## Michigan State University

Federal Awards
Supplemental Information
June 30, 2017
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Report on Schedule of Expenditures of Federal Awards<br>Required by the Uniform Guidance<br>Independent Auditor's Report

To the Board of Trustees<br>Michigan State University

We have audited the basic financial statements of Michigan State University (the "University") and its discretely presented component unit as of and for the year ended June 30, 2017 and the related notes to the financial statements, which collectively comprise the University's basic financial statements. We issued our report thereon dated October 26, 2017, which contained an unmodified opinion on the basic financial statements of the University and its component unit. Our audit was conducted for the purpose of forming opinions on the basic financial statements that collectively comprise the basic financial statements. We have not performed any procedures with respect to the audited financial statements subsequent to October 26, 2017. We did not audit the financial statements of Michigan State University Foundation (the "Foundation"), which represent all of the assets, net assets, and revenue of the discretely presented component unit. Those financial statements were audited by other auditors, whose report thereon has been furnished to us, and our opinion, insofar as it relates to the amounts included for the Foundation, is based on the report of the other auditors.

The accompanying schedule of expenditures of federal awards is presented for the purpose of additional analysis as required by the Uniform Guidance, and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from, and relates directly to, the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the basic financial statements as a whole.
Prance I Mound, PLLC

January 8, 2018

# Report 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 

Independent Auditor's Report

To Management and the Board of Trustees
Michigan State University
We have audited, in accordance with the 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 basic financial statements of Michigan State University (the "University") and its discretely presented component unit as of and for the year ended June 30, 2017, and the related notes to the financial statements, which collectively comprise the University's basic financial statements, and have issued our report thereon dated October 26, 20I7. Our report includes a reference to other auditors who audited the financial statements of Michigan State University Foundation (the "Foundation"), as described in our report on the Michigan State University's financial statements. This report does not include the results of the other auditors' testing of internal control over financial reporting or compliance and other matters that are reported on separately by those auditors. The financial statements of the Foundation were not audited in accordance with Government Auditing Standards.

## Internal Control Over Financial Reporting

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

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the University'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.

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INOEPENDENT FIRMS

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

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

Fence House, PLLC

October 26, 2017

# Report on Compliance for Each Major Federal Program; <br> Report on Internal Control Over Compliance <br> Independent Auditor's Report 

To the Board of Trustees
Michigan State University

## Report on Compliance for Each Major Federal Program

We have audited Michigan State University's (the "University") compliance with the types of compliance requirements described in the U.S. Office of Management and Budget (OMB) Compliance Supplement that could have a direct and material effect on each of its major federal programs for the year ended June 30, 20I7. Michigan State University's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

Michigan State University's basic financial statements include the operations of Michigan State University Foundation (the "Foundation"). Our audit, described below, did not include the operations of the Foundation because the Foundation did not expend any federal awards during the year ended June 30, 2017.

## Management's Responsibility

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

## Auditor's Responsibility

Our responsibility is to express an opinion on compliance for each of Michigan State University's major federal programs based on our audit of the types of compliance requirements referred to above.

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (the "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 Michigan State University's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

To the Board of Trustees

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 Michigan State University's compliance.

## Opinion on Each Major Federal Program

In our opinion, Michigan State University complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2017.

## Report on Internal Control Over Compliance

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

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A material weakness in internal control over compliance is a deficiency, or a 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.

To the Board of Trustees
Michigan State University

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.

