the jet of Pictor A (Chandra 13700620)	43.RD	1,800	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6925446	GO2-13152X	To The Outer Limits of Clusters with Chandra and Suzaku (Chandra 13800569)	43.RD	9,107	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6927863	GO3-14003A	Wolf-Rayet Winds at High Spectral Resolution (Chandra 14200176)	43.RD	47	-

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6927154	GO3-14031X	Crust cooling of accretion heated neutron stars (Chandra 14400215)	43.RD	2,776	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6928578	GO3-14099X	Monitoring the Tidal Disruption of a Gas Cloud Approaching Sgr A* (Chandra 14620924)	43.RD	19,481	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6927467	GO3-14132X	To the Outer Limits of Clusters with Chandra and Suzaku (Chandra 14800401)	43.001	2,402	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931726	GO4-15008X	Wind Properties in a Very Young Pup (Chandra 15200426)	43.001	12,267	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933441	GO4-15009A	Can X-rays clear a circumstellar disk in 2 years? (Chandra 15200448)	43.001	6,630	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930733	GO4-15040A	SS433 Jet Formation	43.001	15,819	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6934086	GO4-15051A	Confronting IC 10 X-1: Does the Most Massive Stellar Black Hole Also Have the Most Extreme Spin? (Chandra GO4-15051X transfer)	43.001	14,556	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929736	GO4-15091B	Monitoring the Tidal Disruption of the Gas Cloud G2 As It Encounters Sgr A* (Chandra 15620853)	43.001	15,526	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931561	GO4-15122A	Searching for Signatures of Episodic AGN Feedback in the Core of the Phoenix Cluster (Chandra 15800543)	43.001	16,848	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931519	GO5-16009A	A Deep X-ray look at a very massive star: HETGS spectroscopy of the blue hypergiant HIP 101364 (Chandra 16200225)	43.001	5,240	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931494	GO5-16014X	Challenging accretion models with an HETG observation of T Tau (Chandra 16200403)	43.001	5,801	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931768	GO5-16031B	Transient LMXBs in Globular Clusters (Proposal No.16400153)	43.001	5,180	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932414	GO5-16032B	Following a black hole candidate X-ray transient to quiescence (Chandra 16400196)	43.001	12,941	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932076	GO5-16040X	Crust Cooling of accretion heated neutron stars (Chandra 16400423)	43.001	11,876	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933019	GO5-16041X	Precise Localization of Transient Low-Mass X-ray Binaries (Chandra 16400444)	43.001	3,601	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933495	GO5-16044X	Filling the gap in understanding the wind structure of HDE 226868 /Cyg X-1 (Chandra 16400537)	43.001	15,074	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932416	GO5-16046X	An Integrated Approach to Winds, Jets, and State Transitions (Chandra 16400577)	43.001	15,241	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932077	GO5-16050A	Spying on millisecond pulsar paradise: Chandra+GBT monitoring of M28 (Chandra 16400865)	43.001	9,354	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931464	GO5-16080X	Galaxies in Collision (ARP 273)	43.001	21,805	-

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931765	GO5-16088X	S364 IN THE OLD OPEN CLUSTER M67: EXOPLANET HOST OR ACTIVE BINARY? (Chandra 16620871)	43.001	10,057	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932415	GO5-16141X	A MASS-LIMITED SURVEY OF GALAXY CLUSTERS AT 1.2 < z < 1.7: PROBING THE PHYSICS OF THE ICM DURING ITS ASSEMBLY (Chandra 16800690)	43.001	6,322	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931769	GO5-16143X	Distant Galaxy Clusters Hosting Extreme Central Galaxies	43.001	8,407	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933501	GO6-17013A	Using high resolution x-ray spectra to probe accretion, abundances, and coronal activity in the young cluster IC 348 (Chandra 17200344)	43.001	6,556	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6925506	SV2-82011	Participation in the Stability Issues and Considerations for GGOS Core Sites Project	43.RD	-15,180	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6926645	SV2-82023	ACIS Science Support for the Chandra Program	43.RD	321,349	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6895251	SV3-73016	Support of the Chandra X-Ray Center (CXC)	43.RD	3,102,988	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6927059	SV3-83001	MIT Participation in Phase C/D activities to prepare the Faraday Cup (FCup) for the Deep Space Climate Observatory (DSCOVR)	43.RD	25	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933782	TM6-17010X	Modeling the Unique Dust Distribution in the Cyg X-3 and Cyg OB2 Sight Line (Chandra 17910568)	43.001	14,792	-
			Total for Smithsonian Inst. - Astrophysical Observatory		**3,844,043**	**-**
University of Chicago						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6928511	FP052783	Exploring the Diversity of Exoplanet Atmospheres Using Ground-Based Transit Spectroscopy	43.001	36,428	-
			Total for University of Chicago		**36,428**	**-**
Baylor College of Medicine						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930332	HFP03801	Customized Refresher and Just-In-Time Training for Long-Duration Spaceflight Crews	43.002	194,385	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6928521	SA03401	Countermeasures to Reduce Sensorimotor Impairment and Space Motion Sickness Resulting from Altered Gravity Levels	43.RD	244,557	-
			Total for Baylor College of Medicine		**438,942**	**-**
Space Telescope Science Institute						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929649	HST-AR-13238.04-A	Resolving Galaxy Cluster Substructure with Gravitational Lensing Flexion	43.RD	1	-

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6928929	HST-AR-13246.01-A	The nucleosynthetic origins and chemical evolution of phosphorus in the early universe (HST-AR-13246)	43.RD	3,434	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6922949	HST-GO-12008.03-A	Primoridal Formation of Close Binaries in Global Clusters with Low Density Cores	43.RD	-8	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6925695	HST-GO-12746.01-A	Close binary populations in metal-rich globular clusters (HST-GO-12746-A)	43.RD	4,902	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929525	HST-GO-12976.006-A	The Most Complete Template for r-process Nucleosynthesis beyond the Solar System (HST-GO-12976)	43.RD	1,264	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929648	HST-GO-12987.02-A	Possible Disintegrating Short-Period Super-Mercury Orbiting KIC 12557548 (HST GO-12987)	43.RD	9,978	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929647	HST-GO-12992.001-A	Are Young Stars Condensing Out of the Rapidly-Cooling Intracluster Medium? (HST-GO-12992)	43.RD	2,870	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929424	HST-GO-13021.04-A	Revealing the Diversity of Super-Earth Atmopspheres	43.RD	18,483	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6927925	HST-GO-13102.04-A	Zooming in on the Starburst at the Core of the Phoenix Cluster (HST-GO-13102)	43.RD	1,750	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929562	HST-GO-13180.007	Search for a Transit of Alpha Centauri Bb, the first Earth Mass	43.RD	-17,348	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6928928	HST-GO-13303.01-A	The Structure of MgII Absorbing Galaxies at z=2-5: Linking CGM Physics and Stellar Morphology During Galaxy Assembly (HST-GO-13303)	43.RD	54,163	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930667	HST-GO-13456.002A	Searching for 300,000 Degree Gas in the Core of the Phoenix Cluster with HST-COS (HST 13456)	43.RD	31,241	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931429	HST-GO-13766.010-A	The nature of stationary components in jets from young stellar objects	43.RD	5,294	-
			Total for Space Telescope Science Institute		**116,023**	**-**
Honeywell						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930862	NON11042 PO #4205965818	Category-theoretic Approaches for the Analysis of Distributed Systems	43.RD	112,970	-
			Total for Honeywell		**112,970**	**-**
University of Arizona						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6924918	PURCHASE ORDER 6473	OSIRIS-REx Near-Earth Asteroid Sample Return	43.RD	50,567	-
			Total for University of Arizona		**50,567**	**-**
Old Dominion University Research Foundation						

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933006	RF PROJECT NO.: 16-134-100558-010	Extreme-Scale Parallel Mesh Generation: CFD 2030 Vision	43.002	14,575	-
			Total for Old Dominion University Research Foundation		**14,575**	**-**
LongWave Photonics LLC						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6930341	SBIR AGMT UNDER NNX14CP54P	Terahertz quantum cascade laser local oscillator	43.RD	6,904	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6932654	SBIR AGMT UNDER NNX15CP15C	SBIR Ph II: Terahertz quantum cascade laser local oscillator	43.RD	167,994	-
			Total for LongWave Photonics LLC		**174,898**	**-**
University Space Research Assoc.						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6931977	SOF 03-0028 PERSON	Monitoring Pluto's Atmosphere with Stellar Occultations During the New Horizons Flyby Epoch	43.RD	13,409	-
			Total for University Space Research Assoc.		**13,409**	**-**
University of Alabama in Huntsville						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6925492	SUB2012-055	Informal representation and team decision-making in complex engineering systems	43.008	14,775	-
			Total for University of Alabama in Huntsville		**14,775**	**-**
Northeastern University						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6929056	SUBAWARD #505014	NRI-Small: Manipulating Flexible Materials Using Sparse Coding	43.001	-3,012	-
			Total for Northeastern University		**-3,012**	**-**
University of California - Irvine						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6928803	SUBAWARD NO. 2013-2981	Ice-Shelf Melting in Antarctica and impact on Glacier Dynamics	43.001	115,149	-
			Total for University of California - Irvine		**115,149**	**-**
University of California						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6921633	SUBCONTRACT NO. 2090-S-MA838	DAWN A Journey to the Beginning of teh Solar System - Phase E	43.RD	147,957	-
			Total for University of California		**147,957**	**-**
Carnegie Institution of Washington						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6920454	SUBCONTRACT NO. DTM-3250-1018	Messenger Discovery Mission to Mercury	43.RD	144,183	-

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Federal Research Support - Passthrough - On Campus
FY 2016 Expenditures by Prime Sponsor and Sponsor

Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
			Total for Carnegie Institution of Washington		**144,183**	**-**
National Institute of Aerospace						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6933720	SUBCONTRACT T13-6500-MIT/TASK ORDER 6565-MIT	On Demand Mobility Studies: Investigating Vehicle Platforms Able to Carry Small Packages to 9 Passengers, with Investigations of their Enabling Component Technologies	43.RD	26,664	-
			Total for National Institute of Aerospace		**26,664**	**-**
University of Minnesota						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	6917008	X5336545105	Radiation Belt Storm Probe EFW Project	43.RD	119,249	-
			Total for University of Minnesota		**119,249**	**-**
			TOTAL for National Aeronautics and Space Administration		**9,187,850**	**86,890**

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NATIONAL SCIENCE FOUNDATION						
University of California - Berkeley						
NATIONAL SCIENCE FOUNDATION	6921266	00006900	Modeling Analysis and Control of Distributed Sensor Networks for Cyber Physical Systems	47.070	1,676	-
NATIONAL SCIENCE FOUNDATION	2744467	00007444	Center for Energy Efficient Electronics Science (E3S)	47.041	928,614	-
NATIONAL SCIENCE FOUNDATION	6931200	00008648	HERA: Illuminating Our Early Universe	47.049	60,414	-
NATIONAL SCIENCE FOUNDATION	2746265	SA5284-11210	SynBERC:Synthethic Biology Engineering Research Center	47.041	334,025	-
NATIONAL SCIENCE FOUNDATION	6929285	SUBAWARD 00008317/MCB-1330914	Synthetic biology of yeast	47.074	218,120	-
			Total for University of California - Berkeley		**1,542,849**	**-**
Columbia University						
NATIONAL SCIENCE FOUNDATION	6931173	1(GG008891)	CNH: Competing Demands and Future Vulnerability of Groundwater: Drinking Water Quality and Food Security in Arsenic-Impacted South and Southeast Asia	47.050	23,433	-
			Total for Columbia University		**23,433**	**-**
University of Massachusetts - Amherst						
NATIONAL SCIENCE FOUNDATION	6924482	11-006642 E 00	Metrology and Process Modeling for Roll-to-Roll Patterned Polymer Manufacturing	47.041	69,542	-
			Total for University of Massachusetts - Amherst		**69,542**	**-**
Carnegie-Mellon University						
NATIONAL SCIENCE FOUNDATION	6932341	1122145-344388	CSR: Medium: Distributed Inference Algorithms for Machine Learning and Optimization	47.070	104,529	-
NATIONAL SCIENCE FOUNDATION	6930825	1122183-333057	CIF21: DIBBS: Building a Scalable Infrastructure for Data-Driven Discovery and Innovation in Education	47.070	142,490	-
			Total for Carnegie-Mellon University		**247,019**	**-**
SimBiotic Software						
NATIONAL SCIENCE FOUNDATION	6926892	1227245	DIP: Using Dynamic Models to Assess Higher-Order Thinking Skills in Biology	47.080	164,681	-
			Total for SimBiotic Software		**164,681**	**-**
Harvard University						
NATIONAL SCIENCE FOUNDATION	2746292	123826-5056263	Center for Integrated Quantum Materials	47.049	1,416,889	-

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NATIONAL SCIENCE FOUNDATION	6932660	123937-5096527	Biologically Inspired Optimized Materials And Technologies Transformed by Evolutionary Rules (BIOMATTER)	47.049	71,375	-
			Total for Harvard University		**1,488,264**	**-**
Arizona State University						
NATIONAL SCIENCE FOUNDATION	6929035	14-374	FESD Type 1: The Dynamics of Earth System Oxygenation	47.050	124,358	-
NATIONAL SCIENCE FOUNDATION	2745328	SUBAWARD NO. 12-725	ERC for Quantum Energy and Sustainable Solar Technologies: QUESST	47.041	403,688	-
NATIONAL SCIENCE FOUNDATION	6926052	SUBAWARD NO. 12-920	EDGES-2: Detecting First Light and Reionization Through the Global 21cm Signature	47.041	18,733	-
			Total for Arizona State University		**546,779**	**-**
New York University Medical Center						
NATIONAL SCIENCE FOUNDATION	6934052	14-A0-00-003420-01	Interactions of Radiofrequency Electromagnetic Fields with Biological Tissue: New Tools to Address Challenges and Exploit Opportunities	47.041	4,534	-
NATIONAL SCIENCE FOUNDATION	6932196	PO #M160000461 - #14-A0-00-003420-01	Interactions of Radiofrequency Electromagnetic Fields with Biological Tissue: New Tools to Address Challenges and Exploit Opportunities	47.041	39,274	-
			Total for New York University Medical Center		**43,808**	**-**
New York University School of Medicine						
NATIONAL SCIENCE FOUNDATION	6930277	14-AO-00-00315301: PROJECT 103733	CRCNS: Computational Approaches to Uncover Neural Representation of Population Codes in Rodent Hippocampal-Cortical Circuits.	47.070	88,775	-
			Total for New York University School of Medicine		**88,775**	**-**
University of Maryland						
NATIONAL SCIENCE FOUNDATION	6931090	17283-Z4390002	Creating Opportunities for Adapation Based of Population in Urban Landscape for Sustainable Built Environments (PULSE)	47.041	56,732	-
			Total for University of Maryland		**56,732**	**-**
California Institute of Technology						
NATIONAL SCIENCE FOUNDATION	6924765	19-1091542	EFRI: MIKS: Notch Signaling in Colon Cancer Stem Cells	47.074	9,022	-
NATIONAL SCIENCE FOUNDATION	6929096	68D-1094591	Powering the Planet: A Chemical Bonding Center in the Direct Conversion of Sunlight into Chemical Fuel	47.049	342,253	-

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NATIONAL SCIENCE FOUNDATION	6918488	SUBAWARD #68D-1086050	Powering the Planet: A Chemical Bonding Center in the Direct Conversion of Sunlight into Chemical Fuel	47.049	-247,265	-
NATIONAL SCIENCE FOUNDATION	6923033	SUBAWARD NO. 75-1086390	LIGO Operations	47.049	4,290,385	-
NATIONAL SCIENCE FOUNDATION	6917535	SUBAWARD NO. 75ADV-1085563	Advanced LIGO	47.049	24,006	-
			Total for California Institute of Technology		**4,418,401**	**-**
University of Illinois-Urbana Champaign						
NATIONAL SCIENCE FOUNDATION	6931375	2014-05135-01	Atomic Beam Source (ABS) Development	47.049	161,959	-
			Total for University of Illinois-Urbana Champaign		**161,959**	**-**
University of Illinois at Chicago						
NATIONAL SCIENCE FOUNDATION	6933103	2015-04326-01-00	EFRI 2-DARE: Thermal Transport in 2D Materials for Next Generation Nanoelectronics- From Fundamentals to Devices	47.041	105,878	-
			Total for University of Illinois at Chicago		**105,878**	**-**
Massachusetts General Hospital						
NATIONAL SCIENCE FOUNDATION	6932786	223092	Imaging the elastic properties of cells in 3D environment	47.041	10,363	-
			Total for Massachusetts General Hospital		**10,363**	**-**
University of Arizona						
NATIONAL SCIENCE FOUNDATION	6932242	272622	BCSP: The Emergence of Inactivity: adaptive task allocation in complex distributed systems, or why are there so many lazy ants?	47.074	114,601	-
			Total for University of Arizona		**114,601**	**-**
Brooklyn College of the City University of New York						
NATIONAL SCIENCE FOUNDATION	6926992	40C68A	Learning Mathematics of the City in the City	47.076	15,061	-
			Total for Brooklyn College of the City University of New York		**15,061**	**-**
Purdue University						
NATIONAL SCIENCE FOUNDATION	6927170	4101-51804	Network for Computational Nanotechnology (NCN)	47.041	300,115	-
NATIONAL SCIENCE FOUNDATION	6922872	SUBAWARD #4101-38045	Emerging Frontiers of Science of Information	47.070	442,154	-
			Total for Purdue University		**742,268**	**-**
University of Rochester						

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NATIONAL SCIENCE FOUNDATION	6932833	416716-G	Nanophotonic Device Design	47.041	18,110	-
NATIONAL SCIENCE FOUNDATION	6932946	416750G	PIRE: DUST stimulated drawn-down of atmospheric CO2 as a trigger for Northern Hemisphere Glaciation	47.083	35,700	-
			Total for University of Rochester		**53,810**	**-**
Pennsylvania State University						
NATIONAL SCIENCE FOUNDATION	6924565	4482-MIT-NSF-0437	Ionic Electroactive Polymer Actuators with Tailored NanoStructure Morphology	47.041	10,829	-
			Total for Pennsylvania State University		**10,829**	**-**
Boston University						
NATIONAL SCIENCE FOUNDATION	6922469	4500000225	EFRI-SEED Framework for advanced sustainable building design. Smart Micro-grid enabld buildings interacting with utility-side-of-the-meter electricity markets.	47.041	33,107	-
NATIONAL SCIENCE FOUNDATION	6927634	4500001216	Cognitive Rhythms Collaborative: A Discovery Network	47.049	27,779	-
			Total for Boston University		**60,886**	**-**
Northeastern University						
NATIONAL SCIENCE FOUNDATION	6928496	502076-78050A	EFRI-ODISSEI: Origami and Assembly Techniques for Human-Tissue-Engineering (OATH)	47.041	84,910	-
NATIONAL SCIENCE FOUNDATION	6928471	502076-78050B	EFRI-ODISSEI: Origami and Assembly Techniques for Human-Tissue-Engineering (OATH)	47.041	44,528	-
			Total for Northeastern University		**129,438**	**-**
Villanova University						
NATIONAL SCIENCE FOUNDATION	6933407	525840-3	Partnerships for Innovation: Building Innovation Capacity in Smart Stormwater Green Infrastructure	47.041	74,187	-
			Total for Villanova University		**74,187**	**-**
University of Pennsylvania						
NATIONAL SCIENCE FOUNDATION	6928993	557757	Center of Excellence for Materials Research and Innovation (CEMRI)	47.049	179,933	-
			Total for University of Pennsylvania		**179,933**	**-**
University of Washington						
NATIONAL SCIENCE FOUNDATION	6925083	724454	NSF Engineering Research Center for Sensorimotor Neural Laboratory of Electronics	47.041	664,547	-

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NATIONAL SCIENCE FOUNDATION	6926728	SUBCONTRACT NO. UWSC6730 / PO BPO4403	Center for Enabling New Technologies through Catalysis (CENTC) Phase II Renewal	47.049	147,811	-
NATIONAL SCIENCE FOUNDATION	6924726	UWSC6200 (BPO4405)	NSF Engineering Research Center for Sensorimotor Neural Laboratory of Electronics	47.041	32,810	-
NATIONAL SCIENCE FOUNDATION	6928749	UWSC7189, BPO4404	Reliable Quantum Communication and Computation in the Presence of Noise	47.070	24,957	-
			Total for University of Washington		**870,124**	**-**
University of Minnesota						
NATIONAL SCIENCE FOUNDATION	6928796	A003385101	Protein-to-Tissue Model of Glomerular Mechanobiology	47.041	36,417	-
NATIONAL SCIENCE FOUNDATION	6926981	H002341903	Data Net Full Proposal: Terra Populus: A Global Population/Environment Data Network (Subcontract to MIT)	47.080	10,929	-
			Total for University of Minnesota		**47,345**	**-**
NEROC						
NATIONAL SCIENCE FOUNDATION	6926730	AGS-1229036	MRI: Development of RAPID - Radio Array of Portable | Interferometric Detectors	47.050	196,913	-
NATIONAL SCIENCE FOUNDATION	6924648	AST-1126433	MRI: Development of an ALMA Beamformer for Ultra High Resolution VLBI and High Frequency Phased Array Science	47.049	347,493	23,160
NATIONAL SCIENCE FOUNDATION	6926369	AST-1207704	Collaborative Research: Building an Event Horizon Telescope: (Sub)millimeter VLBI from the South Pole Telescope	47.049	-69	-
NATIONAL SCIENCE FOUNDATION	6926388	AST-1211539	Spatially Resolving the Black Hole Event Horizon: (sub) mm VLBI of SgrA* and M87	47.049	5,342	-
NATIONAL SCIENCE FOUNDATION	6928633	AST-1310896	Building the Event Horizon Telescope: Observing Black Holes with Schwarzschild Radius Resolution	47.049	958,128	694,784
			Total for NEROC		**1,507,808**	**717,944**
Yale University						
NATIONAL SCIENCE FOUNDATION	6932587	C16D12238 (D02172)	EFRI 2-DARE: Few-layer and Thin-film Black Phosphorus for Photonic Applications	47.041	98,134	-
			Total for Yale University		**98,134**	**-**
University of Chicago						
NATIONAL SCIENCE FOUNDATION	6928942	FP055660	Scaling directed self-assembly of block copolymers for sub 10-nm manufacturing	47.049	218,020	-
			Total for University of Chicago		**218,020**	**-**

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
Montana State University						
NATIONAL SCIENCE FOUNDATION	6929216	G111-14-W4576	Engineering Synthetic Symbiosis between Plant and Bacteria to Deliver Nitrogen to Crops	47.074	260,638	-
			Total for Montana State University		**260,638**	**-**
Missouri Botanical Garden						
NATIONAL SCIENCE FOUNDATION	6927023	NSF05702MIT	A Full Scale Development Proposal Informal Community Science Investigators (iCSI): Next Generation Engagement for Informal Science Instruction	47.076	151,321	-
			Total for Missouri Botanical Garden		**151,321**	**-**
National Radio Astronomy Observatory						
NATIONAL SCIENCE FOUNDATION	6927676	PO #342941	ALMA Phasing Projection Augmentation	47.049	22,807	-
NATIONAL SCIENCE FOUNDATION	6933699	PO# 352511	ALMA Study Project: Extensions and Enhancements to the ALMA Phasing System	47.049	53,082	-
			Total for National Radio Astronomy Observatory		**75,889**	**-**
University of North Texas						
NATIONAL SCIENCE FOUNDATION	6927582	PO NT752-0000139990 SUBAWARD NO. GF1646-1	MRI: CloudCar - Development of a Diverse Distributed Instrument for Vehicles in the Cloud	47.070	16,759	-
			Total for University of North Texas		**16,759**	**-**
University of Hawaii						
NATIONAL SCIENCE FOUNDATION	6914549	PO Z792093-15 UNDER DBI-424599	Center for Microbial Oceanography: Research and Education (C-MORE)	47.074	24	-
NATIONAL SCIENCE FOUNDATION	6914649	Z792093-11 UNDER PRIME AWARD DBI-424599	Center for Microbial Oceanography: Research and Education (C-MORE)	47.074	283,136	-
			Total for University of Hawaii		**283,160**	**-**
Dartmouth College						
NATIONAL SCIENCE FOUNDATION	6933152	R807	EFRI-BioFlex Preliminary Proposal: A Flexible Glucose Fuel Cell	47.041	4,235	-
			Total for Dartmouth College		**4,235**	**-**
Georgia Institute of Technology						
NATIONAL SCIENCE FOUNDATION	2746922	RF481-G1	Research Experience for Undergraduates	47.041	33,154	-
			Total for Georgia Institute of Technology		**33,154**	**-**

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FY 2016 Expenditures by Prime Sponsor and Sponsor

Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
UNAVCO						
NATIONAL SCIENCE FOUNDATION	6929221	S13-EAR1261833-S4	GAGE Facility GPS Data Analysis and GAMIT/GLOBK Software Support	47.050	221,570	-
NATIONAL SCIENCE FOUNDATION	6927138	SUBCONTRACT NO. 015803 -S1	UNAVCO GPS Analysis Center Coordinator: COCOnet	47.050	8,096	-
			Total for UNAVCO		**229,666**	**-**
LongWave Photonics LLC						
NATIONAL SCIENCE FOUNDATION	6928534	SBIR AGMT UNDER IIP-1330955	SBIR Phase II: Tunable Terahertz Quantum Cascade Lasers for Spectroscopy	47.041	-31,384	-
			Total for LongWave Photonics LLC		**-31,384**	**-**
iGlobe Inc.						
NATIONAL SCIENCE FOUNDATION	6930600	STTR RESEARCH AGREEMENT EFFECTIVE 07/01/2014	STTR Phase I: Overcoming the flat view: teaching climate with an interactive spherical display	47.RD	-3,931	-
			Total for iGlobe Inc.		**-3,931**	**-**
Princeton University						
NATIONAL SCIENCE FOUNDATION	6931431	SUB0000033	FRG: Mathematical Theory of Gravitational Collapse in General Relativity	47.049	34,554	-
NATIONAL SCIENCE FOUNDATION	6933021	SUB0000092	Hazards SEES: Risk Assessment and Risk Management: An Integrated Approach for Responding to Multiple Hazards from Tropical Cyclones	47.050	12,020	-
NATIONAL SCIENCE FOUNDATION	6925294	SUBAWARD NO. 00002019	U.S. CMS Operations at the LHC	47.049	677,565	-
			Total for Princeton University		**724,139**	**-**
University of Michigan						
NATIONAL SCIENCE FOUNDATION	6929136	SUBAWARD 3002943298	EFRI-ODISSEI: Multi Scale Origami For Novel Photonics and Energy Conversion	47.041	140,917	-
			Total for University of Michigan		**140,917**	**-**
Research Foundation of CUNY						
NATIONAL SCIENCE FOUNDATION	6933810	SUBAWARD 40F23-A	EFRI 2-DARE - EXCITONICS AND POLARITONICS BASED ON 2D MATERIALS (EXPO-2D)	47.041	93,029	-
			Total for Research Foundation of CUNY		**93,029**	**-**
Johns Hopkins University						

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FY 2016 Expenditures by Prime Sponsor and Sponsor

Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NATIONAL SCIENCE FOUNDATION	6924816	SUBAWARD AGMT. NO.2001325344	EFRI-M3C: Robust Decoder-Compensator Architecture for Interactive Control of High-Speed and Loaded Movements	47.041	73,745	-
NATIONAL SCIENCE FOUNDATION	2746684	SUBAWARD UNDER NSF PRIME - 2002249470	Precision Higgs Observables & New PHysics Searches from QCD Resummation	47.049	9,163	-
			Total for Johns Hopkins University		**82,908**	**-**
North Carolina Agriculture & Technology State University						
NATIONAL SCIENCE FOUNDATION	6927522	SUBAWARD NO.260211A	EAGER: Application of a Bottom-up Approach to Study Bio-adhesives' Molecular Conformation	47.041	-24	-
			Total for North Carolina Agriculture & Technology State University		**-24**	**-**
Michigan Technological University						
NATIONAL SCIENCE FOUNDATION	6928536	SUBAWD# 1211086Z1, PO# P0092165	CNH: Managing Impacts of Global Transport of Atmosphere-Surface Exchangeable Pollutants in the Context of Global Change	47.050	61,740	-
			Total for Michigan Technological University		**61,740**	**-**
Smithsonian Inst. - Astrophysical Observatory						
NATIONAL SCIENCE FOUNDATION	6933768	SV6-86002	The Event Horizon Telescope Experiment	47.049	137,798	-
			Total for Smithsonian Inst. - Astrophysical Observatory		**137,798**	**-**
Emory University						
NATIONAL SCIENCE FOUNDATION	6930993	T259779	CCI Center in Selective C-H Functionalization	47.049	77,147	-
NATIONAL SCIENCE FOUNDATION	6932561	T439011	CCI Center in Selective C-H Functionalization	47.049	120,741	-
			Total for Emory University		**197,888**	**-**
University of Florida						
NATIONAL SCIENCE FOUNDATION	6930998	UFDSP00010445	Role of Nucleoside Modifications in tRNA Surveillance in Prokaryotes	47.074	59,406	-
			Total for University of Florida		**59,406**	**-**
			TOTAL for National Science Foundation		**15,608,235**	**717,944**
			TOTAL Federal Research Support - Passthrough - On Campus		**$88,727,925**	**$1,352,505**

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Highway Planning and Construction Cluster - Passthrough
FY 2016 Expenditures by Prime Sponsor and Sponsor

Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
U.S. Department of Transportation						
Massachusetts Department of Transportation						
U.S. Department of Transportation	6928559	CONTRACT #81074	Kendall Square Value Pricing Pilot Project	20.205	233,430	-
			Total for Massachusetts Department of Transportation		**233,430**	**-**
			TOTAL for U.S. Department of Transportation		**233,430**	**-**
			TOTAL Highway Planning and Construction Cluster - Passthrough		**$233,430**	**-**

Appendix B
Massachusetts Institute of Technology
Federal Non-Research Support - On Campus
FY 2016 Expenditures

Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF DEFENSE					
Army					
12.420					
Army	W81XWH-13-1-0031	Investigating the mechanism of MenaINV-driven metastasis (BC120078) - PDF for M. Oudin	12.420	36,051	-
Army	W81XWH-13-1-0215	Development of magnetic nanovectors for treatment and imaging of breast cancer metastasis to the brain-BC122973 - PDF for O. Veiseh	12.420	83,342	-
		Total for CFDA # 12.420		*119,393*	-
		Total for Army		**119,393**	**-**
		TOTAL for Department of Defense		**119,393**	**-**

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FY 2016 Expenditures

Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF ENERGY					
81.049					
DOE	DE-SC0013914	Supplemental Funding for the US Transport Task Force April 2015 Meeting	81.049	7,299	-
DOE	DE-SC0014478	MIT Outreach for Plasma Science and Fusion	81.049	82,775	-
DOE	DE-SC0014487	International Workshop on Comparing Ice Nucleation Measuring Systems 2015 (ICIS 2015)	81.049	91,029	-
DOE	DE-SC0015874	Supplemental Funding for the US Transport Task Force March 2016 Meeting	81.049	25,081	-
		Total for CFDA # 81.049		*206,184*	-
81.117					
DOE	DE-EE0005596	MIT Clean Energy Prize	81.117	103,624	-
DOE	DE-EE0007152	MIT Clean Energy Prize	81.117	81,012	-
		Total for CFDA # 81.117		*184,636*	-
81.121					
DOE	DE-NE0000102	MIT Nuclear Energy University Fellowship Program	81.121	267,423	-
		Total for CFDA # 81.121		*267,423*	-
81.U01					
DOE	DE-SC0010493	Edge Coordinating Committee Technical Meetings in FY14	81.U01	906	-
		Total for CFDA # 81.U01		*906*	-
81.U02					
DOE	DE-NE0008402	DOE support for TRTR Conference 2015	81.U02	5,000	-
		Total for CFDA # 81.U02		*5,000*	-
		Total for Department of Energy		**664,149**	**-**
		TOTAL for Department of Energy		**664,149**	**-**

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FY 2016 Expenditures

Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
MISCELLANEOUS FEDERAL GOVT					
Department of Agriculture					
10.310					
USDA	2013-67012-21022	Engineering Chain-length Specificity in an Aldehyde/Alcohol Dehydrogenase - PDF for Chris Reisch	10.310	28,798	-
		Total for CFDA # 10.310		*28,798*	-
		Total for Department of Agriculture		**28,798**	**-**
Department of Commerce					
11.002					
DOC	YA1323-14-SE-0251	Big Data Workshop Conference	11.002	85,323	-
		Total for CFDA # 11.002		*85,323*	-
11.417					
DOC	NA15OAR4170011	Casey Diedrich_ MIT Sea Grant _Knauss Fellowship 2015	11.417	32,535	-
DOC	NA15OAR4170036	Benn Carr_MIT Sea Grant_Knauss Fellowship 2015	11.417	21,112	-
		Total for CFDA # 11.417		*53,646*	-
		Total for Department of Commerce		**138,970**	**-**
Department of Transportation					
20.215					
DOT	DTFH64-14-G-00002	Eisenhower Graduate Fellowship: B. Montgomery	20.215	33,000	-
DOT	DTFH6415G00010	Eisenhower Graduate Fellowship: C. Li	20.215	19,981	-
DOT	DTFH64-15-G-00014	Eisenhower Graduate Fellowship: J. Moody	20.215	25,010	-
DOT	DTFH6415G00026	Eisenhower Graduate Fellowship: T. Doyle	20.215	10,805	-
		Total for CFDA # 20.215		*88,796*	-
		Total for Department of Transportation		**88,796**	**-**
Other Agencies					

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Massachusetts Institute of Technology
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FY 2016 Expenditures

Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
19.021					
Misc.	S-TS800-15-GR-033/PDPR 03	MIT-AFRICA Educator Program: Life Sciences & Entrepreneurship	19.021	27,489	-
		Total for CFDA # 19.021		*27,489*	-
19.415					
Misc.	S-LMAQM-14-GR-1022	Official U.S. Presentation at the 56th International Art Exhibition, Venice, Italy June through November 2015	19.415	225,000	-
		Total for CFDA # 19.415		*225,000*	-
45.149					
Misc.	PE-50100-13	Digital Preservation Management: Effective Short-Term Strategies for Long-Term Problems	45.149	9,895	-
		Total for CFDA # 45.149		*9,895*	-
66.514					
Misc.	FP-91743301-0	Graduate Fellow: J. Bryant	66.514	10,854	-
		Total for CFDA # 66.514		*10,854*	-
77.008					
Misc.	NRC-HQ-13-G-38-0043	U.S. Nuclear Regulatory Commmission Nuclear Education Faculty Development Program at MIT	77.008	139,789	-
Misc.	NRC-HQ-13-G-38-0045	U.S. NRC Nuclear Education Graduate Fellowship Program	77.008	100,000	-
Misc.	NRC-HQ-84-15-G-0045	MIT Nuclear Education Faculty Development Program	77.008	57,857	-
		Total for CFDA # 77.008		*297,646*	-
98.001					
Misc.	AID-OAA-A-12-00095	CITE and IDIN	98.001	2,593,434	780,082
		Total for CFDA # 98.001		*2,593,434*	*780,082*
98.U02					
Misc.	AID-OAA-C-16-00045	HESN Technical Conference	98.U02	6,096	-
		Total for CFDA # 98.U02		*6,096*	-
		Total for Other Agencies		**3,170,414**	**780,082**

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
		TOTAL for Miscellaneous Federal Govt		**3,426,977**	**780,082**

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Massachusetts Institute of Technology
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FY 2016 Expenditures

Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION					
43.001					
NASA	NNA13AA90A	Foundations of Complex Life: Evolution, Preservation & Detection on Earth & Beyond	43.001	36,503	24,545
NASA	NNX12AN38H	Algorithms for P-band SAR Root-zone soil moisture Retrieval - GF for A. Konings	43.001	8,829	-
NASA	NNX12AN39H	Delineating the role of Arctic forcing in extratropical extreme weather - GF for D. Whittleston	43.001	7,124	-
NASA	NNX13AN67H	Climatic and geodynamic influences on ocean island landscape evolution - PD K. Huppert	43.001	26,438	-
NASA	NNX14AK83H	The variability of chemical constituents in the tropical tropopause layer, their radiative impacts, and implications for tropical cyclones - PDF D. Gilford	43.001	29,396	-
NASA	NNX14AK84H	Understanding Atmospheric Particles Using Single Particle Mass Spectrometry - PDF M. Zawadowicz	43.001	30,809	-
		Total for CFDA # 43.001		*139,099*	*24,545*
43.002					
NASA	NNX14AE26H	NASA AERONAUTICS SCHOLARSHIP PROGRAM	43.002	0	-
NASA	NNX14AT13H	NASA Aeronautics Scholorship Program	43.002	46,000	-
NASA	NNX14AT14H	NASA Aeronautics Scholarship Program	43.002	46,000	-
		Total for CFDA # 43.002		*92,000*	-
43.003					
NASA	NNX15AW91G	NASA Participation in MIT Innovation Lab	43.003	48,488	-
		Total for CFDA # 43.003		*48,488*	-
43.008					
NASA	NNX12AM29H	The Gravity Loading Countermeasure Skinsuit - GF for D. Kendrick	43.008	71,084	-
NASA	NNX12AM30H	CubeSat Deformable Mirror Demonstration - GF for A. Marinan	43.008	66,764	-
NASA	NNX13AL76H	In Situ Resource Utilization in Support of Manned Space Exploration - GF Sam Schreiner	43.008	1,188	-
NASA	NNX13AM68H	Augmentation of Sensorimotor Adaptability Using Stochastic Resonance Technologies - GF R. Galvan	43.008	60,793	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NASA	NNX13AM69H	Reusable Communication Infrastructure for Small Satellites - GF R. Kingsbury	43.008	11,154	-
NASA	NNX14AR05A	National Space Grant College and Fellowship Program (Space Grant)	43.008	115,381	-
		Total for CFDA # 43.008		*326,365*	-
43.009					
NASA	NNX11AN09H	Development of multi-modal, high-density electrospray porous metal thrusters - GF for C. Coffman	43.009	4,283	-
NASA	NNX13AE13H	On-Chip quantum repeater in diamond for space-based quantum communication - GF for E. Chen	43.009	59,189	-
NASA	NNX13AE14H	Diamond Electron-Spin Clocks For Space Navigation and Communication - GF for H. Clevenson	43.009	61,551	-
NASA	NNX14AL47H	Hierarchical Composites with Nanostructured Reinforcement for Multifunctional Aerospace Structures - GF R. Li	43.009	71,921	-
NASA	NNX14AL48H	Superconducting Nanowire Single Photon Detectors for High-Data-Rate Deep-Space Optical Communication	43.009	68,273	-
NASA	NNX14AL49H	Modular portable life support system (PLSS) to increase EVA mobility and reduce consumables	43.009	65,958	-
NASA	NNX14AL57H	Evaluating the Impact of Design-Driven Requirements Using SysML (Mark Chodas)	43.009	59,926	-
NASA	NNX14AL61H	Two-Stage Approach to Path and Attitude Planning for Reconfigurable Spacecraft - GF K. Riesing	43.009	63,986	-
NASA	NNX14AL74H	Developing an Adaptive Robotic Assistant for Close-Proximity Human-Robot Interaction in Space Environments	43.009	69,437	-
NASA	NNX14AM40H	Topological Optimization and Automated Construction for Lightweight Structures - G.F. Benjamin Jenett	43.009	71,519	-
NASA	NNX14AM42H	Quantifying the Value of Resilience in Long-Duration Space Systems- G.F. A. Owens	43.009	73,442	-
NASA	NNX14AM57H	The Micro-X X-ray Imaging Spectrometer - G.F. D. Goldfinger	43.009	50,363	-
		Total for CFDA # 43.009		*719,849*	-
43.012					
NASA	NNX15AP50H	Advanced Propellants for Scalable, Multipurpose Electrospray Ion Thrusters	43.012	52,233	-
NASA	NNX15AP51H	Dynamic Human-Centered Suit Design: A Computational and Experimental Method	43.012	59,921	-
		Total for CFDA # 43.012		*112,154*	-

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Federal Agency	Government Contract Number	Master Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
43.U08					
NASA	NNX10AJ90A	CAN/National Needs Grant: Summer of Innovation Pilot	43.U08	8,574	-2,205
		Total for CFDA # 43.U08		*8,574*	*-2,205*
43.U09					
NASA	NNX10AT92H	Massachusetts Space Grant Consortium	43.U09	429,160	-
		Total for CFDA # 43.U09		*429,160*	-
43.U10					
NASA	NNG12FD70C	Regolith X-ray Imaging Spectrometer (REXIS) - Phase B	43.U10	82,303	-
		Total for CFDA # 43.U10		*82,303*	-
43.U11					
NASA	NNH13CJ23C	InSPIRE 2	43.U11	50	-
		Total for CFDA # 43.U11		*50*	-
43.U20					
NASA	NNX16AH49H	National Space Grant College and Fellowship Program (Space Grant)	43.U20	138,084	-
		Total for CFDA # 43.U20		*138,084*	-
		Total for National Aeronautics and Space Administration		**2,096,126**	**22,340**
		TOTAL for National Aeronautics and Space Administration		**2,096,126**	**22,340**
		TOTAL Federal Non-Research Support - On Campus		**6,306,644**	**802,422**

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Massachusetts Institute of Technology
Federal Non-Research Support - Passthrough - On Campus
FY 2016 Expenditures by Prime Sponsor and Sponsor

Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF DEFENSE						
Lincoln Laboratory						
DEPARTMENT OF DEFENSE	2746848	PO#7000303721	2015 Support of the MIT Security Studies Program	12.U31	26,960	-
			Total for Lincoln Laboratory		**26,960**	**-**
Building Engineering & Science Talent						
DEPARTMENT OF DEFENSE	2746356	2014 MOU	A Proposal for the SeaGlide Program at MIT	12.U01	-5,089	-
DEPARTMENT OF DEFENSE	2746778	LTR. DATED 11/7/14	SeaGlide: Supplemental Modifications	12.U30	14,934	-
			Total for Building Engineering & Science Talent		**9,845**	**-**
American Society/Engineering Education						
DEPARTMENT OF DEFENSE	2291100	LETTER DATED 8/11/99	NDSEG Fellowship Program	12.300	3,611,138	-
			Total for American Society/Engineering Education		**3,611,138**	**-**
Draper Laboratory Incorporated						
DEPARTMENT OF DEFENSE	2747014	PO 0001-0001036252	Draper Fellow Reporting Parent FY 15/16	12.U58	37,092	-
DEPARTMENT OF DEFENSE	2746970	PO 0001-0001036554	Draper Fellow Reporting Parent FY 15/16	12.U41	48,016	-
DEPARTMENT OF DEFENSE	2746971	PO 0001-0001036737	Draper Fellow Reporting Parent FY 15/16	12.U42	48,016	-
DEPARTMENT OF DEFENSE	2746972	PO 0001-0001036741	Draper Fellow Reporting Parent FY 15/16	12.U43	51,103	-
DEPARTMENT OF DEFENSE	2747013	PO 0001-0001037400	Draper Fellow Reporting Parent FY 15/16	12.U57	25,871	-
DEPARTMENT OF DEFENSE	2746974	PO 0001-0001037409	Draper Fellow Reporting Parent FY 15/16	12.U45	32,513	-
DEPARTMENT OF DEFENSE	2747420	PO 0001-0001037561	Draper Fellow Reporting Parent FY 15/16	12.U60	47,833	-
DEPARTMENT OF DEFENSE	2747015	PO 0001-0001038440	Draper Fellow Reporting Parent FY 15/16	12.U59	25,206	-
DEPARTMENT OF DEFENSE	2746992	PO 0001-035674	Draper Fellow Reporting Parent FY 15/16	12.U52	37,056	-
DEPARTMENT OF DEFENSE	2746981	PO 0001-036033	Draper Fellow Reporting Parent FY 15/16	12.U46	34,091	-
DEPARTMENT OF DEFENSE	2746973	PO 0001-036487	Draper Fellow Reporting Parent FY 15/16	12.U44	59,412	-
DEPARTMENT OF DEFENSE	2746969	PO 0001-036490	Draper Fellow Reporting Parent FY 15/16	12.U40	48,016	-
DEPARTMENT OF DEFENSE	2746549	PO 001-000102635	Draper Fellow Reporting Parent FY 14/15	12.U29	126	-
DEPARTMENT OF DEFENSE	2746511	PO 001-0001031837	Draper Fellow Reporting Parent FY 14/15	12.U02	157	-
DEPARTMENT OF DEFENSE	2746514	PO 001-0001031845	Draper Fellow Reporting Parent FY 14/15	12.U05	166	-
DEPARTMENT OF DEFENSE	2746520	PO 001-0001032046	Draper Fellow Reporting Parent FY 14/15	12.U11	166	-
DEPARTMENT OF DEFENSE	2746537	PO 001-0001032260	Draper Fellow Reporting Parent FY 14/15	12.U24	38	-
DEPARTMENT OF DEFENSE	2746513	PO 001-0001032261	Draper Fellow Reporting Parent FY 14/15	12.U04	0	-
DEPARTMENT OF DEFENSE	2746512	PO 001-0001032262	Draper Fellow Reporting Parent FY 14/15	12.U03	0	-

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF DEFENSE	2746544	PO 001-0001032263	Draper Fellow Reporting Parent FY 14/15	12.U26	139	-
DEPARTMENT OF DEFENSE	2746530	PO 001-0001032331	Draper Fellow Reporting Parent FY 14/15	12.U18	73	-
DEPARTMENT OF DEFENSE	2746515	PO 001-0001032397	Draper Fellow Reporting Parent FY 14/15	12.U06	148	-
DEPARTMENT OF DEFENSE	2746522	PO 001-0001032399	Draper Fellow Reporting Parent FY 14/15	12.U13	88	-
DEPARTMENT OF DEFENSE	2746521	PO 001-0001032400	Draper Fellow Reporting Parent FY 14/15	12.U12	166	-
DEPARTMENT OF DEFENSE	2746545	PO 001-0001032401	Draper Fellow Reporting Parent FY 14/15	12.U27	91	-
DEPARTMENT OF DEFENSE	2746517	PO 001-0001032521	Draper Fellow Reporting Parent FY 14/15	12.U08	5,375	-
DEPARTMENT OF DEFENSE	2746516	PO 001-0001032525	Draper Fellow Reporting Parent FY 14/15	12.U07	0	-
DEPARTMENT OF DEFENSE	2746531	PO 001-0001032614	Draper Fellow Reporting Parent FY 14/15	12.U19	152	-
DEPARTMENT OF DEFENSE	2746533	PO 001-0001032657	Draper Fellow Reporting Parent FY 14/15	12.U21	0	-
DEPARTMENT OF DEFENSE	2746538	PO 001-0001033171	Draper Fellow Reporting Parent FY 14/15	12.U25	0	-
DEPARTMENT OF DEFENSE	2746518	PO 001-0001033392	Draper Fellow Reporting Parent FY 14/15	12.U09	102	-
DEPARTMENT OF DEFENSE	2746546	PO 001-0001033454	Draper Fellow Reporting Parent FY 14/15	12.U28	0	-
DEPARTMENT OF DEFENSE	2746535	PO 001-0001033456	Draper Fellow Reporting Parent FY 14/15	12.U22	0	-
DEPARTMENT OF DEFENSE	2746526	PO 001-0001033458	Draper Fellow Reporting Parent FY 14/15	12.U14	0	-
DEPARTMENT OF DEFENSE	2746527	PO 001-0001033460	Draper Fellow Reporting Parent FY 14/15	12.U15	-114	-
DEPARTMENT OF DEFENSE	2746519	PO 001-0001033463	Draper Fellow Reporting Parent FY 14/15	12.U10	0	-
DEPARTMENT OF DEFENSE	2746529	PO 001-0001033495	Draper Fellow Reporting Parent FY 14/15	12.U17	0	-
DEPARTMENT OF DEFENSE	2746528	PO 001-0001033498	Draper Fellow Reporting Parent FY 14/15	12.U16	0	-
DEPARTMENT OF DEFENSE	2746536	PO 001-0001034146	Draper Fellow Reporting Parent FY 14/15	12.U23	0	-
DEPARTMENT OF DEFENSE	2746532	PO 001-000103455	Draper Fellow Reporting Parent FY 14/15	12.U20	0	-
DEPARTMENT OF DEFENSE	2746964	PO 001-0001035502	Draper Fellow Reporting Parent FY 15/16	12.U35	37,050	-
DEPARTMENT OF DEFENSE	2746961	PO 001-0001035518	Draper Fellow Reporting Parent FY 15/16	12.U32	53,530	-
DEPARTMENT OF DEFENSE	2746962	PO 001-0001035521	Draper Fellow Reporting Parent FY 15/16	12.U33	53,530	-
DEPARTMENT OF DEFENSE	2746963	PO 001-0001035526	Draper Fellow Reporting Parent FY 15/16	12.U34	54,780	-
DEPARTMENT OF DEFENSE	2746999	PO 001-0001035541	Draper Fellow Reporting Parent FY 15/16	12.U53	50,718	-
DEPARTMENT OF DEFENSE	2746966	PO 001-0001035550	Draper Fellow Reporting Parent FY 15/16	12.U37	37,050	-
DEPARTMENT OF DEFENSE	2746965	PO 001-0001035552	Draper Fellow Reporting Parent FY 15/16	12.U36	57,844	-
DEPARTMENT OF DEFENSE	2746968	PO 001-0001035672	Draper Fellow Reporting Parent FY 15/16	12.U39	37,050	-
DEPARTMENT OF DEFENSE	2746985	PO 001-0001036617	Draper Fellow Reporting Parent FY 15/16	12.U50	56,045	-
DEPARTMENT OF DEFENSE	2746986	PO 001-0001036635	Draper Fellow Reporting Parent FY 15/16	12.U51	59,021	-
DEPARTMENT OF DEFENSE	2747003	PO 001-0001036941	Draper Fellow Reporting Parent FY 15/16	12.U55	37,050	-
DEPARTMENT OF DEFENSE	2747004	PO 001-0001037116	Draper Fellow Reporting Parent FY 15/16	12.U56	49,997	-
DEPARTMENT OF DEFENSE	2747002	PO 001-0001037156	Draper Fellow Reporting Parent FY 15/16	12.U54	45,351	-

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF DEFENSE	2746967	PO 001-035632	Draper Fellow Reporting Parent FY 15/16	12.U38	9,979	-
DEPARTMENT OF DEFENSE	2746984	PO 001036310	Draper Fellow Reporting Parent FY 15/16	12.U49	48,016	-
DEPARTMENT OF DEFENSE	2746982	PO 001-036483	Draper Fellow Reporting Parent FY 15/16	12.U47	8,272	-
DEPARTMENT OF DEFENSE	2746983	PO 001036618	Draper Fellow Reporting Parent FY 15/16	12.U48	48,016	-
			Total for Draper Laboratory Incorporated		**1,244,396**	**-**
			TOTAL for Department of Defense		**4,892,339**	**-**

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF ENERGY						
Battelle-Pacific Northwest Laboratories						
DEPARTMENT OF ENERGY	2747518	CONTRACT NO. 265163	Workshop on Alternative Technologies to High Activity Radioactive Sources Used in Medical Applications	81.U03	2,572	-
			Total for Battelle-Pacific Northwest Laboratories		**2,572**	**-**
Krell Institute						
DEPARTMENT OF ENERGY	2225900	FELLOWSHIP COMMITMENT	DOE-CSGF Krell Institute	81.049	20,513	-
DEPARTMENT OF ENERGY	2388330	LTR. AGREEMENT	DOE NNSA Stewardship Science Graduate Fellowship Program - E. Davis	81.049	263	-
			Total for Krell Institute		**20,776**	**-**
			TOTAL for Department of Energy		**23,348**	**-**

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
DEPARTMENT OF HEALTH & HUMAN SERVICES						
University of Massachusetts Medical Center						
DEPARTMENT OF HEALTH & HUMAN SERVICES	2747337	WA00354242/OSP2016076	Sustained Strengthening of Public Health Laboratory, Transfusion Services, and Health Care Worker Infection Control	93.318	65,664	-
			Total for University of Massachusetts Medical Center		**65,664**	**-**
			TOTAL for Department of Health & Human Services		**65,664**	**-**

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
MISCELLANEOUS FEDERAL GOVT						
Tufts University						
MISCELLANEOUS FEDERAL GOVT	2747195	SU1000-A150001	Development of PBS Kids ScratchJr app	84.U01	30,000	-
			Total for Tufts University		**30,000**	**-**
National Academy of Sciences						
MISCELLANEOUS FEDERAL GOVT	2388838	2000004599	Hand washing and Habit Formation in West Bengal - GF R. Hussam	98.001	6,108	-
MISCELLANEOUS FEDERAL GOVT	2388839	2000004601	Hand washing and Habit Formation in West Bengal - GF N. Rigol	98.001	5,485	-
			Total for National Academy of Sciences		**11,593**	**-**
Quinsigamond Community College						
MISCELLANEOUS FEDERAL GOVT	2746219	20140930-4328KMA	Innovative Technology Enabled Learning Modules in Advanced Manufacturing	17.282	214,184	-
			Total for Quinsigamond Community College		**214,184**	**-**
Institute of International Education, Inc.						
MISCELLANEOUS FEDERAL GOVT	2388976	3067_MIT_S-ECAGD-15-CA-1017-07012015	Hubert H Humphrey Fellowship Program (SPURS) 2015 -2016	19.010	234,125	-
MISCELLANEOUS FEDERAL GOVT	2388821	AGREEMENT DATED 7/1/14	Hubert H Humphrey Fellowship Program (SPURS) 2014 -2015	19.010	20,932	-
			Total for Institute of International Education, Inc.		**255,056**	**-**
Patrimonio Natural						
MISCELLANEOUS FEDERAL GOVT	2747358	AGMT DTD 12/1/15	Assessing Community Innovation Capacity in the Amazon Piedmont Region	98.U01	49,086	-
			Total for Patrimonio Natural		**49,086**	**-**
			TOTAL for Miscellaneous Federal Govt		**559,920**	**-**

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Prime Sponsor Name	Project WBS id	Passthrough Number	WBS Project Name	CFDA #	TOTAL $ Amount Expended	$ Amount Passed to Subrecipients
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION						
CalTech - Jet Propulsion Lab						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2746818	1515938	Modeling and Control of Ionization Oscillations in Hall and Related Thrusters	43.U15	1,894	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2746817	1516570	Space Systems Product Development: Educating the Next Generation of Space Systems Engineers	43.U14	13,944	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2747294	RSA 1539183	Space Systems Product Development: Educating the Next Generation of Space Systems Engineers	43.U19	18,258	-
			Total for CalTech - Jet Propulsion Lab		**34,096**	**-**
Baylor College of Medicine						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2746798	EO00012	Encyclopedia of Bioastronautics	43.U13	18,354	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2746590	EO02002	Mentored Research Program in Space Life Sciences	43.U12	197,705	-
			Total for Baylor College of Medicine		**216,059**	**-**
Space Telescope Science Institute						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2388897	HST-HF2-51343.001-A	Heart of Darkness: Weakly Accreting Black Holes and the Physics of Accretions and Ejection - PDF for J. Neilsen	43.U05	105,206	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2389016	HST-HF2-51354.001-A	A Comprehensive View of the CGM - Hubble, Bordoloi	43.U07	74,682	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2388560	HST-HF-51308.01-A	The Present State of Evolution - PDF for M. McDonald	43.U04	2,513	-
			Total for Space Telescope Science Institute		**182,401**	**-**
Center for Advancement of Science in Space						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2747238	OA-2015-211	Zero Robotics	43.U18	68,809	-
			Total for Center for Advancement of Science in Space		**68,809**	**-**
Smithsonian Inst. - Astrophysical Observatory						
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2388550	PF2-130102	The Nature of the Fermi Bubble: Implications for Interstellar Medium and the Growth of the Supermassive Black Hole in the Milky Way - Post Doc M. Su	43.001	2,323	-
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2388862	PF4-150126	Modeling radiative accretion disks in general relativity - Post Doc - A. Sadowski	43.001	89,566	-

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	2388982	PF5-160144	Einstein Postdctoral Fellowship for Dr. James Steiner, "The Nature of Black Holes"	43.U06	62,317	-
			Total for Smithsonian Inst. - Astrophysical Observatory		**154,206**	**-**
			TOTAL for National Aeronautics and Space Administration		**655,571**	**-**
			TOTAL Federal Non-Research Support - Passthrough - On Campus		**$6,196,843**	**-**

SECTION III

REPORTS ON INTERNAL CONTROL AND COMPLIANCE AND SUMMARY OF AUDITORS' RESULTS

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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 Risk and Audit Committee of the Massachusetts Institute of Technology:

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 Massachusetts Institute of Technology (the "Institute"), which comprise the consolidated statement of financial position as of June 30, 2016, and the related consolidated statement of activities and cash flows for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated September 9, 2016.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Institute'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 Institute's internal control. Accordingly, we do not express an opinion on the effectiveness of the Institute'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 Institute'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*.

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 Institute'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 Institute's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

PricewaterhouseCoopers LLP

September 9, 2016

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 OMB Uniform Guidance

To the Risk and Audit Committee of the Massachusetts Institute of Technology:

Report on Compliance for Each Major Federal Program

We have audited the Massachusetts Institute of Technology's (the "Institute") 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 Institute's major federal programs for the year ended June 30, 2016. The Institute's major federal programs are identified in the summary of auditors' 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 Institute'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 Institute'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 Institute's compliance.

Opinion on Each Major Federal Program

In our opinion, the Institute 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, 2016.

Other Matters

The results of our auditing procedures disclosed instances of noncompliance, which are required to be reported in accordance with the Uniform Guidance and which are described in the accompanying schedule of findings and questioned costs as items 2016-001 and 2016-002. Our opinion on each major federal program is not modified with respect to these matters.

The Institute's response to the noncompliance findings identified in our audit is described in the accompanying Schedule of Findings and Questioned Costs and Corrective Action Plan. The Institute's response was not subjected to the auditing procedures applied in the audit of compliance and, accordingly, we express no opinion on the response.

Report on Internal Control Over Compliance

Management of the Institute 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 Institute'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 Institute'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

March 6, 2017

Massachusetts Institute of Technology
Schedule of Findings and Questioned Costs
Year Ended June 30, 2016

Section I Summary of Auditors' Results

Financial Statements

Type of auditors' report issued	Unmodified	
Internal control over financial reporting		
Material weakness(es) identified	___ Yes	_X_ No
Significant deficiency (ies) identified that are not considered to be material weaknesses	___ Yes	_X_ None Reported
Noncompliance material to financial statements noted?	___ Yes	_X_ No

Federal Awards

Internal control over major programs		
Material weakness (es) identified?	___ Yes	_X_ No
Significant deficiency (ies) identified that are not considered to be material weaknesses?	___ Yes	_X_ None Reported
Type of auditors' report issued on compliance for major programs	Unmodified	
Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)?	_X_ Yes	___No

Identification of major programs

CFDA Number	Name of Federal Program or Cluster
Various	Student Financial Assistance Cluster
Various	Research & Development Cluster
98.001	Comprehensive Initiative on Technology Evaluation (CITE) and International Development Innovation Network (IDIN)

Dollar threshold used to distinguish between Type A and Type B programs	$4,489,107	
Auditee qualifies as a low-risk auditee?	_X_ Yes	___ No

Section II Financial Statement Findings

None noted.

Section III Federal Award Findings and Questioned Costs

Finding 2016-001
Compliance Requirement: Subrecipient Monitoring (M)

Federal Program Involved	CFDA Number	Award Number	Award Year
Research and Development Cluster- Air Force Office of Scientific Research	12.800	FA8750-12-2-0110	2/10/12- 6/30/16
CITE and IDIN	98.001	AID-OAA-A-12-00095	10/1/12 - 9/30/17

Criteria
OMB Uniform Guidance includes details that a pass-through entity shall perform the following for the Federal awards it makes:

- *During the award monitoring* - Monitoring the subrecipient's use of Federal awards through reporting, site visits, regular contact, or other means to provide reasonable assurance that the subrecipient administers Federal awards in compliance with laws, regulations, and the provisions of contracts or grant agreements and that performance goals are achieved.
- *Subrecipient audits* - Ensure that subrecipients expending $750,000 ($500,000 for fiscal years beginning prior to December 26, 2014) or more in Federal awards during the subrecipient's fiscal year have met the audit requirements for that fiscal year. Issue a management decision on audit findings within six months after receipt of the subrecipient's audit report and ensure that the subrecipient takes appropriate and timely corrective action.
- *Ensuring Accountability of for-profit subrecipients* - Because for-profit subrecipients are not subject to the audit requirements of 2 CFR part 200, subpart F, pass-through entities are responsible for establishing requirements, as needed, to ensure for-profit subrecipient accountability for the use of funds.
- *Pass-Through Entity Impact* – Evaluating the impact of subrecipient activities on the pass-through entity's ability to comply with applicable Federal regulations.

Condition
The Institute has policies and procedures in place, which include an initial risk assessment and ongoing monitoring on all subrecipients. During FY2016, 65 subrecipients were selected for testing from a population that included both entities subject and not subject to Uniform Guidance reporting (A-133). Of the 40 tested for MIT On Campus, there were two subrecipient selections that were coded by the Institute as non-A-133 entities for which the Institute did not have documentation to evidence its performance of its annual risk assessment monitoring procedures. It was also noted that one of these two subrecipients was incorrectly coded as not being subject to A-133 reporting.

Cause
The Institute updated its subrecipient review process in June 2016 and was focused on the A-133 organizations which represent the majority of its subrecipients. In the first quarter of FY2017, the Institute focused on the organizations that were not subject to A-133 reporting.

Effect
Without the appropriate level of documentation of ongoing monitoring of subrecipients, the Institute has an increased risk that federal funding disbursed to a subrecipient will not be effectively managed and expended in accordance with the terms and conditions of its agreement with the federal agency.

Questioned Costs
There are no questioned costs.

Recommendation
Management should ensure that they continue to monitor all subrecipient entities on a timely basis.

Management's Views and Corrective Action Plan
Management's Views and Corrective Action Plan is included at the end of this report.

Finding 2016-002
Compliance Requirement: Special Tests and Provisions- Key Personnel (N)

Federal Program Involved	CFDA Number	Award Number	Award Year
Research and Development Cluster:			
National Aeronautics & Space Administration (NASA) Mark IV/VLBI	43.RD	NNG15HZ35C	12/22/2014 - 12/31/2016

Criteria
OMB Circular A-110 §§_.25/CFR sections 200.308(c) includes guidance on the requirements for revision of budget and program plans, which includes change in key personnel identified in the awards. Awards may include staffing proposals that specify individuals who will work on the project and the extent of the planned involvement of personnel. The non-Federal entity may change the staffing mix and level of involvement within limits specified by agency policy or in the award, but may be required to obtain Federal awarding agency approval of changes in key personnel and changes in the principal investigator's/project director's time commitment/level of participation in the project.

Condition
During FY2016, 25 key personnel were selected for testing. One of the awards selected included four key personnel. During FY2015, it was determined that one of the four individuals was no longer needed and therefore, that individual did not work on the grant and was not replaced. The communication to the respective sponsor (NASA) of this change in key personnel was not completed as of the end of FY2016. That communication occurred in January 2017.

Cause
This NASA grant had multiple key personnel listed in the grant document. The Institute does not normally include multiple key personnel in its awards and it is uncommon for multiple key personnel to be listed. Since the Principal Investigator was still involved in the grant, the notification of the change in the secondary personnel (Assistant Director for Research and Administration) was overlooked and not communicated in a timely manner.

Effect
Without the appropriate policies and procedures around key personnel involvement and changes in key personnel, the Institute can encounter situations where there are changes that are not communicated to the sponsors in a timely manner.

Questioned Costs
There are no questioned costs.

Recommendation
Management should emphasize the policies and procedures around key personnel and protocol on communication of any change in key personnel identified in the grant documents to individuals responsible for this area.

Management's Views and Corrective Action Plan
Management's Views and Corrective Action Plan is included at the end of this report.

Massachusetts Institute of Technology
Summary Schedule of Prior Audit Findings
Year Ended June 30, 2016

Research and Development Cluster
Finding 2015-001
Compliance Requirement: Subrecipient Monitoring (M)

Federal Program Involved	CFDA Number	Award Number	Award Year
Research and Development:			
Department of Defense - Army	12.431	W911NF-11-1-0400	9/1/2011 – 8/31/2016
Air Force Office of Scientific Research	12.800	FA9550-11-1-0339	9/30/2011 – 1/31/2015
Air Force Office of Scientific Research	12.800	FA9550-14-1-0052	12/15/2013 – 12/14/2016
National Science Foundation	47.041	CBET-0939511	9/15/2010 – 8/31/2016
US Department of Transportation	20.701	DTRT12-G-UTC01	1/1/2012 – 1/31/2016
Department of Energy – Chicago	81.049	DE-SC0001299	8/1/2014 – 7/31/2018
Department of Health and Human Services	93.350	1UH2-TR000496-01	7/24/2012 – 6/30/2017
Department of Health and Human Services	93.859	1R01-GM101420-01A1	8/1/2013 – 4/30/2016

Condition
The Institute has policies and procedures in place over subrecipients which includes an initial risk assessment on all subrecipients and ongoing monitoring to ensure that subrecipients expending $500,000 or more in Federal awards during the subrecipient's fiscal year have met the A-133 reporting requirements. The Institute reviews the results of the subrecipient's most recent A-133 report. For 8 of the 40 subrecipients selected for testing, the most recent A-133 report highlighted deficiencies including material weaknesses, related to the R&D cluster of the respective subrecipient. Based on the review there was no observable evidence that the Institute's management followed up with the subrecipients on the indirect implications these control deficiencies had on the Institute. There was no evidence of any follow up discussions with the subrecipient to understand the cause of the issues, implications, and corrective action plan anticipated based on the understanding of the A-133 compliance supplement by the Institute. The initial risk assessment of these subrecipients should have been reevaluated based on the most current A-133 report and management's decision of any implications should have been documented.

Current Year Update:
The Institute has reviewed and revised its subrecipient monitoring policies and procedures to have more robust procedures over the monitoring of subrecipients subject to Uniform Guidance (A-133) reporting. As of June 30, 2016 the Institute has completed monitoring procedures over the organizations it has identified as being subject to A-133 reporting, including consideration of the findings that may be included in the A-133 reports.

Michelle D. Christy
Director of Sponsored Programs

Massachusetts Institute of Technology
77 Massachusetts Avenue, Building NE18-901
Cambridge, Massachusetts 02139-4307

Office of Sponsored Programs

Phone 617.324.9022
Fax 617.253.4734
Email mchristy@mit.edu

February 14, 2017

Reference: PWC Reports on the Audit of Federal Financial Assistance Programs in Accordance with Uniform Guidance (FY16)

MIT has reviewed the conditions and recommendations in the referenced audit report. Management's responses and corrective actions are provided below.

Finding 2016-001
Compliance Requirement: Subrecipient Monitoring (M)

MIT understands and embraces the principles of subrecipient monitoring as outlined in the Uniform Guidance and the compliance supplement, understands the necessity of implementing processes that ensure that Federal award funding is used for authorized purposes in compliance with federal statutes, regulations, and the terms and conditions of its federal awards, and that performance goals are achieved. We have adopted and completed the implementation of a corrective action plan to address this finding, as follows.

We have revised the policies and procedures under which we perform a risk analysis for each sub-recipient who is *not* subject to the single audit requirements of Uniform Guidance, including foreign institutions, for-profit institutions and not for profit institutions not required to have a Single Audit. Our revised policies and procedures now include the consideration of several factors when making our management determination as to whether or not the sub-recipient organization should be classified as "low risk" under 200.331(b), and we will continue to perform our annual reviews on a timely basis. The new policies and procedures have been communicated to the individuals responsible for this process.

Issue Coordinator: Craig Newfield, Assistant Director, MIT Office of Sponsored Programs
Completion Date: March 31, 2017

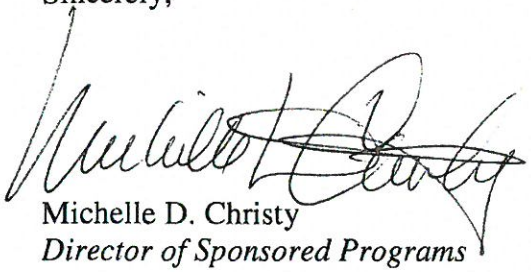
Finding 2016-002
Compliance Requirement: Special Tests and Provisions- Key Personnel (N)

MIT will distribute materials to research units, using listservs and websites, re-emphasizing the importance of notifying OSP of changes in "Key Personnel" so that OSP can assist in ensuring that sponsors are notified in a timely manner.

Issue Coordinator: Shawna Vogel, Associate Director, MIT Office of Sponsored Programs
Completion Date: June 30, 2017

If you have any questions regarding our responses, or require further information, please contact me directly or John Donahue (617.258.7950 --- jpd@mit.edu) of my staff.

Sincerely,



Michelle D. Christy
Director of Sponsored Programs

Cc: G. Shor, Vice President for Finance
D. Khoury, Controller
M. Moody, Institute Auditor
MIT Office of Cost Analysis