

Section II

Schedule of Expenditures of Federal Awards

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 |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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 |
| | | | <hr/> | |
| Total Department of Health and Human Services | | | 55,339,185 | 7,839,215 |
| | | | <hr/> | |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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 |
| | | | <hr/> | |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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/> | |
| Total National Science Foundation | | | 83,281,793 | 7,153,671 |
| | | | <hr/> | |
| Total Research and Development – Direct Funds | | | 195,994,792 | 25,320,923 |
| | | | <hr/> | |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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 | - |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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> |

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|---|----------------|------------------------|-------------------------|----------------------------------|
| | CFDA Number | Pass-Through Number | 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 | | | 1,096,284 | - |
| Total Department of Defense Pass-Through | | | 8,106,069 | 150,000 |
| 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 | - |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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> | - |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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 | - |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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 | - |
| | | | <hr/> | |
| Total National Institutes of Health Pass-Through | | | 8,044,352 | 775,759 |
| | | | <hr/> | |
| Total Department of Health and Human Services Pass-Through | | | 8,044,352 | 775,759 |
| | | | <hr/> | |
| 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 | - |
| | | | <hr/> | |
| Total Department of the Interior Pass-Through | | | 644,950 | - |
| | | | <hr/> | |

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| 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 | - |

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| 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 | - |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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 | - |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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/> | |
| Total NASA Pass-Through | | | 5,978,038 | 11,609 |
| | | | <hr/> | |
| 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 | - |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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 | - |
| | | | <hr/> | |
| Total National Science Foundation Pass-Through | | | 6,150,852 | 3,176 |
| | | | <hr/> | |
| Total Research and Development Pass-Through | | | 32,465,839 | 1,076,772 |
| | | | <hr/> | |
| Total Research and Development Cluster | | | 228,460,631 | 26,397,695 |
| | | | <hr/> | |

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|---|---------------------------|---|----------------------------------|----------------------------------|
| 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> |