Ament i miner, oles

January 8, 2018

| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total Expenditures | Subaward <br> Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster: |  |  |  |  |  |  |
| Agriculture | Direct | 10 | 16-JV-11242305-055 | USDA - Forest service | 76,889 | \$ |
| Agriculture | Direct | 10 | 16-TMMSD-MI-0005 | USDA - AGri marketing serv us | 42,171 |  |
| Agriculture | Direct | 10 | 2017-JV-11261952-012 | USDA - Forest service | 19,723 | - |
| Agriculture | Direct | 10.001 | 11-JV-11242306-058 | USDA - Forest service | 5,043 | - |
| Agriculture | Direct | 10.001 | 12-CS-11091000-015 | USDA - Forest service | 25,066 |  |
| Agriculture | Direct | 10.001 | 12-JV-11242302-114 | USDA - Forest service | $(4,112)$ | - |
| Agriculture | Direct | 10.001 | 12-JV-11242306-067 | USDA - Forest service | 110,802 | - |
| Agriculture | Direct | 10.001 | 14-CS-11052007-030 | USDA - Forest service | 76,458 | - |
| Agriculture | Direct | 10.001 | 14-JV-11272139-016 | USDA - Forest service | 28,780 | - |
| Agriculture | Direct | 10.001 | 14-PA-11091000-020 | USDA - Forest service | 31,993 | - |
| Agriculture | Direct | 10.001 | 15-CS-11090400-21 | USDA - Forest service | 1,633 | - |
| Agriculture | Direct | 10.001 | 15-TMXXX-M1-0002 | UsDA - AGri marketing serv us | 56,783 | - |
| Agricilture | Direct | 10.001 | 58-1265-2-036 | USDA - AGRI RESEARCH SERV US D | 41,574 | - |
| Agriculture | Direct | 10.001 | 58-1910-4.012 | USDA - AGRI RESEARCH SERV US D | 2,085 | - |
| Agriculture | Direct | 10.001 | 58-3060-5-033 | USDA - AGRI RESEARCH SERV US D | 28,523 | - |
| Agriculture | Direct | 10.001 | 58-3060-6-031 | USDA - AGRI RESEARCH SERV US D | 13,153 | - |
| Agriculture | Direct | 10.001 | 58-3607-3-985 | USDA - AGRI RESEARCH SERV US D | 12,603 | - |
| Agriculture | Direct | 10.001 | 58-3655-2-635 | USDA - AGRI RESEARCH SERV US D | 4,886 | - |
| Agriculture | Direct | 10.001 | 58-3655-4.042 | USDA - AGRI Research serv us d | 70,820 | - |
| Agricilture | Direct | 10.001 | 58-3655-4.044 | USDA - AGRI RESEARCH SERV US D | 14,299 | - |
| Agriculture | Direct | 10.001 | 58-5050-5-010 | USDA - AGRI RESEARCH SERV US D | 6,987 | - |
| Agriculture | Direct | 10.001 | 58-5050-5-011 | USDA - AGRI research serv us d | $(6,386)$ | - |
| Agriculture | Direct | 10.001 | 58-5050-5-012 | USDA - AGRI RESEARCH SERV US D | 27,475 | - |
| Agriculture | Direct | 10.001 | 58-5050-5-013 | USDA - AGRI Research serv us d | 6,771 |  |
| Agriculture | Direct | 10.001 | 58-5050-5-014 | USDA - AGRI RESEARCH SERV US D | 15,967 | - |
| Agriculture | Direct | 10.001 | 58-5050-5-015 | USDA - AGRI RESEARCH SERV US D | 5,129 | - |
| Agriculture | Direct | 10.001 | 58-5050-5-016 | USDA - AGRI Research serv us d | 65,194 | - |
| Agriculture | Direct | 10.001 | 58-5050-6-002 | USDA - Agri research serv us d | 10,007 | - |
| Agriculture | Direct | 10.001 | 58-5050-6-008 | USDA - AGRI Research serv us d | 202,729 | - |
| Agriculture | Direct | 10.001 | 58-5050-6-009 | USDA - AGRI Research serv us d | 96,423 | - |
| Agriculture | Direct | 10.001 | 58-5050-7-002 | USDA - AGRI Research serv us d | 13,658 |  |
| Agriculture | Direct | 10.001 | 58-5080-5-009 | USDA - AGRI RESEARCH SERV US D | 13,982 | - |
| Agriculture | Direct | 10.001 | 58-5090-5-066 | USDA - AGRI RESEARCH SERV US D | 12,991 | - |
| Agriculture | Direct | 10.001 | 58-512-6-022 | USDA - AGRI research serv us d | 5,490 | - |
| Agriculture | Direct | 10.001 | 58-5366-3-013 | USDA - AGRI Research serv us d | 4,842 | - |
| Agriculture | Direct | 10.001 | 58-5442-4-016 | USDA - AGRI RESEARCH SERV US D | 62,729 | - |
| Agricilture | Direct | 10.001 | 58-6040-5-020 | USDA - AGRI RESEARCH SERV US D | 820 | - |
| Agriculture | Direct | 10.001 | 58-6040-6-015 | USDA - AGRI RESEARCH SERV US D | 6,375 | - |
| Agriculture | Direct | 10.001 | 58-6040-6-021 | USDA - AGRI Research serv us d | 24,948 | - |
| Agriculture | Direct | 10.001 | 58-6040-6-029 | USDA - AGRI RESEARCH SERV US D | 38,080 | - |
| Agriculture | Direct | 10.001 | 58-6040-7-006 | USDA - Agri research serv us d | 7,952 | - |
| Agriculture | Direct | 10.001 | 58-8010-5-020 | USDA - AGRI Research serv us d | 52,795 | - |
| Agriculture | Direct | 10.001 | 58-8030-6-004 | USDA - AGRI Research serv us d | 29,299 | - |
| Agricilture | Direct | 10.001 | 58-8060-6-009 | USDA - AGRI RESEARCH SERV US D | 1,088 | - |
| Agriculture | Direct | 10.001 | 58-8062-5-036 | USDA - AGRI RESEARCH SERV US D | 120,381 |  |
| Agriculture | Direct | 10.001 | 59-0206-1-114 | USDA - Agri research serv us d | (233) | - |
| Agriculture | Direct | 10.001 | 59-0206-4.001 | USDA - AGRI RESEARCH SERV US D | 109,664 |  |
| Agriculture | Direct | 10.001 | 59-0206-4-008 | USDA - AGRI Research serv us d | 66,917 | - |
| Agriculture | Direct | 10.001 | 59-0206-6-003 | USDA - AGRI RESEARCH SERV US D | 84,465 | - |
| Agriculture | Direct | 10.001 | 59-0206-6-004 | USDA - AGRI RESEARCH SERV US D | 30,348 | - |
| Agriculture | Direct | 10.001 | 59-0206-6-004 | USDA - AGRI Research serv us d | 29,127 | - |
| Agriculture | Direct | 10.001 | 59-3040-5-001 | USDA - AGRI RESEARCH SERV US D | 46,221 | - |
| Agriculture | Direct | 10.001 | 59-5012-6-601 | USDA - AGRI RESEARCH SERV US D | 55,014 | - |
| Agriculture | Direct | 10.001 | 59-5050-6.001 | USDA - AGRI Research serv us d | 7,267 | - |
| Agriculture | Direct | 10.001 | 59-5090-5-004 | USDA - AGRI RESEARCH SERV US D | 52,960 | - |
| Agriculture | Direct | 10.001 | 59-6070-7-009 | USDA - AGRI Research serv us d | 31,708 | - |
| Agriculture | Direct | 10.001 | USDA ARS 58-5442-4-017 Chilvers | USDA - AGRI RESEARCH SERV US D | 4,496 | - |
| Agriculture | Direct | 10.001 | USDAARS 59-0206-4-037 Nagelkirk | USDA - AGRI RESEARCH SERV US D | 18,487 | - |
| Agriculture | Direct | 10.025 | 15-8130-0024-CA | USDA - AnIMAL AND PLT HTL INSP | 31,472 | - |
| Agriculture | Direct | 10.025 | 15-8130-0254-CA | USDA - ANIMAL AND PLT HTL INSP | 207,648 | 87,417 |
| Agriculture | Direct | 10.025 | 15-8130-0254-CA | USDA - ANIMAL AND PLT HTL INSP | 39,313 | 42,927 |
| Agriculture | Direct | 10.025 | 15-8130-0324-CA | USDA - ANIMAL AND PLT HTL InSP | 71,610 |  |
| Agriculture | Direct | 10.025 | 15-8130-0540-CA | USDA - ANIMAL AND PLT HTL INSP | 12,558 | - |
| Agriculture | Direct | 10.025 | 15-8226-1001-CA | USDA - ANIMAL AND PLT HTL INSP | 4,971 |  |
| Agriculture | Direct | 10.025 | 15-9419-0287-CA | USDA - ANIMAL AND PLT HTL INSP | 1,430 | - |
| Agriculture | Direct | 10.025 | 15-9419-0332 | USDA - ANIMAL AND PLT HTL INSP | 2,333 | - |
| Agriculture | Direct | 10.025 | 16-8130-0024-CA | USDA - ANIMAL AND PLT HTL INSP | 123,783 | - |
| Agriculture | Direct | 10.025 | 16-8130-0666-CA | USDA - ANIMAL AND PLT HTL INSP | 92,840 | - |
| Agriculture | Direct | 10.025 | 16-8226-1001-CA | USDA - ANIMAL AND PLT HTL INSP | 12,064 | - |
| Agriculture | Direct | 10.025 | AP17PPQS\& TOOC002 | USDA - AnIMAL AND PLT HTL INSP | 864 | - |
| Agriculture | Direct | 10.025 | AP17PPQS\&TOOC017 | USDA - ANIMAL AND PLT HTL INSP | 3,438 | - |
| Agriculture | Direct | 10.028 | 14-7488-1077-CA | USDA - ANIMAL AND PLT HTL INSP | $(1,949)$ | - |
| Agriculture | Direct | 10.028 | USDA APHIS 15-7488-1077-CA Campa | USDA - ANIMAL AND PLT HTL INSP | 42,777 | - |
| Agriculture | Direct | 10.156 | 16FSMIPMI0007 | USDA - FEDERAL STATE MARKETING IMPROVEMENT Program | 17,674 | - |
| Agriculture | Direct | 10.164 | 15-TMXXX-M1-0001 | USDA - AGRI MARKETING SERV US | 39,159 | - |
| Agriculture | Direct | 10.164 | 16-TMMSD-MI-0012 | usda - agri marketing serv us | 28,161 | - |
| Agriculture | Direct | 10.200 | 2012-39571-20296 | USDA - national institute of F | 315,693 | 271,986 |
| Agriculture | Direct | 10.200 | 2012-39571-20296 | USDA - NATIONAL INSTITUTE OF F | (406) | , |
| Agriculture | Direct | 10.200 | 2013-34381-21204 | USDA - NATIONAL INSTITUTE OF F | 7,500 | - |
| Agriculture | Direct | 10.200 | 2013-39573-21477 | USDA - NATIONAL INSTITUTE OF F | 19,303 | - |
| Agriculture | Direct | 10.200 | 2013-41530-21320 | USDA - NATIONAL INSTITUTE OF F | 1,847 | 28 |
| Agriculture | Direct | 10.200 | 2014-34141-22487 | USDA - national institute of F | 261,736 | 221,285 |
| Agriculture | Direct | 10.200 | 2014-34383-22030 | USDA - NATIONAL INSTITUTE OF F | 14,949 |  |
| Agriculture | Direct | 10.200 | 2014-34383-22030 | USDA - NATIONAL INSTITUTE OF F | 667 | - |
| Agriculture | Direct | 10.200 | 2014-39586-22374 | USDA - NATIONAL INSTITUTE OF F | 1,365 | - |
| Agriculture | Direct | 10.200 | 2015-34383-23852 | USDA - national institute of F | 2,182,476 | 11,250 |
| Agriculture | Direct | 10.200 | 2016-34141-25707 | USDA - national institute of F | 145,706 | 45,730 |
| Agriculture | Direct | 10.200 | 2016-70007-25756 | USDA - NATIONAL INSTITUTE OF F | 53,721 | . |
| Agriculture | Direct | 10.202 | MCINTIRE-StenNis fringe dir | USDA - NATIONAL INSTITUTE OF F | 61,351 | - |
| Agriculture | Direct | 10.202 | M-S 6011 Landscape Walters FOR | USDA - NATIONAL INSTITUTE OF F | 57,757 | - |
| Agriculture | Direct | 10.202 | M-S 6021 Rothstein FOR | USDA - NATIONAL INSTITUTE OF F | 31,093 | - |
| Agriculture | Direct | 10.202 | R02073 MCF MACFARLANE FOR | USDA - NATIONAL INSTITUTE OF F | 22,525 | - |
| Agriculture | Direct | 10.202 | R06009 M-S Kamdem PKG | USDA - NATIONAL INSTITUTE OF F | 41,836 | - |
| Agriculture | Direct | 10.202 | R06013 M - S Matuana PKG | USDA - NATIONAL INSTITUTE OF F | 14,170 | - |
| Agriculture | Direct | 10.202 | R06015 M-S Finley Retention For | USDA - NATIONAL INSTITUTE OF F | 36,987 | - |
| Agriculture | Direct | 10.202 | R06024 M-S Han HRT | USDA - NATIONAL INSTITUTE OF F | 41,738 | - |
| Agriculture | Direct | 10.202 | RADFOR MCF UPTIC Project FOR | USDA - NATIONAL INSTITUTE OF F | 38,131 | - |
| Agriculture | Direct | 10.203 | FED Hatch operating-dir | USDA - NATIONAL INSTITUTE OF F | 38,453 | - |
| Agriculture | Direct | 10.203 | FED HATCH SALARIES - AEC | USDA - NATIONAL INSTITUTE OF F | 302,255 | - |
| Agriculture | Direct | 10.203 | fed hatch Salaries - ans | USDA - national institute of F | 660,043 | - |
| Agriculture | Direct | 10.203 | Fed Hatch Salaries - PSM | USDA - NATIONAL INSTITUTE OF F | 1,154,305 | - |



| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total Expenditures | Subaward Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| Agriculture | Direct | 10.310 | 2013-67015-20962 | USDA - NATIONAL INSTITUTE OF F | 41,739 | \$ |
| Agricilture | Direct | 10.310 | 2013-67017-21227 | USDA - NATIONAL INSTITUTE OF F | 105,459 | - |
| Agriculture | Direct | 10.310 | 2013-67019-2137 | USDA - NATIONAL INSTITUTE OF F | 118,188 | 40,569 |
| Agricilure | Direct | 10.310 | 2013-68004-20439 | USDA - NATIONAL INSTITUTE OF F | 537,195 | 211,022 |
| Agriculture | Direct | 10.310 | 2014-67009-22310 | USDA - NATIONAL INSTITUTE OF F | 146,295 | 88,814 |
| Agricilture | Direct | 10.310 | 2014-67015-21619 | USDA - NATIONAL INSTITUTE OF F | 77,145 | - |
| Agriculture | Direct | 10.310 | 2014-67015-21632 | USDA - NATIONAL INSTITUTE OF F | 39,976 | - |
| Agriculture | Direct | 10.310 | 2014-67015-21708 | USDA - NATIONAL INSTITUTE OF F | 115,751 | - |
| Agricilture | Direct | 10.310 | 2014-67015-21832 | USDA - NATIONAL INSTITUTE OF F | 140,901 | 22,304 |
| Agriculture | Direct | 10.310 | 2014-68004-21881 | USDA - NATIONAL INSTITUTE OF F | 117,614 | . |
| Agricilture | Direct | 10.310 | 2014-68004-21952 | USDA - NATIONAL INSTITUTE OF F | 186,528 | 8,765 |
| Agriculture | Direct | 10.310 | 2014-68004-21972 | USDA - NATIONAL INSTITUTE Of F | 224,348 |  |
| Agriculture | Direct | 10.310 | 2014-68006-21828 | USDA - NATIONAL INSTITUTE OF F | 89,015 | - |
| Agriculture | Direct | 10.310 | 2014-68006-21863 | USDA - NATIONAL INSTITUTE OF F | 103,525 | 43,863 |
| Agriculture | Direct | 10.310 | 2014-68006-21869 | USDA - NATIONAL INSTITUTE OF F | 113,468 | - |
| Agricilture | Direct | 10.310 | 2014-68006-21870 | USDA - NATIONAL INSTITUTE OF F | 112,532 | - |
| Agriculture | Direct | 10.310 | 2014-68006-21870 | USDA - NATIONAL INSTITUTE OF F | 30,600 | - |
| Agriculture | Direct | 10.310 | 2014-68006-21870 | USDA - NATIONAL INSTITUTE OF F | 16,543 | - |
| Agriculture | Direct | 10.310 | 2014-68006-21870 | USDA - NATIONAL INSTITUTE OF F | 5,306 | - |
| Agricilture | Direct | 10.310 | 2014-68006-21870 | USDA - national institute of F | $(1,070)$ | - |
| Agricilture | Direct | 10.310 | 2015-67013-22932 | USDA - national institute of F | 190,384 | 79,669 |
| Agriculture | Direct | 10.310 | 2015-67013-23068 | USDA - national institute of F | 179,919 | , |
| Agricilture | Direct | 10.310 | 2015-67015-23207 | USDA - national institute of F | 144,057 | - |
| Agriculture | Direct | 10.310 | 2015-67017-23113 | USDA - NATIONAL INSTITUTE OF F | 6,354 | - |
| Agriculture | Direct | 10.310 | 2015-67019-23007 | USDA - NATIONAL INSTITUTE OF F | 150,929 | 73,324 |
| Agriculture | Direct | 10.310 | 2015-67028-23510 | USDA - national institute of F | 53,432 | - |
| Agriculture | Direct | 10.310 | 2015-67028-23652 | USDA - NATIONAL INSTITUTE OF F | 83,189 | - |
| Agricilture | Direct | 10.310 | 2015-67030-25204 | USDA - national institute of F | 86,048 | 4,550 |
| Agriculture | Direct | 10.310 | 2015-68001-23239 | USDA - NATIONAL INSTITUTE OF F | 743,831 | 315,321 |
| Agriculture | Direct | 10.310 | 2015-68003-23415 | USDA - NATIONAL INSTITUTE OF F | 724,730 | 316,462 |
| Agricilture | Direct | 10.310 | 2015-68007-23133 | USDA - national institute of F | 871,194 | 118,493 |
| Agriculture | Direct | 10.310 | 2016-67011-24713 | USDA - NATIONAL INSTITUTE OF F | 54,795 | - |
| Agriculture | Direct | 10.310 | 2016-67011-24726 | USDA - national institute of F | 46,795 | - |
| Agriculture | Direct | 10.310 | 2016-67011-25205 | USDA - NATIONAL INSTITUTE OF F | 42,712 | - |
| Agriculture | Direct | 10.310 | 2016-67012-25254 | USDA - NATIONAL INSTITUTE OF F | 65,723 | - |
| Agricilture | Direct | 10.310 | 2016-67015-24891 | USDA - national institute of F | 102,426 | 14,047 |
| Agricilture | Direct | 10.310 | 2016-67015-24898 | USDA - national institute of F | 228,051 |  |
| Agricilture | Direct | 10.310 | 2016-67017-24514 | USDA - NATIONAL Institute of F | 171,236 | - |
| Agriculture | Direct | 10.310 | 2016-68004-24931 | USDA - NATIONAL INSTITUTE OF F | 615,230 | 395,194 |
| Agriculture | Direct | 10.310 | 2016-68004-24931 | USDA - national institute of F | 653 | - |
| Agriculture | Direct | 10.310 | 2016-68006-24852 | USDA - NATIONAL INSTITUTE OF F | 117,506 | 20,864 |
| Agriculture | Direct | 10.310 | 2017-67007-25947 | USDA - national institute of F | 19,356 | - |
| Agriculture | Direct | 10.310 | 2017-67011-26038 | USDA - national institute of F | 14,976 | - |
| Agricilture | Direct | 10.310 | 2017-67011-26042 | USDA - NATIONAL INSTITUTE OF F | 20,035 | - |
| Agriculture | Direct | 10.310 | 2017-67011-26073 | USDA - national institute of F | 18,403 | - |
| Agriculture | Direct | 10.310 | 2017-67011-26074 | USDA - national institute of F | 2,368 | - |
| Agriculture | Direct | 10.310 | 2017-67013-26257 | USDA - national institute of F | 14,906 | - |
| Agriculture | Direct | 10.310 | 2017-67015-26084 | USDA - national institute of F | 152,849 | - |
| Agriculture | Direct | 10.310 | 2017-67015-26673 | USDA - national institute of F | 19,275 | - |
| Agricilture | Direct | 10.310 | 2017-67015-26676 | USDA - national institute of F | 9,164 | - |
| Agriculture | Direct | 10.310 | 2017-67017-26168 | USDA - national institute of F | 1,419 | - |
| Agriculture | Direct | 10.310 | 2017-67017-26528 | USDA - national institute of F | 8,957 | - |
| Agriculture | Direct | 10.310 | 2017-68004-26323 | USDA - NATİNAL INSTITUTE OF F | 81,086 | - |
| Agriculture | Direct | 10.310 | 3014-67003-21812 | USDA - national institute of F | 137,274 | 95,484 |
| Agriculture | Direct | 10.310 | USDA NIFA 2013-68004-20371 Coussens | USDA - national institute of F | 657,830 | 401,455 |
| Agriculture | Direct | 10.311 | 2015-70017-22856 | USDA - NATIONAL INSTITUTE OF F | 246,645 | 100,937 |
| Agriculture | Direct | 10.329 | 2014-70006-22522 | USDA - NATIONAL INSTITUTE OF F | 33,325 | - |
| Agricilture | Direct | 10.329 | 2015-70006-24280 | USDA - national institute of F | 93,320 | - |
| Agriculture | Direct | 10.500 | 2013-41530-21320 | USDA - national institute of F | 72 | - |
| Agriculture | Direct | 10.500 | 2013-48765-21544 | USDA - national institute of F | 1,760,265 | 1,041,108 |
| Agriculture | Direct | 10.500 | 2015-41210-24205 | USDA - NATIONAL INSTITUTE OF F | 11,601 | - |
| Agriculture | Direct | 10.614 | FE-CR-16-005 | us dept of Agriculture | 159,563 | - |
| Agriculture | Direct | 10.652 | 11-JV-11242305-082 | USDA - Forest service | 28,575 | - |
| Agriculture | Direct | 10.652 | 13-JV-11242303-078 | USDA - Forest service | 96,099 | - |
| Agriculture | Direct | 10.652 | 16-JV-11242306-101 | USDA - Forest service | 24 | - |
| Agriculture | Direct | 10.652 | 16-PA-11272139-073 | USDA - Forest service | 12,495 | - |
| Agricilture | Direct | 10.652 | USDA 13-JV-11242306-055 zhong | USDA - Forest service | 44,053 | - |
| Agricilture | Direct | 10.674 | 15-CA-11420004-084 | USDA - Forest service | 71,896 | - |
| Agriculture | Direct | 10.678 | 11-JV-11242306-065 | USDA - Forest service | 3,404 | - |
| Agriculture | Direct | 10.678 | 15-CS-11083601-002 | USDA - Forest service | 106,206 | - |
| