

California Institute of Technology
EIN: 95-1643307

**Report on Audit of the Financial Statements
and on Federal Awards Programs in Accordance
with the OMB Uniform Guidance
(exclusive of the Jet Propulsion Laboratory)**

For the Year Ended September 30, 2016

California Institute of Technology
Index
For the Year Ended September 30, 2016

	Page
Report of Independent Auditors.....	1
Financial Statements and Notes to Financial Statements	3
Schedule of Expenditures of Federal Awards	36
Notes to Schedule of Expenditures of Federal Awards	52
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 <i>Government Auditing Standards</i>	54
Report of Independent Auditors on Compliance with Requirements That Could Have a Direct and Material Effect on Each Major Program and on Internal Control Over Compliance in Accordance with the Uniform Guidance	56
Schedule of Findings and Questioned Costs	58
Summary Schedule of Status of Prior Audit Findings.....	59



Report of Independent Auditors

To the Board of Trustees of the
California Institute of Technology

Report on the Financial Statements

We have audited the accompanying financial statements of the California Institute of Technology (the "Institute"), which comprise the balance sheets as of September 30, 2016 and 2015, and the related statements of activities and of cash flows for the years then ended and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the 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 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 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 financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the 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 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 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 financial statements referred to above present fairly, in all material respects, the financial position of the California Institute of Technology as of September 30, 2016 and 2015, and the



changes in its net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Other Information

Our audit was conducted for the purpose of forming an opinion on the 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 financial statements. As described in Note 1 to the schedule of expenditures of federal awards, the accompanying schedule of expenditures of federal awards was prepared on the cash basis, which is a comprehensive basis of accounting other than accounting principles generally accepted in the United States of America. 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 financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the 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, on the basis of accounting described in Note 1, in relation to the 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 January 25, 2017 on our consideration of the Institute'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 for the year ended September 30, 2016. 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

Los Angeles, California
January 25, 2017

California Institute of Technology
Balance Sheets
At September 30, 2016 and 2015
(Dollars in Thousands)

	2016	2015
ASSETS		
Cash and cash equivalents (Notes B and D)	\$ 6,374	\$ 5,257
Accounts and notes receivable, net		
United States government	231,915	215,801
Other	61,424	56,682
Contributions receivable, net	212,398	162,565
Investments	3,028,378	2,834,504
Prepaid expenses and other assets	175,629	107,991
Deferred United States government billings	371,378	349,940
Property, plant, and equipment, net	862,460	865,023
	<u> </u>	<u> </u>
Total assets	\$ 4,949,956	\$ 4,597,763
	<u> </u>	<u> </u>
LIABILITIES and NET ASSETS		
Liabilities:		
Accounts payable and accrued expenses	\$ 318,916	\$ 296,169
Accrued compensation and benefits	209,465	190,936
Deferred revenue and refundable advances	32,955	48,695
Annuities, trust agreements, and agency funds	89,761	87,821
Bonds and notes payable, net	1,255,505	1,169,776
Accumulated postretirement benefit obligation	415,710	379,752
	<u> </u>	<u> </u>
Total liabilities	2,322,312	2,173,149
	<u> </u>	<u> </u>
Net assets:		
Unrestricted	424,153	507,208
Temporarily restricted	766,388	688,071
Permanently restricted	1,437,103	1,229,335
	<u> </u>	<u> </u>
Total net assets	2,627,644	2,424,614
	<u> </u>	<u> </u>
Total liabilities and net assets	\$ 4,949,956	\$ 4,597,763
	<u> </u>	<u> </u>

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

California Institute of Technology
Statement of Activities
For the Year Ended September 30, 2016
(with summarized financial information for the year ended September 30, 2015)
(Dollars in Thousands)

	Unrestricted	Temporarily Restricted	Permanently Restricted	2016 Total	2015 Total
Operating revenues:					
Tuition and fees, net of student financial aid	\$ 40,814	\$ -	\$ -	\$ 40,814	\$ 38,065
Endowment spending, distributed	54,597	65,762	-	120,359	113,492
Gifts and pledges	48,235	101,022	-	149,257	50,204
Grants and contracts:					
Jet Propulsion Laboratory - direct	1,870,621	-	-	1,870,621	1,758,660
United States government, Campus - direct	166,131	-	-	166,131	179,867
Other Campus - direct	27,718	-	-	27,718	26,220
Recovery of indirect costs and allowances	121,198	-	-	121,198	116,488
Auxiliary enterprises	28,933	-	-	28,933	28,127
Other	36,621	-	-	36,621	39,039
Net assets released from restrictions	114,105	(114,105)	-	-	-
Total operating revenues	2,508,973	52,679	-	2,561,652	2,350,162
Operating expenses:					
Compensation and benefits	368,352	-	-	368,352	355,953
Supplies and services	120,033	-	-	120,033	128,262
Subcontracts	31,647	-	-	31,647	38,107
Graduate fellowships	19,037	-	-	19,037	18,104
Depreciation, accretion, and amortization	65,913	-	-	65,913	65,794
Utilities	16,992	-	-	16,992	16,233
Interest	20,742	-	-	20,742	19,095
Jet Propulsion Laboratory	1,870,621	-	-	1,870,621	1,758,660
Total operating expenses	2,513,337	-	-	2,513,337	2,400,208
Results of operations	(4,364)	52,679	-	48,315	(50,046)
Non-operating changes:					
Investment return in excess/(deficit) of endowment spending	45,513	25,092	572	71,177	(180,250)
Endowment spending, undistributed	2,737	6,974	652	10,363	7,740
Net assets released from restrictions	2,995	(2,995)	-	-	-
Gifts and pledges	1,606	5,830	136,169	143,605	175,521
Changes in fair value of interest rate swap	(15,112)	-	-	(15,112)	(14,743)
Non periodic changes in benefit obligations	(19,859)	-	-	(19,859)	(13,555)
Interest expense	(23,214)	-	-	(23,214)	(13,370)
Loss on retirement of debt and other	(12,264)	-	19	(12,245)	(4,065)
Resignations and reclassifications of net assets	(61,093)	(9,263)	70,356	-	-
Total non-operating activities	(78,691)	25,638	207,768	154,715	(42,722)
Increase/(decrease) in net assets	(83,055)	78,317	207,768	203,030	(92,768)
Net assets at beginning of year	507,208	688,071	1,229,335	2,424,614	2,517,382
Net assets at end of year	\$ 424,153	\$ 766,388	\$ 1,437,103	\$ 2,627,644	\$ 2,424,614

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

California Institute of Technology
Statement of Activities
For the Year Ended September 30, 2015
(Dollars in Thousands)

	Unrestricted	Temporarily Restricted	Permanently Restricted	2015 Total
Operating revenues:				
Tuition and fees, net of student financial aid	\$ 38,065	\$ -	\$ -	\$ 38,065
Endowment spending, distributed	53,818	59,674	-	113,492
Gifts and pledges	21,171	29,033	-	50,204
Grants and contracts:				
Jet Propulsion Laboratory - direct	1,758,660	-	-	1,758,660
United States government, Campus - direct	179,867	-	-	179,867
Other Campus - direct	26,220	-	-	26,220
Recovery of indirect costs and allowances	116,488	-	-	116,488
Auxiliary enterprises	28,127	-	-	28,127
Other	39,039	-	-	39,039
Net assets released from restrictions	93,956	(93,956)	-	-
Total operating revenues	2,355,411	(5,249)	-	2,350,162
Operating expenses:				
Compensation and benefits	355,953	-	-	355,953
Supplies and services	128,262	-	-	128,262
Subcontracts	38,107	-	-	38,107
Graduate fellowships	18,104	-	-	18,104
Depreciation, accretion, and amortization	65,794	-	-	65,794
Utilities	16,233	-	-	16,233
Interest	19,095	-	-	19,095
Jet Propulsion Laboratory	1,758,660	-	-	1,758,660
Total operating expenses	2,400,208	-	-	2,400,208
Results of operations	(44,797)	(5,249)	-	(50,046)
Non-operating changes:				
Investment return in excess of endowment spending	(104,524)	(74,952)	(774)	(180,250)
Endowment spending, undistributed	3,357	3,740	643	7,740
Net assets released from restrictions	634	(634)	-	-
Gifts and pledges	1,366	14,351	159,804	175,521
Changes in fair value of interest rate swap	(14,743)	-	-	(14,743)
Non periodic changes in benefit obligations	(13,555)	-	-	(13,555)
Interest expense	(13,370)	-	-	(13,370)
Other	(4,087)	-	22	(4,065)
Resignations and reclassifications of net assets	(11,423)	(152)	11,575	-
Total non-operating activities	(156,345)	(57,647)	171,270	(42,722)
Decrease in net assets	(201,142)	(62,896)	171,270	(92,768)
Net assets at beginning of year	708,350	750,967	1,058,065	2,517,382
Net assets at end of year	\$ 507,208	\$ 688,071	\$ 1,229,335	\$ 2,424,614

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

California Institute of Technology
Statements of Cash Flows
For the Years Ended September 30, 2016 and 2015
(Dollars in Thousands)

	2016	2015
Cash flows from operating activities:		
Increase/(decrease) in net assets	\$ 203,030	\$ (92,768)
Adjustments to reconcile change in net assets to net cash used in operating activities:		
Depreciation, accretion, and amortization	65,913	65,794
Changes in postemployment benefit obligations	19,859	13,555
Loss on retirement of debt	10,158	-
Contributions restricted for long-term investment and capital projects	(136,682)	(175,302)
Investment return restricted for long-term investment and capital projects	(996)	(1,444)
Realized and unrealized (gains)/losses on investments and swap	(147,066)	117,228
In-kind receipts of property, plant, and equipment	(603)	(720)
In-kind receipts of investments	(3,666)	-
Changes in annuity and trust liabilities	(3,075)	4,623
Losses on disposals of property, plant, and equipment	305	1,035
Changes in assets and liabilities:		
Accounts and notes receivable, net	(12,843)	(8,544)
Contributions receivable, net	(65,578)	2,969
Prepaid expenses and other assets	(6,244)	(4,988)
Deferred United States government billings	(21,438)	(3,780)
Accounts payable and accrued expenses	10,102	14,632
Accrued compensation and benefits	18,529	6,172
Deferred revenue and refundable advances	(15,740)	4,146
Agency funds	313	57
Accumulated postretirement benefit obligation	16,099	(3,047)
Net cash used in operating activities	(69,623)	(60,382)
Cash flows from investing activities:		
Purchases of investments	(831,184)	(1,334,566)
Proceeds from sales and maturities of investments	795,977	869,786
Purchases of property, plant, and equipment	(61,622)	(69,015)
Proceeds from sale of property, plant, and equipment	1,798	3,051
Net cash used in investing activities	(95,031)	(530,744)
Cash flows from financing activities:		
Contributions restricted for long-term investment and capital projects	91,145	93,699
Investment return restricted for long-term investment and capital projects	996	1,444
Cash received under annuity and trust agreements	5,474	5,515
Cash payments made under annuity and trust agreements	(7,232)	(7,189)
Net borrowings of short-term debt	17,170	94,572
Bond issuance costs	(1,849)	(1,750)
Proceeds from issuance of long-term debt	150,000	400,000
Cash paid for retirement of long-term debt	(89,933)	-
Net cash provided by financing activities	165,771	586,291
Net increase/(decrease) in cash and cash equivalents	1,117	(4,835)
Cash and cash equivalents at beginning of year	5,257	10,092
Cash and cash equivalents at end of year	\$ 6,374	\$ 5,257

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

A. Description of California Institute of Technology

California Institute of Technology (the “Institute”) is a private, not-for-profit institution of higher education based in Pasadena, California. Founded in 1891, the Institute provides education and training services, primarily for students at the undergraduate, graduate, and postdoctoral levels, and performs research, training, and other services under grants, contracts, and similar agreements with sponsoring organizations, primarily departments and agencies of the government of the United States of America.

B. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements include the accounts of the Institute’s main campus and satellite facilities (“Campus”), as well as the Jet Propulsion Laboratory (“JPL”), a Federally Funded Research and Development Center managed by the Institute for the National Aeronautics and Space Administration (“NASA”).

The Institute manages JPL under a cost-reimbursable contract with NASA. JPL’s land, buildings, and equipment are owned by the United States government and are excluded from the Institute’s financial statements. Receivables and liabilities arising from JPL’s activities are reflected in the Institute’s balance sheets. The direct costs of JPL’s activities and the related reimbursement of those costs are reflected separately in the statements of activities. The management allowances earned under the NASA contract were \$21,000 for each of the years ended September 30, 2016 and 2015 and are included in recovery of indirect costs and allowances in the statements of activities.

The Institute’s financial statements have been prepared on the accrual basis of accounting, in accordance with accounting principles generally accepted in the United States of America.

Net Assets

Net assets are classified into three categories according to donor-imposed restrictions or certain provisions of law or accounting standards: permanently restricted, temporarily restricted, and unrestricted.

- Permanently restricted net assets include endowment gifts as well as certain charitable remainder trusts, pooled income funds, gift annuities, other split-interest agreements, and contributions receivable in which donors have stipulated that the original value of their contributions and, if applicable, any subsequent accumulations, be held in perpetuity.
- Temporarily restricted net assets include investment return from permanent endowments that has not been appropriated for expenditures and gifts and related contributions receivable for which donor-imposed restrictions have not been met, including funds restricted for future capital projects, certain charitable remainder trusts, pooled income funds, gift annuities, and other split-interest agreements. These restrictions are expected to be removed through the passage of time, the appropriation of endowment earnings by the Institute, and/or the Institute’s incurrence of expenditures or other payments that meet donors’ restrictions. Expirations of temporary restrictions on net assets are reported as releases from temporarily restricted to unrestricted net assets in the statements of activities. Donor-restricted gifts that

are received and either spent or deemed spent within the same fiscal year are reported as unrestricted revenues.

- Unrestricted net assets are those not subject to donor-imposed restrictions or requirements for classification imposed by law or accounting standards.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of 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 prior year amounts at September 30, 2015 have been reclassified to conform to the current year presentation.

Redesignations

Net assets related to certain contributions received in prior periods have been transferred among net asset categories due to changes in donor designations. Redesignations during the year ended September 30, 2016 also include \$69,093 transferred from unrestricted net assets to permanently restricted net assets due to endowment funding agreements with donors.

Cash and Cash Equivalents

Cash and cash equivalents include bank account balances, investments in money market funds, and direct short-term investments that have remaining maturities of three months or less when purchased. Bank account balances at September 30, 2016 and 2015 were \$6,374 and \$5,257, respectively. The Institute classifies all cash and cash equivalents held as part of the investment portfolios as short-term investments. At September 30, 2016 and 2015, short-term investments, as disclosed in Note D, included \$146,080 and \$177,206, respectively, in cash and cash equivalents. Carrying amounts of cash and cash equivalents approximate fair value due to the relatively short maturities of these instruments.

Under the Institute's cash management system, checks issued by the Institute but not yet cashed by recipients may result in overdraft balances for accounting purposes and are included in accounts payable and accrued expenses in the balance sheets if an overdraft situation exists. There were no overdrafts at September 30, 2016 and 2015.

Accounts and Notes Receivable

Accounts receivable under contracts and grants are carried at cost, less an immaterial allowance for doubtful accounts. Accounts receivable under contracts and grants totaled \$237,643 and \$222,940 at September 30, 2016 and 2015, respectively. Activity in the allowance accounts was not significant during the years ended September 30, 2016 and 2015. The carrying value of net accounts receivable approximates fair value.

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

Accounts receivable from students and employees of \$2,136 and \$2,482 at September 30, 2016 and 2015, respectively, are carried at cost and approximate fair value. Doubtful accounts are charged to expense when they are deemed to become uncollectible. During the years ended September 30, 2016 and 2015, only minor amounts were written off as uncollectible.

The Institute provides loans to students from both internal funds and from funds provided by the United States government under the Federal Perkins Loan Program. Substantially all student loans that bear interest carry fixed rates, and substantially all student loans carry ten-year terms. Student loans receivable of \$6,322 and \$6,703 at September 30, 2016 and 2015, respectively, are carried at cost.

The Institute holds all loans to maturity. Loans to students are considered delinquent 10-90 days after a borrower misses a required payment. Delinquent interest-bearing loans continue to accrue interest. At September 30, 2016 and 2015, there were no significant delinquencies on outstanding loans. No allowances have been recorded, and only minor amounts of loans are expected to become uncollectible. The principal credit quality indicator for such loans is collection experience. The Institute manages its credit risk by limiting amounts loaned per term, monitoring aggregate loan levels, and maintaining an active collections process with the assistance of third-party collection agencies as necessary. Student loans generally are not dischargeable in bankruptcy. Loans are not considered uncollectible until all reasonable collection efforts have been made.

Investments

Investments are carried at fair value as discussed in Note K. Purchases and sales of securities are recorded on trade dates, and realized gains and losses are determined based on the average cost of securities sold. Accounts receivable included \$46,205 and \$38,192 related to outstanding sales and accounts payable included \$1,512 and \$7,024 related to outstanding purchases of investments at September 30, 2016 and 2015, respectively.

Short-term investments included \$51,811 and \$36,314 held by the counterparty to the Institute's interest rate swap as collateral, in accordance with the terms of the swap agreement at September 30, 2016 and 2015, respectively.

Derivatives

The Institute uses an interest rate swap to manage the interest rate exposure of a portion of its variable rate debt. The swap is recorded at fair value, which is the estimated amount that the Institute would receive or pay to terminate the agreement, taking into account current interest rates and the current credit-worthiness of the swap counterparty. Costs of regular settlements with the counterparty of \$5,399 and \$5,658 during the years ended September 30, 2016 and 2015, respectively, are included in interest expense in the statements of activities. Changes in the swap's fair value during the years ended September 30, 2016 and 2015, resulted in unrealized losses of \$15,112 and \$14,743, respectively, which are included in non-operating changes in net assets in the statements of activities. The fair value of the swap was a liability of \$70,521 and \$55,409 at September 30, 2016 and 2015, respectively, and is included in accounts payable and accrued expenses in the balance sheets.

The Institute also directly transacts in options to manage equity risks of certain investments. The fair value of options is included in investments in the balance sheets and is classified as derivatives in disclosures of investments. Changes in the fair value of options are reported in investment return

(loss). The Institute does not designate any derivative instruments as hedging instruments under Generally Accepted Accounting Principles. Further disclosure of the fair value of derivatives is reported in Note K.

Property, Plant, and Equipment

Property, plant, and equipment is recorded at the cost of construction, acquisition, or the fair value of contributed assets at the date of gift. Interest costs related to debt used for construction of assets are capitalized and included in the cost of construction. Depreciation on all assets subject to depreciation is calculated over the estimated useful lives as defined for each class of depreciable asset, which range from three to fifty years, using the straight-line method. Depreciation on buildings and building improvements is calculated based on the useful lives of each major building component. The Institute provides for the renewal and replacement of assets from various sources set aside for this purpose.

The Institute routinely acquires or constructs equipment under federally and non-federally funded research awards. The costs of such assets for which title does not ultimately transfer to the Institute are charged to expense.

The Institute's conditional asset retirement obligations are primarily related to future asbestos removal and disposal. Asset retirement cost, net of accumulated depreciation, at September 30, 2016 and 2015 was \$349 and \$1,015, respectively, and is included in property, plant, and equipment in the balance sheets. Conditional asset retirement obligations at September 30, 2016 and 2015 were \$13,683 and \$13,918, respectively, and are included in accounts payable and accrued expenses in the balance sheets.

Annuity and Trust Agreements

The Institute's split-interest agreements with donors consist primarily of charitable gift annuities and charitable remainder trusts for which the Institute serves as trustee. For irrevocable agreements, assets contributed are included in investments at fair value. Contribution revenue is recognized at the date each trust is established after recording liabilities for the actuarially-determined present value of the estimated future payments to be made to beneficiaries. Actuarial liabilities are discounted at an appropriate credit risk-adjusted rate determined at the inception of each agreement. Discount rates on split-interest agreements range from 1.20% to 11.20% per annum. The liabilities are adjusted during the terms of the agreements for changes in the fair value of the assets, accretion of discounts, and other changes in the estimates of future benefits. The 2012 Individual Annuity Reserving (IAR) table was used for the years ended September 30, 2016 and 2015. Split-interest agreement liabilities totaled \$68,537 and \$67,478 at September 30, 2016 and 2015, respectively, and are included in liabilities for annuities, trust agreements and agency funds in the balance sheets and classified in Level 3 of the valuation hierarchy described in Note K.

The Institute is also the trustee for certain revocable agreements. Assets contributed are included in Institute investments at fair value, and amounts equal to the value of assets are included in liabilities for annuities, trust agreements, and agency funds in the balance sheets. Total assets and liabilities for revocable agreements were \$8,045 and \$7,562 at September 30, 2016 and 2015, respectively.

Beneficial Interests

The Institute is the beneficiary of both charitable remainder and perpetual trusts held and administered by others and interests in certain estates bequeathed by donors. The fair value of the Institute's interests in charitable and perpetual trusts is estimated by multiplying the Institute's percentage interest by the fair value of trust assets at the time that receipt of such interests is both probable and reasonably estimable. The value of the Institute's interests in such trusts is adjusted for changes in the fair values of the underlying assets. Distributions from perpetual trusts are recorded as revenue when contributed by the trustee. Interests in estates are recognized based on estimates of cash flows from estate settlements at the time such cash flows are probable and reasonably estimable. Beneficial interests totaled \$73,341 and \$22,379 at September 30, 2016 and 2015, respectively, and are included in prepaid expenses and other assets in the balance sheets.

Retirement Plans

The Institute provides a defined contribution retirement program for eligible academic and administrative employees. Contributions to Internal Revenue Code "IRC" Section 403(b) defined contribution plans for the years ended September 30, 2016 and 2015 were \$24,614 and \$24,151, respectively, for the Campus and \$75,918 and \$73,934, respectively, for JPL. The Institute has no assets or liabilities related to these plans.

At September 30, 2016 and 2015, respectively, prepaid expenses and other assets included \$77,462 and \$69,731 in assets held pursuant to IRC section 457 defined contribution retirement plans. These assets are invested with external investment managers and are included in investments in the balance sheets at fair value. The Institute's liabilities related to these funds were \$77,277 and \$69,562 at September 30, 2016 and 2015, respectively, and are included in accrued compensation and benefits in the balance sheets.

Funds Held for Others

The Institute held assets totaling \$13,179 and \$12,781 in agency funds at September 30, 2016 and 2015, respectively. The assets held are primarily included in investments in the balance sheets. The corresponding liability, which is equal to assets held, is included in annuities, trust agreements, and agency funds in the balance sheets.

Compensated Absences

Institute employees are entitled to paid vacation based upon length of service and other factors. Certain employees also accrue benefits related to sick leave. The Institute records a liability for these benefits that employees have earned but not yet taken. At September 30, 2016 and 2015, accrued compensated absences of \$83,219 and \$79,240, respectively, are included in accrued compensation and benefits in the balance sheets. Other compensated absences do not accumulate and are treated as current period costs.

Workers' Compensation Insurance

The Institute provides workers' compensation insurance to its employees. Liabilities for the Institute's retained risk related to such coverage are determined by an actuary and are included in accrued compensation and benefits in the balance sheets. At September 30, 2016 and 2015, the liabilities for workers' compensation were \$9,657 and \$9,845, respectively.

Revenue Recognition

The Institute's revenue recognition policies are as follows:

- *Tuition and fees* - Student tuition and fees are recorded as revenues during the year the related academic services are rendered and are displayed net of financial aid on the statements of activities. Tuition and fees totaled \$98,835 and \$93,319 for the years ended September 30, 2016 and 2015, respectively. Student financial aid totaled \$58,021 and \$55,254 for the years ended September 30, 2016 and 2015, respectively. Student tuition and fees received in advance of services to be rendered, net of applicable financial aid, are recorded as deferred revenue.
- *Investment return (loss)* - Investment transactions are recorded on the trade date. Investment income and realized and unrealized gains and losses, net of investment management fees, are reported as increases or decreases to the appropriate net asset category.
- *Gifts* - Unconditional promises to give are recorded as revenues in the year received. Non-cash gifts are recorded at fair value using quoted market prices, market prices for similar assets, independent appraisals, or as estimated by Institute management. Gift revenue from contributions to be collected in the form of securities or other investments is adjusted at each year end to reflect the year-end value of securities and/or investments to be contributed.

Donor-restricted gifts, which are received and either spent, or deemed spent, within the same year are reported as unrestricted revenue. Gifts of long-lived assets with no donor-imposed time restrictions are reported as unrestricted revenue in the year received. Gifts restricted to the acquisition or construction of long-lived assets are reported as temporarily restricted revenue and released to unrestricted net assets when such assets are placed in service. Gifts that are subject to time or other purpose restrictions are reported as temporarily restricted revenue and released to unrestricted net assets when such restrictions are met. Gifts received for endowment investment are held in perpetuity and recorded as permanently restricted revenue.

Conditional promises to give are not recorded until donor-imposed conditions have been substantially met. Conditional promises to give totaled \$69,214 and \$113,922 at September 30, 2016 and 2015, respectively. Payments received related to conditional promises totaled \$2,538 and \$19,602 at September 30, 2016 and 2015, respectively, and are included in deferred revenue and refundable advances in the balance sheets.

- *Grants and contracts* - Revenues from grants and contracts generally are recognized in unrestricted net assets as allowable expenditures are incurred under such agreements. Substantially all United States government grants and contracts awarded to the Campus provide for the reimbursement of indirect facilities and administrative costs based on rates negotiated with the Office of Naval Research, the Campus' federal cognizant agency for the negotiation and approval of facilities and administrative and other indirect cost rates. Costs related to the performance of activities under the JPL contract are reimbursable by NASA. Amounts received in excess of expenditures are recorded as deferred revenue. At September 30, 2016 and 2015, deferred revenue related to grants and contracts was \$10,098 and \$10,119, respectively.

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

- *Auxiliary enterprises* - Revenues from supporting services, such as dining facilities, faculty and student housing, and retail stores are recorded at the time of delivery of products or services. Amounts received in advance of deliveries of products or services are recorded as deferred revenue.

Expenses

Expenses are generally reported as decreases in unrestricted net assets. Campus expenses are reported in the statements of activities by natural classification. Campus expenses by functional classification were as follows for the years ended September 30, 2016 and 2015:

	2016	2015
Instruction and academic support	\$ 289,421	\$ 274,934
Organized research	237,005	252,677
Institutional	82,168	81,225
Auxiliary enterprises	34,122	32,712
	<hr/>	<hr/>
Total Campus functional expenses	\$ 642,716	\$ 641,548
	<hr/>	<hr/>

Building and improvements depreciation and plant operation expenses are allocated to functional classifications based on square footage occupancy of Institute facilities. Equipment depreciation is allocated to functional classifications based on average equipment purchases attributed to each classification. Interest expense on external debt, net of amounts capitalized, is allocated to the functional categories that have benefited from the proceeds of such debt.

Operating and Non-operating Activities

The statements of activities report the changes in net assets from the Institute's operating and non-operating activities. Operating activities exclude investment returns/losses in excess/deficit of endowment spending, endowment spending available but not distributed to operations, revenues and releases from restrictions related to gifts for construction, endowments, and annuity and trust agreements, changes in postemployment benefit obligations that are not otherwise recognized in net periodic benefit cost, changes in fair value of interest rate swaps, interest expense related to any bonds issued for which the proceeds have not yet been used for capital projects or to refund other bonds, gains or losses on disposal of plant, property and equipment, net gains or losses on nonrecurring transactions, actuarial adjustments related to annuity and trust agreements, losses on retirement of indebtedness, and donor redesignations or other reclassifications of net assets.

Tax Status

The Institute is generally exempt from federal taxes on income related to its charitable purpose under the provisions of IRC Section 501(c)(3) and from California and other state income taxes under corresponding state laws. The Institute is subject to both federal and state income taxes on income from certain activities not substantially related to its exempt purpose. At September 30, 2016 and 2015, the Institute maintained a full valuation allowance on its deferred tax assets, which are primarily due to tax losses from certain investment activities. Due to uncertainties surrounding both the timing and amounts of potential future net taxable income, the Institute has concluded that it is

more likely than not that the Institute will not realize the deferred tax assets. The Institute has not provided for any uncertain tax positions at September 30, 2016 and 2015.

Related Party Transactions

Members of the Institute's Board of Trustees and senior management may, from time to time, be associated, either directly or indirectly, with entities doing business with the Institute. These transactions are conducted in the normal course of business at an arm's length, and in accordance with the Institute's policies and procedures governing potential conflicts of interest.

Accounting Pronouncements Adopted

In April 2015, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2015-03 to simplify the presentation of debt issuance costs. The financial statements for the years ended September 30, 2016 and 2015 reflect the implementation of the ASU. Adoption of the ASU resulted in a reclassification of \$7,166 from prepaid expenses and other assets to bonds and notes payable, net at September 30, 2015.

In May 2015, FASB issued ASU 2015-07. The ASU excludes financial instruments measured at net asset value as a practical expedient from the fair value hierarchy. The Institute adopted the provisions of ASU 2015-7 during the year ended September 30, 2016. The effects of adopting this new standard are reflected in Note K and the prior-year presentation has been adjusted to conform to the current year presentation.

In June 2015, FASB issued ASU 2015-10. The ASU amends the definition of readily-determinable fair value (RDFV). The change in the definition of RDFV under this new standard was considered in connection with the Institute's election to early-adopt ASU 2015-7 during the fiscal year ended September 30, 2016.

In January 2016, FASB issued ASU 2016-01 regarding certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. ASU 2016-01 is effective for the Institute's fiscal year ending September 30, 2020. The Institute early-adopted the provisions of ASU 2016-01 permitting the elimination of fair value disclosures for financial instruments measured at cost or amortized cost for fiscal 2016.

New Accounting Pronouncements

In May 2014, FASB issued ASU 2014-09 regarding the recognition of revenue from contracts with customers. ASU 2014-09 is effective for the Institute's fiscal year ending September 30, 2019. The Institute is evaluating the impact this standard may have on its financial statements and disclosures.

In February 2016, FASB issued ASU 2016-02 regarding accounting for leases. ASU 2016-12 is effective for the Institute's fiscal year ending September 30, 2020. The Institute is evaluating the impact this standard may have on its financial statements and disclosures.

In August 2016, FASB issued ASU 2016-14 regarding presentation of financial statements of not-for-profit organizations. ASU 2016-14 is effective for the Institute's fiscal year ending September 30, 2019. The Institute is evaluating the impact this standard may have on its financial statements and disclosures.

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

C. Contributions Receivable, net

Contributions receivable consist of unconditional promises to give to the Institute in the future. Contributions receivable are initially recorded at fair value, including a discount to the present value of the future cash flows at an appropriate credit risk-adjusted rate, and are classified in Level 3 of the valuation hierarchy described in Note K. Discount rates on outstanding contributions at September 30, 2016 and 2015 range from 0.74% to 4.56%.

Contributions receivable are expected to be collected as follows at September 30, 2016 and 2015:

	2016	2015
Within one year	\$ 50,730	\$ 58,247
Between one year and five years	125,726	89,597
More than five years	<u>46,540</u>	<u>21,045</u>
Gross contributions receivable	222,996	168,889
Less:		
Unamortized discounts	10,314	6,133
Allowance for uncollectible contributions	<u>284</u>	<u>191</u>
Net contributions receivable	<u>\$ 212,398</u>	<u>\$ 162,565</u>

Net contributions receivable carried the following restrictions at September 30, 2016 and 2015:

	2016	2015
Endowment	\$ 128,806	\$ 135,405
Building construction	-	388
Other purpose and/or time restrictions	<u>83,592</u>	<u>26,772</u>
Net contributions receivable	<u>\$ 212,398</u>	<u>\$ 162,565</u>

At September 30, 2016 and 2015, net contributions receivable of \$183,631 and \$139,034, respectively, were due from board members, their estates, and charitable entities founded by board members.

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

D. Investments

Investments consisted of the following at September 30, 2016 and 2015:

	2016	2015
Short-term investments	\$ 178,866	\$ 210,636
Fixed-income securities	223,353	192,666
Equity securities	1,146,711	1,027,796
Alternative investments:		
Alternative securities	798,994	776,106
Private equity	282,099	224,986
Real assets	400,649	397,447
Derivatives, net	(2,294)	4,867
	<hr/>	<hr/>
Total investments	\$ 3,028,378	\$ 2,834,504
	<hr/>	<hr/>

The Institute engages a number of outside investment managers to manage portions of its investment portfolios, which include an investment pool and other separately managed portfolios.

Below is a description of the holdings included within each investment classification:

- *Short-term investments* consist primarily of cash and cash equivalents invested in U.S. government and government agency money-market funds, as well as deposits with financial institutions.
- *Fixed-income securities* consist primarily of debt instruments issued by corporate or sovereign entities in both U.S. and foreign markets and investments in funds that hold such instruments.
- *Equity securities* consist primarily of investments in publicly traded corporate equities in globally diversified public markets including domestic, developed international, emerging markets and investments in funds that hold such investments. Investment managers invest according to each manager's particular investment strategy.
- *Alternative securities* consist primarily of investments in funds in which redemption options and/or distributions are determined by the respective investment managers. Alternative securities managers pursue returns through a variety of strategies such as high yield and distressed credit, long/short equity, event-driven, and relative value. Managers invest and trade in various securities and financial instruments, including publicly traded and privately issued common and preferred shares of domestic and foreign companies, corporate debt, bonds, swaps, options, futures contracts and commodities.
- *Private equity* consists of investments in limited partnership interests that invest primarily in the securities of privately held companies. Investment managers utilize leveraged buyout and

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

venture capital strategies in a wide variety of industries and company sizes. Distributions from these investments are made either in-kind as distributions of publicly tradeable equity securities after initial public offerings, or in cash after liquidation of the underlying securities by the investment manager.

- *Real assets* consist primarily of investments in limited partnerships that invest in foreign and/or domestic real estate and/or energy sectors and/or domestic timber industries. Real estate consists primarily of illiquid investments in residential and commercial real estate assets, projects or land, and notes receivable secured by real estate. Such holdings are either held directly or in partnership funds. Energy holdings consist primarily of illiquid investments in oil and gas exploration and production or materials mining businesses, as well as related oil and gas services businesses, held in limited partnerships. Timber holdings consist primarily of illiquid investments in timber land and harvesting businesses held in limited partnerships.
- *Derivatives, net* consist of options in which the Institute directly transacts to manage equity risks of certain investments and interest and currency futures of minor value.

Investments were held as follows at September 30, 2016 and 2015:

	2016	2015
Investment pool	\$ 2,193,480	\$ 2,053,675
Separately invested endowments	34,928	35,643
Trusts, annuities, and other	799,970	745,186
	<u> </u>	<u> </u>
Total investments	\$ 3,028,378	\$ 2,834,504

At September 30, 2016 and 2015, endowment investments were \$2,217,372 and \$2,078,954, respectively. At September 30, 2016, and 2015, other investments included \$48,259 and \$32,476, respectively, held in separately invested accounts as required by donors and/or sponsors.

Investment return consisted of the following for the years ended September 30, 2016 and 2015:

	2016	2015
Interest and dividend income	\$ 34,322	\$ 37,809
Net realized gains	107,437	86,041
Net unrealized appreciation/(depreciation)	60,140	(182,868)
	<u> </u>	<u> </u>
Total investment return/(loss)	\$ 201,899	\$ (59,018)

E. Deferred United States Government Billings

The Institute's contract with NASA provides for the reimbursement of certain employee benefit costs incurred but not yet billed to the JPL contract. Therefore, the Institute has recorded deferred United States government billings related to the unfunded postretirement benefit obligation, accrued vacation, and workers' compensation liabilities attributable to JPL, as the Institute is able to recover these amounts through future charges to JPL contracts. Although these deferred billing amounts may not be currently funded, and therefore may need to be funded as part of future NASA budgets, the Institute has the contractual right to require that such funding be made available at the time these employee benefit liabilities become payable by the Institute.

Deferred United States government billings related to deferred reimbursements of the following liabilities at September 30, 2016 and 2015:

	2016	2015
Unfunded postretirement benefit obligation	\$ 300,376	\$ 282,313
Accrued vacation	67,046	63,138
Accrued worker's compensation expense	3,956	4,489
	<hr/>	<hr/>
Total deferred United States government billings	\$ 371,378	\$ 349,940
	<hr/>	<hr/>

F. Property, Plant, and Equipment, net

Property, plant, and equipment consisted of the following at September 30, 2016 and 2015:

	2016	2015
Land and land improvements	\$ 67,799	\$ 67,703
Buildings and building improvements	1,064,918	1,031,295
Equipment	577,899	564,443
Construction in progress	70,462	65,845
Less: accumulated depreciation	(918,618)	(864,263)
	<hr/>	<hr/>
Total property, plant, and equipment, net	\$ 862,460	\$ 865,023
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Depreciation expense for the years ended September 30, 2016 and 2015 was \$65,048 and \$64,998, respectively.

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

G. Bonds and Notes Payable

Bonds and notes payable are uncollateralized, general obligations of the Institute and consisted of the following at September 30, 2016 and 2015:

	Maturity	Interest rate	Outstanding		
			2016	2015	
Bonds payable:					
Taxable bonds:					
Series 2016	2116	4.28%	\$ 150,000	\$ -	
Series 2015	2045	4.32%	400,000	400,000	
Series 2011	2111	4.70%	350,000	350,000	
California Educational Facilities Authority (CEFA) tax-exempt revenue bonds:					
2009 Series	2039	- / 5.00%	-	80,000	
2006 Series A, with variable rates	2036	0.89% / 0.01%	82,500	82,500	
2006 Series B, with variable rates	2036	0.85% / 0.01%	82,500	82,500	
Series 1994, with variable rates	2024	0.84% / 0.01%	30,000	30,000	
Total bonds payable, gross			1,095,000	1,025,000	
Unamortized original issue premiums/discounts and issuance costs, net			(11,128)	(9,688)	
Total bonds payable, net			1,083,872	1,015,312	
Notes payable:		Maximum			
Variable rate facilities:					
General working capital and capital projects:					
Bank of America revolving bank credit facility	\$ 100,000	2017	0.80% / 0.57%	70,000	31,790
Bank of America revolving bank credit facility	50,000	2017	- / 0.40%	-	25,000
Bank of New York Mellon money market loan program	50,000	None	-	-	-
JPMorgan Chase revolving bank credit facility	50,000	2017	0.68% / -	1,633	-
U.S. Bank revolving bank credit facility	50,000	2017	0.84% / 0.37%	50,000	47,674
Wells Fargo revolving bank credit facility	50,000	2018	0.87% / 0.54%	50,000	50,000
Supplemental liquidity for variable rate debt:					
Northern Trust revolving bank credit facility	100,000	2018	-	-	-
Wells Fargo revolving bank credit facility	50,000	2018	-	-	-
Total notes payable			171,633	154,464	
Total bonds and notes payable, net			\$1,255,505	\$1,169,776	

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

As of September 30, 2016, the Institute had eight unsecured revolving lines of credit available (collectively, the “Lines of Credit”), consisting of seven unsecured revolving bank credit facilities and one unsecured revolving money market loan program. The Institute currently has internally- mandated aggregate borrowing limits under the Lines of Credit as follows: \$100,000 for borrowings to finance working capital, \$50,000 for borrowings to finance acquisitions of real estate and temporary funding for capital projects, and \$200,000 for borrowings secured to preserve liquidity.

The lines of credit from Bank of New York Mellon and JPMorgan Chase, and the Bank of America line of credit with a permitted maximum of \$50,000, are all uncommitted. Maturity dates for individual advances made under these lines of credit are determined at the time advances are made.

The Institute is required to comply with financial covenants in certain line of credit agreements, including maintaining minimum ratios of unrestricted cash and investments to total adjusted debt outstanding. As of September 30, 2016, the Institute was in compliance with all of its required financial covenants.

Under certain circumstances, the CEFA Series 1994, 2006 Series A, and 2006 Series B variable rate revenue bonds, which have contractual maturities commencing in 2024, could fail to be remarketed, requiring the Institute to repurchase the outstanding bonds totaling approximately \$195,000. Therefore, those bonds have been classified as repayable in the year ending September 30, 2017 in the following table.

Future principal repayments on bonds and notes payable were as follows at September 30, 2016:

Year Ending September 30	Amount
2017	\$ 366,633
2018	-
2019	-
2020	-
2021	-
Thereafter	900,000
Total	<u>\$ 1,266,633</u>

As disclosed in Note B, the Institute uses an interest rate swap to manage the interest rate exposure of the 2006 Series A and B variable rate revenue bonds. Under the terms of the agreement, which expires October 1, 2036, the Institute pays the counterparty a fixed interest rate of 3.549% and receives a variable rate, indexed at 67% of one-month LIBOR (0.36% at September 30, 2016), on a \$165,000 underlying notional principal amount.

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

In September 2016, the Institute issued \$150,000 in Series 2016 taxable bonds. At the issuance date, the Institute deposited \$91,600 of the proceeds in an escrow fund to purchase noncallable notes, bills, and bonds issued by the U.S. Department of the Treasury to be held in trust to provide for interest and principal payments to the holders of the Institute's \$80,000 in CEFA 2009 Series tax-exempt revenue bonds ("2009 Bonds") until the 2009 Bonds' planned redemption in 2019. This advance refunding legally defeased the 2009 Bonds and resulted in a loss on retirement of debt of \$10,158, which is reflected in non-operating changes in unrestricted net assets in the statement of activities.

During the year ended September 30, 2015, the Institute issued \$400,000 in Series 2015 taxable bonds.

H. Temporarily and Permanently Restricted Net Assets

Temporarily restricted net assets were available for the following purposes at September 30, 2016 and 2015:

	2016	2015
Educational and research funds	\$ 137,843	\$ 127,903
Contributions receivable	83,592	27,402
Capital projects	962	577
Life income and annuity funds	30,364	30,803
Endowments	513,627	501,386
Total temporarily restricted net assets	<u>\$ 766,388</u>	<u>\$ 688,071</u>

Permanently restricted net assets were available for the following purposes at September 30, 2016 and 2015:

	2016	2015
Student loan funds	\$ 18,317	\$ 17,820
Contributions receivable	128,806	135,163
Life income and annuity funds	87,249	34,595
Endowments	1,202,731	1,041,757
Total permanently restricted net assets	<u>\$ 1,437,103</u>	<u>\$ 1,229,335</u>

I. Endowment

Endowment net assets are comprised of donor-restricted and board-designated funds held for long-term investment that support educational, research, and general operating activities of the Institute. All endowment assets are held in the investment pool unless special considerations or donor stipulations require that they be invested separately. Gift annuities, beneficial interests, contributions receivable, and unexpended endowment distributions that are subject to remaining purpose restrictions are not considered endowment net assets.

Pursuant to its interpretation of the Uniform Prudent Management of Institutional Funds Act (“UPMIFA”) as enacted in California, the Institute classifies the following as permanently restricted net assets: the original value of initial gifts to permanent endowments, the original value of subsequent gifts to permanent endowments, and the value of accumulations to permanent endowments made in accordance with the applicable donor gift instrument at the time the accumulation is added to the fund. The remaining portions of donor-restricted endowment funds that are not classified as permanently restricted net assets are classified as temporarily restricted net assets until those amounts are appropriated for expenditure by the Institute in a manner consistent with the standard of prudence prescribed by UPMIFA and Institute policies and expended accordingly.

The Institute’s endowment spending policy includes a Board of Trustees-approved endowment spending formula which takes into consideration the prior year’s spending, inflation factors, and endowment growth. In addition, in accordance with UPMIFA, when determining the annual amount to be made available for distribution to the operating budget each year, the Board of Trustees also considers the following factors:

- The purpose of each donor-restricted endowment fund
- The duration and preservation of each fund
- General economic conditions
- The possible effects of inflation and deflation
- The expected total return from income and the appreciation of investments
- Other resources of the Institute
- The investment policies of the Institute

Any excess of endowment spending over current-year investment income and gains (losses) is funded by prior years’ accumulated investment return. The Institute appropriates endowment funds for expenditure based on current spending rates and, if applicable, the incurrence of specific expenditures in accordance with donors’ purpose restrictions.

The Institute invests endowment assets targeted to earn an average annual total return that exceeds inflation by at least the amount required to support the endowment spending. Total return includes both capital appreciation/depreciation (realized and unrealized gains/losses) and investment income (including interest, dividends, and royalties). The Institute targets a diversified asset allocation, including investments in both public markets and in alternative investments, within risk constraints deemed to be prudent.

The portion of endowment available for spending that is transferred to operating accounts each year is shown as endowment spending distributed in the statements of activities. Any endowment spending

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

available for expenditure but not distributed remains invested in the Institute's endowment and is included in non-operating changes to net assets in the statements of activities.

Endowment net assets consisted of the following at September 30, 2016 and 2015:

	Unrestricted	Temporarily Restricted
September 30, 2016		
Donor-restricted endowment funds	\$ (41,121)	\$ 507,063
Board-designated endowment funds	576,183	6,564
Total endowment net assets	<u>\$ 535,062</u>	<u>\$ 513,627</u>
September 30, 2015		
Donor-restricted endowment funds	\$ (51,061)	\$ 495,392
Board-designated endowment funds	622,527	5,994
Total endowment net assets	<u>\$ 571,466</u>	<u>\$ 501,386</u>

Changes in endowment net assets for the years ended September 30, 2016 and 2015 were as follows:

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
October 1, 2014	\$ 612,315	\$ 564,603	\$ 938,812	\$ 2,115,730
Investment return:				
Investment income	16,941	16,034	157	33,132
Net depreciation in market value	(36,836)	(34,864)	(341)	(72,041)
Total investment return	(19,895)	(18,830)	(184)	(38,909)
Contributions and pledge payments	-	10,825	91,272	102,097
Additions to board-designated endowments	47,095	5,991	-	53,086
Available for expenditure	(57,174)	(63,415)	(643)	(121,232)
Redesignations, reclassifications and other	(10,875)	2,212	12,500	3,837
September 30, 2015	<u>571,466</u>	<u>501,386</u>	<u>1,041,757</u>	<u>2,114,609</u>
Investment return:				
Investment income	9,544	12,925	110	22,579
Net appreciation in market value	58,380	79,179	673	138,232
Total investment return	67,924	92,104	783	160,811
Contributions and pledge payments	-	734	91,372	92,106
Additions to board-designated endowments	24,985	-	-	24,985
Available for expenditure	(57,334)	(72,736)	(652)	(130,722)
Redesignations, reclassifications and other	(71,979)	(7,861)	69,471	(10,369)
September 30, 2016	<u>\$ 535,062</u>	<u>\$ 513,627</u>	<u>\$ 1,202,731</u>	<u>\$ 2,251,420</u>

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

Under Accounting Standards Codification 958, for accounting purposes the Institute must maintain the historical values of donor-restricted endowment funds as permanently restricted net assets even in cases where the fair values of those funds are less than historical values. Such deficits are recorded as reductions of unrestricted net assets. The aggregate deficits for such funds were \$34,336 and \$42,362 at September 30, 2016 and 2015, respectively, and are recorded in unrestricted net assets. Such deficits reverse with market value appreciation. Reversals of these deficits increase unrestricted net assets.

J. Postretirement and Postemployment Benefits

The Institute provides postretirement health and life insurance benefit plans to eligible retirees and their dependents. The Institute's obligation related to these benefits is actuarially determined based on a September 30 measurement date. The Institute also provides defined contribution retirement plans, which are described in Note B.

Components of the funded status of postretirement benefits reported in the Institute's balance sheet and changes therein were as follows for the years ended September 30, 2016 and 2015. Additional detail regarding the JPL and Campus-related portions of the funded status of postretirement benefits is provided at the end of this note.

	2016	2015
Change in the accumulated postretirement benefit obligation:		
Benefit obligation at beginning of year	\$ 400,995	\$ 369,244
Service cost	10,375	9,982
Interest cost	18,019	15,843
Participant contributions	-	1,654
Benefits paid	(14,275)	(17,486)
Actuarial loss	45,225	21,758
Benefit obligation at end of year	<u>460,339</u>	<u>400,995</u>
Changes in plan assets:		
Fair value of plan assets at beginning of year	21,243	-
Return on plan assets	3,080	(933)
Employer contributions	34,581	38,008
Participant contributions	-	1,654
Benefits paid	(14,275)	(17,486)
Fair value of plan assets at end of year	<u>44,629</u>	<u>21,243</u>
Funded status	<u>\$ (415,710)</u>	<u>\$ (379,752)</u>

Pursuant to a modification of the JPL contract, NASA changed its method of funding postretirement benefits for JPL retirees and their dependents from the pay-as-you-go basis to an accrual-accounting approach based on the Federal Acquisition Regulation during the year ended September 30, 2015. Benefits for campus retirees and their dependents continue to be funded on a pay-as-you-go basis.

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

JPL-related contributions in excess of benefits paid are held in a trust for the benefit of JPL retirees and are invested according to the related plan's investment policies. At September 30, 2016 and 2015, trust investments consisted of short-term investments and non-publicly traded collective trust funds and mutual funds. Short-term investments are classified in level 1 of the valuation hierarchy described in Note K, and the collective trust funds and mutual funds, which have readily-determinable fair values, are classified within level 2 of that hierarchy.

Trust investments were held as follows at September 30, 2016 and 2015:

	2016	2015
Short-term investments	\$ 223	\$ 442
Collective trust funds	13,395	6,224
Mutual funds	31,011	14,577
Total	<u>\$ 44,629</u>	<u>\$ 21,243</u>

Net periodic postretirement benefit cost was as follows for the years ended September 30, 2016 and 2015:

	2016	2015
Components of net periodic postretirement benefit cost:		
Service cost	\$ 10,375	\$ 9,982
Interest cost	18,019	15,843
Expected return on plan assets	(1,683)	(470)
Amortization of prior year service credit	(28,188)	(29,642)
Amortization of loss	4,544	3,348
Net periodic benefit cost	<u>\$ 3,067</u>	<u>\$ (939)</u>

The statements of activities include the effects of changes in funded status that are not otherwise recognized in net periodic postretirement benefit cost. The effect related to JPL for the years ended September 30, 2016 and 2015 was an increase of \$47,613 and \$35,900, respectively, in both JPL direct expense and revenue and in deferred U.S. government billings, as any cost associated with this adjustment related to JPL is contractually recoverable from NASA. The effect of those changes for the Campus was a decrease of \$19,859 and \$13,555 in unrestricted net assets for the years ended September 30, 2016 and 2015, respectively, and is recorded in non-operating changes in unrestricted net assets in the statements of activities.

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

At September 30, 2016 and 2015, the differences recognized in unrestricted net assets between cumulative net periodic postretirement benefit cost, less cumulative contributions, and funded status were as follows:

	2016	2015
Amounts recognized in unrestricted net assets:		
Prior service credit	\$ (44,384)	\$ (51,259)
Net loss	29,655	16,671
Cumulative amounts recognized in unrestricted net assets	\$ (14,729)	\$ (34,588)

Any actuarial deferrals resulting from changes in the accumulated postretirement benefit obligation are amortized over the average future working lifetime of Institute employees. An estimated prior service credit of \$26,305 and actuarial loss of \$6,958 will be amortized into net periodic benefit cost during the year ending September 30, 2017.

The following weighted-average assumptions were used to determine the Institute's net periodic benefit cost under the plan for the years ended September 30, 2016 and 2015:

	2016	2015
Discount rate	4.60%	4.40%
Discount rate for service cost	4.80%	4.40%
Expected return on plan assets	5.75%	5.75%
Health care cost trend rate	7.50%	7.50%

To develop the expected long-term rate of return on assets, the Institute considers the historical returns and future expectations for each asset class, as well as the asset allocation of the retirement plan's investment portfolio. Estimated future return was based on expected returns for various asset categories. The evaluation of the historical and future returns resulted in the selection of 5.75% for the expected return on plan assets.

The following weighted-average assumptions were used to determine the Institute's obligation under the plan at September 30, 2016 and 2015:

	2016	2015
Discount rate	3.80%	4.60%
Discount rate for service cost	4.10%	4.80%
Health care cost trend rate	7.50%	7.50%

The Institute's postretirement medical benefit plans provide a substantial portion of the Institute's retirees and their eligible dependents awards of defined-dollar credits that are available to be used by retirees for medical premiums and other eligible medical expenses. The defined-dollar credits may be

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

changed in future years at the Institute's discretion. Certain grandfathered retirees and eligible dependents remain eligible for future medical benefits at no cost through an Institute-sponsored plan. The cost of these benefits is expected to increase in the future according to health care cost trend rates. The assumed health care cost trend rate is 7.50% in 2017, and annual rates are assumed to decrease approximately 0.25% per year until 2029, after which healthcare cost is assumed to increase 4.25% in all future years.

A one-percentage point change in assumed health care cost trend rates would have the following effects:

	1% Increase	1% Decrease
Effect on the total of service and interest cost components	\$ 68	\$ (59)
Effect on accumulated postretirement benefit obligation	\$ 1,343	\$ (1,177)

A substantial majority of the above effects would be related to JPL and therefore would result in corresponding changes in amounts expected to be recoverable from NASA.

At September 30, 2016, the estimated future benefit payments are as follows:

Year Ending September 30	Campus	JPL	Total
2017	\$ 4,249	\$ 13,964	\$ 18,213
2018	4,303	13,881	18,184
2019	4,356	13,746	18,102
2020	4,521	14,121	18,642
2021	4,717	14,693	19,410
2022-2026	27,267	81,827	109,094

Additional detail regarding the JPL and campus-related portions of the funded status of postretirement benefits and changes therein for the years ended September 30, 2016 and 2015, is as follows:

	Campus	JPL	Total
September 30, 2016			
Benefit obligation at end of year	\$ 115,334	\$ 345,005	\$ 460,339
Fair value of plan assets at end of year	-	44,629	44,629
Funded status	<u>\$ (115,334)</u>	<u>\$ (300,376)</u>	<u>\$ (415,710)</u>
September 30, 2015			
Benefit obligation at end of year	\$ 97,439	\$ 303,556	\$ 400,995
Fair value of plan assets at end of year	-	21,243	21,243
Funded status	<u>\$ (97,439)</u>	<u>\$ (282,313)</u>	<u>\$ (379,752)</u>

K. Fair Value

Fair value is defined as the price that the Institute would receive upon selling an asset or would pay to settle a liability in an orderly transaction between market participants. The Institute evaluates the fair value of financial instruments using an established hierarchy that ranks the inputs to valuation techniques used to measure fair value. Inputs refer broadly to the assumptions that market participants would use in such fair value determinations, including assumptions regarding various risks.

A financial instrument's level within the fair value hierarchy is based on the least-transparent level of any input that is significant to the fair value measurement. The classification of financial instruments within the hierarchy is based upon the transparency of the inputs to valuation techniques used to measure fair value and does not necessarily correspond to the Institute's perceived risk of those instruments. The three levels of the fair value hierarchy are described below.

Level 1 fair value measurements are based upon unadjusted quoted prices for identical assets or liabilities in active, accessible markets. Market price data is generally obtained from exchange dealer markets.

Level 2 fair value measurements are generally based on quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the instruments. Inputs to Level 2 measurements include, but are not limited to, interest rates, credit risk adjustments, and prices for similar instruments, and are obtained from various sources, including market participants, dealers, and brokers.

Level 3 fair value measurements are those that use significant inputs that are unobservable. Assets and liabilities included in Level 3 primarily consist of investments in real assets that are valued by investment managers or the Institute using industry-standard methodologies, independent appraisals, and Institute models. The Institute regularly monitors the adequacy of these fair value measurements. Fair value measurements derived using specific unobservable quantitative inputs developed by the Institute were not significant for the years ended September 30, 2016 and 2015.

The Institute generally uses net asset value ("NAV") as a practical expedient to determine the fair value of investments in funds that do not have readily determinable fair values and either have certain specific attributes of investment companies or prepare their financial statements consistent with the measurement principles of investment companies. For these funds, net asset values are determined by each fund's general partner or investment manager and are based on appraisals or other estimates that include considerations such as the cost of the fund's securities, prices of recent significant placements of securities of the same issuer, and subsequent developments concerning the companies to which the securities relate. The fair value of investments valued at NAV as a practical expedient are excluded from the fair value hierarchy.

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

The following is a summary of the fair value of the Institute's financial instruments according to fair value level or NAV at September 30, 2016 and 2015:

	Level 1	Level 2	Level 3	NAV	2016 Total
September 30, 2016					
Investments:					
Short-term investments	\$ 178,866	\$ -	\$ -	\$ -	\$ 178,866
Fixed-income securities	30,749	192,604	-	-	223,353
Equity securities	602,132	163,759	6,246	374,574	1,146,711
Alternative investments:					
Alternative securities	-	-	-	798,994	798,994
Private equity	-	-	5,537	276,562	282,099
Real assets	-	18,792	131,597	250,260	400,649
Derivative assets	2,242	-	-	-	2,242
Derivative liabilities	(4,536)	-	-	-	(4,536)
Total investments	\$ 809,453	\$ 375,155	\$ 143,380	\$1,700,390	\$ 3,028,378
Other assets and liabilities:					
Cash and cash equivalents	\$ 6,374	\$ -	\$ -	\$ -	\$ 6,374
Beneficial interests	-	-	73,341	-	73,341
Defined contribution plan assets	26,916	24,147	26,399	-	77,462
Defined contribution plan liabilities	(26,827)	(24,062)	(26,388)	-	(77,277)
Interest rate swap	-	(70,521)	-	-	(70,521)
September 30, 2015					
Investments:					
Short-term investments	\$ 210,636	\$ -	\$ -	\$ -	\$ 210,636
Fixed-income securities	31,496	150,542	-	10,628	192,666
Equity securities	565,146	160,143	6,245	296,262	1,027,796
Alternative investments:					
Alternative securities	-	-	-	776,106	776,106
Private equity	-	-	-	224,986	224,986
Real assets	-	19,152	143,102	235,193	397,447
Derivative assets	8,866	-	-	-	8,866
Derivative liabilities	(3,999)	-	-	-	(3,999)
Total investments	\$ 812,145	\$ 329,837	\$ 149,347	\$1,543,175	\$2,834,504
Other assets and liabilities:					
Cash and cash equivalents	\$ 5,257	\$ -	\$ -	\$ -	\$ 5,257
Beneficial interests	-	-	22,379	-	22,379
Defined contribution plan assets	22,501	23,740	23,490	-	69,731
Defined contribution plan liabilities	(22,422)	(23,661)	(23,479)	-	(69,562)
Interest rate swap	-	(55,409)	-	-	(55,409)

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

The fair value of assets held in trust for postretirement benefit plans, as disclosed in Note J, is excluded from the tables above.

At September 30, 2016 and 2015, additional detail regarding the Institute's investments valued using NAV by major investment category was as follows:

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period in days	Lives in years
September 30, 2016					
Equity securities					
Quarterly or less	\$ 120,086	\$ -	Quarterly or less	7 to 180	-
Greater than quarterly	253,972	-	Annually to triennially	60 to 120	-
Not actionable	516	-	Not actionable	-	-
Alternative investments:					
Alternative securities					
Quarterly or less	186,065	-	Quarterly or less	60 to 90	-
Greater than quarterly	414,023	750	Semi-annually to triennially	30 to 90	-
Not actionable	198,906	112,195	Not actionable	-	upto 17
Private equity	276,562	164,629	Not actionable	-	upto 10
Real assets	250,260	77,559	Not actionable	-	upto 10
Total investments	\$ 1,700,390	\$ 355,133			

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period in days	Lives in years
September 30, 2015					
Equity securities					
Quarterly or less	\$ 109,168	\$ -	Quarterly or less	7 to 180	-
Greater than quarterly	171,459	-	Annually to triennially	60 to 120	-
Not actionable	15,635	-	Not actionable	-	-
Fixed-income securities	10,628	-	Quarterly	90	-
Alternative investments:					
Alternative securities					
Quarterly or less	261,285	-	Quarterly or less	60 to 90	-
Greater than quarterly	383,091	750	Annually to triennially	30 to 180	-
Not actionable	131,730	123,445	Not actionable	-	upto 10
Private equity	224,986	145,135	Not actionable	-	upto 10
Real assets	235,193	77,883	Not actionable	-	upto 10
Total investments	\$ 1,543,175	\$ 347,213			

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

In addition to the unfunded commitments noted above, at September 30, 2016 and 2015, the Institute was committed to invest an additional \$54,789 and \$42,702, respectively, in investments classified within the fair value hierarchy over approximately the next ten years. Alternative investments may not be readily marketable or redeemable, and may specify penalties for early withdrawal from the related funds.

The methods described above may produce fair value calculations that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Institute believes its valuation methods are appropriate and consistent with those of other market participants, the use of different methodologies or assumptions to determine fair values of certain financial instruments could result in different estimates of fair value.

The following table is a summary of changes in the fair values of the Institute's Level 3 assets for the years ended September 30, 2016 and 2015:

	Beginning Balance	Gifts and Purchases	Sales and Maturities	Realized Gain/Loss	Unrealized Gain/Loss	Ending Balance
September 30, 2016						
Investments:						
Equity securities	\$ 6,245	\$ -	\$ (41)	\$ -	\$ 42	\$ 6,246
Alternative investments:						
Private equity	-	4,000	-	-	1,537	5,537
Real assets	143,102	13,366	(11,819)	1,650	(14,702)	131,597
Total investments	\$ 149,347	\$ 17,366	\$ (11,860)	\$ 1,650	\$ (13,123)	\$ 143,380
Other assets:						
Beneficial interests	\$ 22,379	\$ 72,453	\$ (22,059)	\$ -	\$ 568	\$ 73,341
Defined contribution plans	23,490	4,099	(2,001)	-	811	26,399
	Beginning Balance	Gifts and Purchases	Sales and Maturities	Realized Gain/Loss	Unrealized Gain/Loss	Ending Balance
September 30, 2015						
Investments:						
Equity securities	\$ 6,386	\$ -	\$ -	\$ -	\$ (141)	\$ 6,245
Alternative investments:						
Real assets	143,940	38,201	(13,492)	546	(26,093)	143,102
Total investments	\$ 150,326	\$ 38,201	\$ (13,492)	\$ 546	\$ (26,234)	\$ 149,347
Other assets:						
Beneficial interests	\$ 26,517	\$ 2,849	\$ (6,060)	\$ -	\$ (927)	\$ 22,379
Defined contribution plans	22,765	2,961	(3,021)	-	785	23,490

The Institute classifies defined contribution plan liabilities in the fair value hierarchy based upon the investments of the related plan assets. Accordingly, liabilities classified within Level 3 approximate

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

the value of plan investments that also are classified within Level 3, and increase or decrease in value according to contributions, withdrawals, vesting, and investment performance.

The Institute records transfers between levels in the current fiscal year when there is a change in circumstances that affects the liquidity of the assets and/or the ability to observe and measure the fair value. The Institute records such transfers based on the market value at the beginning of the reporting period. There were no transfers among levels during the years ended September 30, 2016 and 2015. During the years ended September 30, 2016 and 2015, unrealized losses related to Level 3 assets of (\$418) and (\$702) respectively, were recorded in non-operating gifts and pledges in the statements of activities. All other realized and unrealized gains related to Level 3 investments were recorded in non-operating investment return in excess of payout in the statement of activities. Unrealized losses included in the statements of activities related to those Level 3 assets held at September 30, 2016 and 2015 were (\$12,813) and (\$25,713), respectively.

The Institute uses an interest rate swap to manage the interest rate exposure of a portion of its variable rate debt. The interest rate swap has inputs that can generally be corroborated by market data and is therefore classified as Level 2. The interest rate swap is valued using observable inputs, such as quotations received from counterparties, dealers, or brokers, whenever available and considered reliable. In instances in which models are used, the value of the interest rate swap depends upon the contractual terms of, and specific risks inherent in, the instrument, as well as the availability and reliability of observable inputs. Such inputs include market prices for reference securities, credit curves, assumptions for nonperformance risk, and correlations of such inputs.

The Institute uses exchange-traded equity derivatives, including put and call options, to manage its market exposure related to certain equity exchange-traded funds. Balances and activities related to equity derivatives for the years ended September 30, 2016 and 2015 were as follows:

	2016	2015
Investments:		
Gross derivative assets	\$ 2,242	\$ 8,866
Gross derivative liabilities	(4,536)	(3,999)
Net amount	<u>\$ (2,294)</u>	<u>\$ 4,867</u>
Notional value: assets	\$ 95,947	\$ 99,373
Notional value: liabilities	(195,957)	204,468
Investments pledged	111,423	99,139
Investment returns/(losses):		
Realized gains	\$ 1,451	\$ 1,411
Unrealized (loss)/gain	(5,926)	2,870
Net amount	<u>\$ (4,475)</u>	<u>\$ 4,281</u>

L. Commitments and Contingencies

Contingencies

The Institute receives funding or reimbursement from agencies of the United States government for various activities that are subject to audit, and is a defendant in various legal actions incident to the conduct of its activities. Except as specifically discussed below, management does not expect that liabilities, if any, related to these audits or legal actions will have a material impact on the Institute's financial position. However, the settlement of audits or legal actions is subject to inherent uncertainties, and it is possible that such liabilities, if any, will differ materially from management's current expectations.

In 1997, the Institute was named as a potentially responsible party ("PRP") by NASA under the Comprehensive Environmental Response, Compensation, and Liability Act, as amended. As a PRP, the Institute may be jointly liable for contribution towards clean-up costs, estimated to be in excess of \$100,000, of the NASA/JPL Superfund site.

Officials of the Institute presently are not able to predict the impact, if any, that final resolution of this matter will have on the Institute's financial position or changes in its net assets. However, the Institute believes that it will have recourse to the United States government for any liabilities it may incur in connection with being named a PRP for that site.

Commitments

The Institute was committed under certain construction and services contracts in the amounts of approximately \$81,074 and \$49,148 at September 30, 2016 and 2015, respectively.

The Institute is a member of an international consortium that was organized to construct and operate an advanced telescope. At September 30, 2016 and 2015, the Institute was committed to provide a combination of cash and in-kind assets totaling approximately \$92,000 and \$102,000, respectively, to the consortium over approximately the next ten years. Payments and other transfers related to this commitment are subject to certain contingencies. Subsequent to September 30, 2016, the Institute and the consortium amended the Institute's commitment to exclude further contributions of in-kind assets, without changing the amount of the total commitment.

The Institute's workers' compensation insurance carrier requires that the Institute maintain an unsecured letter of credit for claims that do not exceed certain deductible amounts. At September 30, 2016 and 2015, the amounts of the letter of credit facility were \$9,400 and \$9,300, respectively. The letter of credit was not used during the years ended September 30, 2016 and 2015, and therefore no liability has been recorded in the balance sheets.

The Institute is currently providing funding for the operation of certain local water treatment facilities, subject to reimbursement from NASA. Annual costs are not expected to exceed \$9,000.

The Institute leases equipment and buildings, primarily for JPL, under operating leases expiring at various dates through 2018. Rent expense incurred under operating lease obligations was \$6,684 and \$5,971 for the years ended September 30, 2016 and 2015, respectively.

California Institute of Technology
Notes to Financial Statements
September 30, 2016 and 2015
(Dollars in Thousands)

At September 30, 2016, future minimum payments under operating leases of greater than one year in duration were as follows:

Year Ending September 30	Amount
2017	\$ 1,401
2018	1,002
Total	<u>\$ 2,403</u>

Approximately \$1,956 of the future minimum lease payments listed above is expected to be recoverable from JPL under the Institute's cost-reimbursable contract with NASA. The Institute rents housing, equipment, and building space to students, faculty, and other organizations under operating leases expiring at various dates through 2021. Rental income under operating leases was \$9,421 and \$9,484 at September 30, 2016 and 2015, respectively.

At September 30, 2016, minimum future rentals from operating leases of greater than one year in duration were as follows:

Year Ending September 30	Amount
2017	\$ 8,974
2018	6,859
2019	3,646
2020	2,831
2021	2,832
Total	<u>\$ 25,142</u>

M. Supplemental Cash Flow Information

The following are additional supplemental disclosures related to the statements of cash flows:

	2016	2015
Cash paid during the year for interest, net of amounts capitalized	\$ 45,541	\$ 29,590
Income taxes paid	-	1,450
Non-cash investing and financing activities:		
Securities received to satisfy pledge payments	41,698	186
In-kind receipt of securities, property, plant, and equipment	19,980	30,726
Accrued purchases of property, plant, and equipment	5,717	3,353
Net amounts receivable for pending investments transactions	44,693	31,168

N. Subsequent Events

Subsequent events were evaluated through January 25, 2017, which is the date the financial statements were available to be issued.

California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster				
Direct Funds				
Department of Commerce				
National Oceanic & Atmospheric Administration	11.431		\$ 65,426	\$ -
Department of Defense				
Air Force	12.800		5,405,442	646,104
Army	12.431		1,698,818	242,128
Army	12.910		3,112,313	193,202
Defense Threat Reduction Agency	12.351		245,721	-
Defense Advanced Research Project Agency	12.431		32,656	-
Defense Advanced Research Projects Agency	12.910		7,471,145	4,287,159
Navy	12.300		2,282,079	110,811
Navy	12.910		226,308	-
Total Department of Defense			20,474,482	5,479,404
Department of Energy				
Department of Energy	81.049		19,505,510	2,955,230
Department of Energy	81.064		128,990	-
Department of Energy	81.086		72,912	-
Department of Energy	81.087		361,217	-
Department of Energy	81.112		726,926	232,745
Department of Energy	81.117		151,058	-
Department of Energy	81.135		850,062	212,277
Total Department of Energy			21,796,675	3,400,252

**California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016**

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Direct Funds (Continued)				
Department of Health and Human Services				
National Institutes of Health	93.077		\$ 436,762	\$ -
National Institutes of Health	93.121		826,211	-
National Institutes of Health	93.172		3,339,420	1,237,122
National Institutes of Health	93.173		556,693	137,237
National Institutes of Health	93.242		6,217,979	(11,421)
National Institutes of Health	93.279		2,329,330	461,877
National Institutes of Health	93.286		921,521	44,499
National Institutes of Health	93.310		3,181,918	530,997
National Institutes of Health	93.351		944,856	-
National Institutes of Health	93.395		777,119	164,703
National Institutes of Health	93.396		295,806	105,696
National Institutes of Health	93.397		2,291,885	1,007,106
National Institutes of Health	93.837		798,316	-
National Institutes of Health	93.838		429,942	-
National Institutes of Health	93.839		754,005	73,928
National Institutes of Health	93.846		59,997	-
National Institutes of Health	93.847		871,567	-
National Institutes of Health	93.853		6,038,333	1,314,560
National Institutes of Health	93.855		5,018,096	1,826,011
National Institutes of Health	93.859		14,521,960	435,069
National Institutes of Health	93.865		3,586,715	369,132
National Institutes of Health	93.866		242,809	-
National Institutes of Health	93.867		897,945	142,699
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Total Department of Health and Human Services			55,339,185	7,839,215
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California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Direct Funds (Continued)				
Department of the Interior				
Department of Interior	12.910		\$ 134,432	\$ -
United States Geological Survey	15.UNKNOWN	4500072148	69,018	-
United States Geological Survey	15.UNKNOWN	4500047679	131,875	-
United States Geological Survey	15.807		2,950,324	-
United States Geological Survey	15.808		469,846	-
			<hr/>	
Total Department of the Interior			3,755,495	-
			<hr/>	
General Services Administration				
General Services Administration	39.UNKNOWN	GP0478497	(143)	-
			<hr/>	
National Aeronautics and Space Administration (NASA)				
NASA	43.UNKNOWN	JSCNNJ13ZA01P	180,605	-
NASA	43.UNKNOWN	NNG08FD60C	2,660,055	749,679
NASA	43.UNKNOWN	NNG16FC11C	50,009	-
NASA	43.UNKNOWN	NNG16FC11C	186,492	-
NASA	43.UNKNOWN	NNH14IA13P	219,620	-
NASA	43.UNKNOWN	NNH15IA26P	207,022	-
NASA	43.001		7,159,350	698,702
NASA	43.008		106,322	-
NASA	43.009		229,957	-
NASA	43.012		273,712	-
NASA	43.001		8,735	-
			<hr/>	
Total NASA			11,281,879	1,448,381
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California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Direct Funds (Continued)				
National Science of Foundation				
National Science Foundation	47.UNKNOWN	1400366	\$ 25,546	\$ -
National Science Foundation	47.UNKNOWN	1501208	1,315	-
National Science Foundation	47.UNKNOWN	1559413	203,604	-
National Science Foundation	47.041		2,622,934	410,551
National Science Foundation	47.049		64,491,526	6,262,582
National Science Foundation	47.050		4,201,741	142,396
National Science Foundation	47.070		3,828,187	20,937
National Science Foundation	47.074		2,028,727	101,529
National Science Foundation	47.075		694,981	49,400
National Science Foundation	47.076		4,549,142	-
National Science Foundation	47.079		5,142	-
National Science Foundation	47.080		133,113	76,851
ARRA - National Science Foundation	47.083		495,835	89,425
			<hr/>	
			83,281,793	7,153,671
			<hr/>	
			195,994,792	25,320,923
			<hr/>	

California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Pass-Through Funds				
Agency for International Development				
Development Alternatives, Inc.	98.UNKNOWN	1001624-13S-19790	\$ 202,970	\$ 136,228
Department of Agriculture				
Citrus Research and Development Foundation, Inc.	10.309	13-009NU-788	128,534	-
Tanner Research, Inc.	10.212	CTSub-USDA 15-0715	20,000	-
Total Department of Agriculture Pass-Through			148,534	-
Department of Defense				
Air Force				
Brown University	12.800	00000553	127,866	-
Carnegie Mellon University	12.800	1150119-294707	115,082	-
Massachusetts Institute of Technology	12.800	5710003606	184,742	-
Northrop Corporation	12.910	2876556	293,789	-
Stanford University	12.800	29018150-51649-C	368,794	-
The Ohio State University	12.800	60035093/GRT00027335	41,213	-
The University of Chicago	12.800	FP057123-A	197,922	-
University of California Berkeley	12.800	00007817	233,260	-
University of California Los Angeles	12.800	0205GSA600	123,910	-
University of California San Diego	12.800	10312818	169,028	-
University of California Santa Barbara	12.800	KK1224	860,459	-
University of Colorado at Boulder	12.800	1552227	338,606	-
University of Missouri	12.800	C00043936-2	131,199	-
University of Southern California	12.UNKNOWN	34278403	(6,689)	-
Total Air Force Pass-Through			3,179,181	-

California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Pass-Through Funds (Continued)				
Department of Defense (Continued)				
Army				
Cornell University	12.910	63222-9803	\$ 19,721	\$ -
Johns Hopkins University	12.630	2001515018	790,737	-
Rutgers University	12.910	5654	48,389	-
Synvitrobio	12.UNKNOWN	SVB-CIT-1-2015	22,394	-
Telaris Genesis, Inc.	12.400	11-2015	118,365	-
Tissue Genesis, LLC.	12.420	20150721-01	46,423	-
University of California Los Angeles	12.431	0160 G UA559	25,598	-
University of California San Francisco	12.420	9418sc	37,457	-
University of California Santa Barbara	12.UNKNOWN	KK1502	72,537	-
University of California Santa Barbara	12.UNKNOWN	KK9150	1,268,893	75,000
University of California Davis	12.431	201301077-01	406,446	75,000
University of Texas at Austin	12.431	UTA16-000852	35,735	-
University of Utah	12.630	10028801-CAL-BPP	20,062	-
University of Utah	12.630	10028801-CAL-BPP CLIN004	128,426	-
Total Army Pass-Through			<u>3,041,183</u>	<u>150,000</u>
Navy				
Harvard University	12.300	123950-5092636	344,269	-
Kord Technologies	12.UNKNOWN	SC2015002	40,000	-
Massachusetts Institute of Technology	12.300	5710003358	124,761	-
University of California Los Angeles	12.300	0980 G RE457	71,207	-
University of California Los Angeles	12.300	0980 G SB033	218,991	-
University of California Los Angeles	12.300	1015 G NA127	(9,807)	-
Total Navy Pass-Through			<u>789,421</u>	<u>-</u>

**California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016**

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Pass-Through Funds (Continued)				
Department of Defense (Continued)				
Defense Advanced Research Projects Agency				
Honeywell	12.910	3501723955E	\$ 126,373	\$ -
HRL Laboratories, LLC	12.910	10008-002329	(17)	-
Massachusetts Institute of Technology	12.UNKNOWN	5710004046	30,200	-
Northrop Corporation	12.UNKNOWN	CD050615SDE	59,685	-
Purdue University	12.910	4104-65926	(297)	-
The Ohio State University	12.351	60047783	121,835	-
University of California Berkeley	12.910	00008161/BB00143380	252,151	-
University of California Santa Barbara	12.910	KK1540	472,383	-
University of California Los Angeles	12.UNKNOWN	0142SQA028	33,971	-
Total Defense Advanced Research Projects Agency Pass-Through			<u>1,096,284</u>	-
Total Department of Defense Pass-Through			<u>8,106,069</u>	<u>150,000</u>
Department of Energy				
Aerosol Dynamics, Inc.	81.049	3519	17,958	-
Aerosol Dynamics, Inc.	81.049	3901	30,395	-
Amerigon, Inc.	81.086	AMERGN.DOE	15,771	-
Argonne National Laboratory	81.UNKNOWN	3F-30421	37,017	-
Arizona State University	81.087	14-377	182,906	-
Brookhaven National Laboratory	81.UNKNOWN	284849	14,971	-
Brookhaven National Laboratory	81.UNKNOWN	310211	14,061	-
Carnegie Institute	81.049	4-10114-02 B	164,184	-
Carnegie Institute	81.112	4-10469-02	131,124	-
Fermilab National Accelerator Laboratory	81.UNKNOWN	554897	51,737	-
Fermilab National Accelerator Laboratory	81.UNKNOWN	608666	(1,776)	-
Fermilab National Accelerator Laboratory	81.UNKNOWN	612044	102,328	-

**California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016**

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Pass-Through Funds (Continued)				
Department of Energy (Continued)				
Fermilab National Accelerator Laboratory	81.UNKNOWN	613639	\$ 3,493	\$ -
Fermilab National Accelerator Laboratory	81.UNKNOWN	615210	274,047	-
Fermilab National Accelerator Laboratory	81.UNKNOWN	620353	(9,441)	-
Fermilab National Accelerator Laboratory	81.UNKNOWN	622268	2,802	-
Fermilab National Accelerator Laboratory	81.UNKNOWN	624677	146,479	-
Fermilab National Accelerator Laboratory	81.UNKNOWN	625619	47,810	-
Fermilab National Accelerator Laboratory	81.UNKNOWN	626507	124,716	-
Krell Institute	81.UNKNOWN	KRELL.GRADPT	9,081	-
Krell Institute	81.UNKNOWN	KRELL.KLEISER	1,127	-
Lawrence Livermore National Laboratory	81.UNKNOWN	B602077	4,037	-
Lawrence Livermore National Laboratory	81.UNKNOWN	B609604	170,551	-
Lawrence Livermore National Laboratory	81.UNKNOWN	B611977	107,961	-
Liox Power	81.086	102679	144,818	-
Los Alamos National Laboratory	81.UNKNOWN	259078	197,575	-
Los Alamos National Laboratory	81.UNKNOWN	273448	123,118	-
Los Alamos National Laboratory	81.UNKNOWN	305963	111,333	-
Los Alamos National Laboratory	81.UNKNOWN	388712	45,612	-
National Security Technologies, LLC	81.UNKNOWN	146428	20,319	-
Radiation Monitoring Devices, Inc.	81.049	C14-28	39,300	-
Safcell, Inc.	81.135	C2014.0025	107,423	-
Sandia National Laboratories	81.UNKNOWN	1416776	61,181	-
Stanford University	81.087	60212342-51077-I	(12,739)	-
Stanford University	81.087	60962301-51077	120,414	-
University Of Colorado at Boulder	81.135	1554501	61,822	-
University of Delaware	81.049	37733	278,516	-
University of Southern California	81.049	68192992	209,016	-
Total Department of Energy Pass-Through			<u>3,151,047</u>	-

California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Pass-Through Funds (Continued)				
Department of Health and Human Services				
National Institutes of Health				
Academyhealth	93.226	CIT2017.731.001SGD	\$ 7,337	\$ -
Allen Institute for Brain Science	93.242	2014-215	486,847	-
Allen Institute for Brain Science	93.242	2015-0437	76,915	-
Brandeis University	93.242	402473	487,408	-
Children's Hospital Los Angeles	93.855	512	106,419	-
Harvard University	93.310	138062-5061610	(110,112)	-
Hudsonalpha Institute for Biotechnology	93.172	2013-01	1,178,899	-
Instand Technologies	93.853	INTA -1R43NS089127	1,300	-
Jackson Laboratory	93.172	206035-0-SERV	155,171	-
Jackson Laboratory	93.172	JACKSON.GOCON15	202,516	-
Princeton University	93.853	SUB0000038	279,487	-
Science Applications International Corporation	93.UNKNOWN	11XS287	1,513,604	775,759
The Scripps Research Institute	93.279	5-52172	85,840	-
The Scripps Research Institute	93.853	5-52423	137,834	-
The Scripps Research Institute	93.853	5-52645	13,195	-
The University of Chicago	93.853	FP0613171-A	34,694	-
University of California Los Angeles	93.286	0845 G SB495	329,950	-
University of California Los Angeles	93.837	1564GRA556	63,984	-
University of California Los Angeles	93.837	1564GSA123	129,590	-
University of California Los Angeles	93.286	1713 G RA348	83,845	-
University of California San Francisco	93.394	8849sc	140,251	-
University of California San Francisco	93.853	9141sc	17,744	-
University of California San Francisco	93.867	9190sc	248,214	-
University of California Santa Barbara	93.859	KK1645	6,497	-
University of California Santa Cruz	93.172	S0184278	107,399	-
University of Georgia	93.855	RR182-434/4708841	35,276	-
University of Massachusetts	93.242	WA00358278/RFS2016070	79,969	-
University of New Mexico	93.242	3RJ60	177,617	-

**California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016**

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Pass-Through Funds (Continued)				
Department of Health and Human Services (Continued)				
National Institutes of Health (Continued)				
University of Southern California	93.859	159431	\$ 57,161	\$ -
University of Southern California	93.UNKNOWN	56294097	463,300	-
University of Southern California	93.866	64259929	61,802	-
University of Southern California	93.853	65883161	71,598	-
University of Utah	93.859	10027535-05	290,669	-
University of Utah	93.859	10027535-06	372,041	-
University of Washington	93.847	UWSC7927	135,881	-
University of Washington	93.173	UWSC8030	76,161	-
University of Wisconsin	93.847	VUMC 57088	223,890	-
Vanderbilt University	93.847	VUMC 52731	214,159	-
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Total National Institutes of Health Pass-Through			8,044,352	775,759
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Total Department of Health and Human Services Pass-Through			8,044,352	775,759
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Department of the Interior				
United States Geological Survey (USGS)				
Baylor College of Medicine	15.UNKNOWN	102185175	215,716	-
University of Southern California	15.808	Y80804	189,434	-
University of Southern California	15.808	Y86581	239,800	-
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Total Department of the Interior Pass-Through			644,950	-
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California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Pass-Through Funds (Continued)				
Environmental Protection Agency				
Environmental Protection Agency	66.509	8461	\$ 39,027	\$ -
National Aeronautics and Space Administration (NASA)				
Analytical Mechanics Associates, Inc.	43.001	1601-TEAMS2-CAL MSA-150622 - PO 2015CL2395	(27,690)	-
Chromologic LLC	43.UKNOWN	2015CL2395	39,592	-
Harvard University	43.001	131396-5071107	30,599	-
Johns Hopkins University	43.001	108898	21,979	-
Johns Hopkins University	43.001	135896	568	-
Johns Hopkins University	43.001	2002128886	61,764	-
Massachusetts Institute of Technology	43.001	5710003373	47,140	-
Orbital Science Corporation	43.UKNOWN	2511670036	152,551	-
Orbital Science Corporation	43.UKNOWN	25P0144736	(1,859)	-
Pennsylvania State University	43.001	4984-CIT-NASA-D22G	3,465	-
Princeton University	43.001	00002046	200,558	-
Smithsonian Astrophysical Observatory	43.001	AR4-15001X	37,825	-
Smithsonian Astrophysical Observatory	43.001	AR6-17005X	18,638	-
Smithsonian Astrophysical Observatory	43.UKNOWN	GO3-14087X	3,291	-
Smithsonian Astrophysical Observatory	43.001	GO5-16149X	4,593	-
Smithsonian Astrophysical Observatory	43.001	PF3-140114	86,211	-
Smithsonian Astrophysical Observatory	43.001	PF5-160136	98,045	-
Southwestern Research Institute	43.001	1415GC0042	29,343	-
Southwestern Research Institute	43.001	699047X	258,578	-
Southwestern Research Institute	43.001	699048X	194,427	-
Southwestern Research Institute	43.001	699049X	54,687	-
Southwestern Research Institute	43.001	D99029L	2,631,965	-
Space Telescope Science Institute	43.001	HST-AR-14285.006-A	10,138	-
Space Telescope Science Institute	43.001	HST-GO-12060.49-A	3,505	-

**California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016**

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Pass-Through Funds (Continued)				
National Aeronautics and Space Administration (NASA)				
(Continued)				
Space Telescope Science Institute	43.UNKNOWN	HST-GO-12234.02-A	\$ 19,829	\$ -
Space Telescope Science Institute	43.UNKNOWN	HST-GO-12473.11-A	1,418	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-12524.04-A	3,741	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-12534.001-A	76,190	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-12549.013-A	1,307	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-12888.01-A	2,489	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-12902.08-A	68,148	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-12949.01-A	13,167	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-12970.01-A	8,305	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-12980.01-A	(479)	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13007.01-A	238	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13178.01-A	68,553	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13321.001-A	11,892	-
Space Telescope Science Institute	43.001	HST-GO-13340.001-A	10,339	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13341.001-A	6,167	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13352.010-A	2,527	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13364.40-A	8,299	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13431-001-A	4,124	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13621.002-A	1,415	-
Space Telescope Science Institute	43.001	HST-GO-13641.001-A	17,650	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13665.005-A	175,815	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13683.001-A	7,652	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13684.001-A	889	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13690.002-A	10,913	-
Space Telescope Science Institute	43.001	HST-GO-13703.002-A	33,148	11,609
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13826.004-A	32,196	-
Space Telescope Science Institute	43.UNKNOWN	HST-GO-13867.014-A	11,482	-

**California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016**

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Pass-Through Funds (Continued)				
National Aeronautics and Space Administration (NASA)				
(Continued)				
Space Telescope Science Institute	43.001	HST-GO-14258.010-A	\$ 251	\$ -
Space Telescope Science Institute	43.001	HST-GO-14260.003-A	2,340	-
Space Telescope Science Institute	43.001	HST-GO-14347.001-A	63,887	-
Space Telescope Science Institute	43.UNKNOWN	HST-HF2-51334.001-A	102,313	-
Space Telescope Science Institute	43.UNKNOWN	HST-HF2-51365.001-A	103,327	-
Space Telescope Science Institute	43.001	HST-HF2-51377.001-A	13,499	-
Space Telescope Science Institute	43.UNKNOWN	STI-506645 / T047844	131,968	-
Space Telescope Science Institute	43.UNKNOWN	STI-506645/T049036	48,575	-
Space Telescope Science Institute	43.001	STI-510253	243,370	-
Space Telescope Science Institute	43.UNKNOWN	STSCI-49296	29,685	-
Space Telescope Science Institute	43.UNKNOWN	HST-HF-51313.01-A	(547)	-
Tufts University	43.001	NASA90	1,183	-
Universities Space Research Association	43.001	02212-01	611	-
Universities Space Research Association	43.UNKNOWN	03-0151	5,118	-
Universities Space Research Association	43.UNKNOWN	08521-019	26,927	-
Universities Space Research Association	43.UNKNOWN	SOF 03-0098 Morris	1,115	-
Universities Space Research Association	43.UNKNOWN	SOF 04-0017 Appleton	9,002	-
Universities Space Research Association	43.UNKNOWN	SOF 04-0072 Paladini	3,455	-
University of California Berkeley	43.001	00008864	285,573	-
University of California Berkeley	43.001	SA2715-26309	(206)	-
University of California Los Angeles	43.001	0995 G SA431	122,371	-
University of California Los Angeles	43.001	2095 G UA002	463	-
University of California San Diego	43.001	32377315	37,121	-
University of California San Diego	43.001	68123354	34,834	-
University of Colorado Boulder	43.001	1551484	43,274	-
University of Maryland	43.001	34508-Z6037001	10,172	-
University of Michigan	43.001	3003962831	1,121	-

California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Pass-Through Funds (Continued)				
National Aeronautics and Space Administration (NASA)				
(Continued)				
University of Southern California	43.001	38485892	\$ 95,901	\$ -
University of Wisconsin-Milwaukee	43.001	474K961	4,008	-
			<hr/>	<hr/>
Total NASA Pass-Through			5,978,038	11,609
 National Science Foundation				
Arizona State University	47.041	12-729	228,384	-
Assoc. of Universities for Research In Astronomy	47.UNKNOWN	N506723	40,340	-
Assoc. of Universities for Research In Astronomy	47.049	N51608C	2,046,911	-
Carnegie Mellon University	47.079	1121550-259731	31,118	-
Carnegie Mellon University	47.050	1122215-343879	75,028	-
Columbia University	47.050	9(GG009393)	73,272	-
Columbia University	47.050	9H(GG009393)	9,765	-
Consortium for Ocean Leadership	47.050	T337A89	5,629	-
Consortium for Ocean Leadership	47.050	T351A89	11,404	-
Cornell University	47.049	72954-10593	22,992	-
Emory University	47.049	T443838	111,008	-
Harvard University	47.078	5064956-131340	307,121	-
Incorporated Research Institute for Seismology	47.050	90-CalTech-ECBB	1,501	-
Michigan State University	47.049	RC105065CIT	66,701	-
National Radio Astronomy Observatory	47.049	346351	268,935	-
National Radio Astronomy Observatory	47.049	347299	204	-
National Radio Astronomy Observatory	47.049	350315	22,100	-
National Radio Astronomy Observatory	47.049	352658	13,000	-
Princeton University	47.049	00002009	836,608	-
Protabit LLC	47.041	1534743	96,977	-
Provivi, Inc.	47.041	NSF1549855	8,113	-

California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Research and Development Cluster (Continued)				
Pass-Through Funds (Continued)				
National Science Foundation (Continued)				
Space Environmental Technologies	47.041	CG-2015-1-1	\$ 1,944	\$ -
Stanford University	47.049	60078899-105579-C	31,659	-
Tufts University	47.041	NS1560	7,720	-
University of Arizona	47.041	Y502628	(776)	-
University of California Berkeley	47.041	00008795	6,888	-
University of Connecticut	47.041	7150	31,764	-
University of Illinois	47.041	15835	5,257	-
University of Michigan	47.049	3002828221	75,227	-
University of Minnesota	47.049	A003778901	13,391	3,176
University of Southern California	47.050	51822192	22,696	-
University of Southern California	47.050	51920235	45,251	-
University of Southern California	47.041	55096262	119,974	-
University of Southern California	47.041	59997380	206,318	-
University of Southern California	47.041	66468073	96,890	-
University of Wisconsin-Milwaukee	47.049	123405532	32,928	-
University of Wisconsin-Milwaukee	47.049	153405540	95,705	-
W.M. Keck Observatory	47.049	11523	1,078,314	-
Washington University	47.041	120239 G003227	2,591	-
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Total National Science Foundation Pass-Through			6,150,852	3,176
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Total Research and Development Pass-Through			32,465,839	1,076,772
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Total Research and Development Cluster			228,460,631	26,397,695
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California Institute of Technology
Schedule of Expenditures of Federal Awards
(exclusive of the Jet Propulsion Laboratory)
For the Year Ended September 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Grant/Contract or Pass-Through Number	Total Federal Expenditures	Pass-Through to Subrecipients
Student Financial Aid Cluster				
Direct Funds				
Federal Work Study Program	84.033		\$ 431,613	\$ -
Federal Supplemental Educational Opportunity Grant	84.007		431,988	-
Federal Pell Grant Program	84.063		516,230	-
Perkins Loans Outstanding	84.038		5,174,541	-
Perkins Loans Current Year	84.038		601,508	-
Federal Direct Loans	84.268		<u>906,220</u>	-
Total Student Financial Aid Cluster			<u>8,062,100</u>	-
Total Expenditures of Federal Awards			<u>\$ 236,522,731</u>	<u>\$ 26,397,695</u>

California Institute of Technology

Notes to Schedule of Expenditures of Federal Awards

For the Year Ended September 30, 2016

1. Summary of Significant Accounting Policies

General

The California Institute of Technology (the "Institute") is a private, not-for-profit institution of higher education based in Pasadena, California. The Institute provides education and training services, primarily for students at the undergraduate, graduate, and postdoctoral levels, and performs research, training, and other services under grants, contracts, and similar agreements with sponsoring organizations, primarily departments and agencies of the United States government. The awards set forth in this Schedule do not include amounts related to the Jet Propulsion Laboratory ("JPL") which is a National Aeronautics and Space Administration ("NASA") Federally Funded Research and Development Center ("FFRDC") managed by the Institute. Please refer to the separate audited financial statements and related OMB Uniform Guidance reports for JPL.

Basis of Presentation

The accompanying Schedule of Expenditures of Federal Awards (the "Schedule") has been prepared on the cash basis of accounting and in accordance with the 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"). The Schedule summarizes the expenditures of the Institute under programs of the federal government for the year ended September 30, 2016, except those related to JPL. Because the Schedule presents only a selected portion of the operations of the Institute, and is prepared on the cash basis of accounting, it is not intended to and does not present the financial position, changes in net assets or cash flows of the Institute in accordance with accounting principles generally accepted in the United States of America.

Expenditures for direct costs are recognized as incurred using the cash basis of accounting and the cost accounting principles contained in OMB Circular A-21, *Cost Principles for Educational Institutions* and, effective December 26, 2014, the Uniform Guidance, as applicable. Under those cost principles, certain types of expenditures are not allowable or are limited as to reimbursements. Moreover, expenditures include a portion of costs associated with general institution activities (facilities and administrative costs) which are allocated to awards under negotiated formulas commonly referred to as indirect cost rates. The Institute has elected to use its own negotiated indirect cost rates rather than the 10% de minimis rate allowed by Uniform Guidance.

Negative balances reflected in the Schedule represent adjustments to expenditures under awards made in prior years.

The Institute receives funding or reimbursement from Federal Government agencies primarily for research under government grants and contracts. Grants and contracts provide for reimbursement of indirect costs based on rates negotiated with the Department of Defense's Office of Naval Research ("ONR"), the Institute's cognizant federal agency. ONR has approved predetermined rates for FY2008, FY2011, FY2012, and FY2013 and fixed with carry forward rates for FY2009, FY2010, FY2014, FY2015 and FY2016. ONR engages the Defense Contract Audit Agency ("DCAA") to audit indirect charges to the Institute's grants and contracts. Actual incurred costs for FY2009, FY2010, FY2014, and FY2015 have been submitted to ONR pending audits by DCAA and, in the opinion of management, the results of such audits will not have a material impact on the Schedule. An incurred cost rate audit will not be required for FY 2008, FY2011, FY2012, or FY2013 because those rates are predetermined.

California Institute of Technology

Notes to Schedule of Expenditures of Federal Awards

For the Year Ended September 30, 2016

1. Summary of Significant Accounting Policies (Continued)

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.

2. Loan Advances

The outstanding balance at September 30, 2016 was \$4,562,574. The Federal Perkins Loan Program is administered directly by the Institute. Balances and transactions related to this program are included in the Institute's financial statements. The Institute did not charge any administrative cost allowance to the Federal Perkins Loan Program for the year ended September 30, 2016.

3. Commingled Assistance

California Student Aid Commission (CSAC) administers the State Cal Grant A and B Programs, selects the student recipients of these grant awards, and provides funds to participating institutions for disbursement. Federal Temporary Assistance for Needy Families (TANF) funds, CFDA Number 93.558, from the United States Department of Health and Human Services may comprise up to approximately 25% of the total funding for these Cal Grant awards. In fiscal year 2016, the Institute received Cal Grant A and B funds in the amount of \$185,916; however, CSAC is unable to determine the exact amount of TANF funds, if any, represented in those awards. Therefore, the Schedule of Expenditures of Federal Awards does not include State Cal Grant A and B awards.



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 Board of Trustees of the
California 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 financial statements of the California Institute of Technology (the "Institute"), which comprise the balance sheets as of September 30, 2016 and 2015, and the related statements of activities and cash flows for the years then ended, and the related notes to the financial statements, and have issued our report thereon dated January 25, 2017.

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 entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

PricewaterhouseCoopers LLP

Los Angeles, California
January 25, 2017



**Report of Independent Auditors on Compliance with Requirements
That Could Have a Direct and Material Effect on Each Major Program and on Internal
Control Over Compliance in Accordance with the Uniform Guidance**

To the Board of Trustees of the
California Institute of Technology

Report on Compliance for Each Major Federal Program

We have audited the California 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 September 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.

The Institute's financial statements include the operations of the Jet Propulsion Laboratory (a Federally Funded Research and Development Center managed by the Institute), which incurred \$1,865,083,000 in federal expenditures which is not included in the schedule of expenditures of federal awards during the year ended September 30, 2016. Our audit, described below, did not include the operations of the Jet Propulsion Laboratory because it is audited and reported upon as a separate entity pursuant to the OMB Uniform Guidance and is, therefore, not within the scope of this audit.

Management's Responsibility

Management is responsible for compliance with the requirements of laws, regulations, contracts, and grants 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 California Institute of Technology 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 September 30, 2016.

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

Los Angeles, California
May 19, 2017

**California Institute of Technology
 Schedule of Findings and Questioned Costs
 For the Year Ended September 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? No
- Significant deficiency(ies) identified that are not considered to be material weakness(es)? None Reported

Noncompliance material to the financial statements noted? No

Federal Awards

Internal control over major programs:

- Material weakness(es) identified? No
- Significant deficiency(ies) identified that are not considered to be material weakness(es)? None Reported

Type of auditors’ report issued on compliance for major programs: Unmodified

Any audit findings that are required to be reported in accordance with 2 CFR 200.516(a)? No

Identification of major programs:

Program Name	CFDA Number
Research and Development Cluster	Various

Dollar threshold used to distinguish between Type A and Type B programs: \$3,000,000

Auditee qualified as a low-risk auditee? Yes

SECTION II – FINANCIAL STATEMENT FINDINGS

None reported.

Section III – FEDERAL AWARD FINDINGS AND QUESTIONED COSTS

None reported.

California Institute of Technology

Summary Schedule of Status of Prior Audit Findings and Questioned Costs For the Year Ended September 30, 2016

Condition

Finding 2015-001: In testing the Institute's conformity with the compliance requirements for certain non-salary direct costs, PwC selected 21 charges, comprising \$1.8 million of costs stemming from 20 federally funded awards. Total expenditures for these cost types, for these awards, was \$20.3 million. PwC noted one charge for a new service center in the amount of \$41,848. The service center charges were based on budgeted hours rather than actual hours and therefore were not determined on a basis generally consistent with charges from other service centers. The Institute's policies and procedures do not indicate that rates are required to be based on actual hours rather than budgeted hours. However, the Institute assumes that charges will be based on actual hours unless otherwise noted by the service center. The service center provides curation and archive services, and primarily services non-federal awards for the Institute. This was the only Institute federal award to which the service center charged costs.

Current Status

The Institute updated its Service Center Policy, effective September 2016, to include guidance on acceptable methodologies for determining charges to federal awards for center services. In addition, the Institute provided training in September 2016 regarding the revised policy and related procedures.

Condition

Finding 2015-002: In testing the Institute's compliance with the monitoring of subrecipient requirements, PwC sampled 30 subrecipient agreements out of a total population of 155. PwC identified two subawards with foreign entities, for which the Institute did not perform the appropriate monitoring procedures as it did not evaluate whether the entities were subject to audit requirements for federal expenditures. In both cases, the Institute did not engage in discussions to understand whether these subrecipients had sufficient federal expenditures in the subrecipients' fiscal year to make them subject to either an A-133 audit or audit under *Government Auditing Standards*. In both cases, as part of its award monitoring procedures, the Institute did review and approve the invoices and associated costs, which provided evidence that the costs incurred were appropriate. The expenditures included in the accompanying schedule of expenditures of federal awards for these two subawards are \$512,000 and \$480,000, respectively.

Current Status

The Institute updated its Policy and Procedure on Issuance of Subawards and on Subrecipient Monitoring, effective September 2016, which addresses compliance with Sponsor audit requirements, including foreign subrecipients. In addition, foreign subrecipients are required to complete a Subrecipient Mini-Audit Questionnaire annually.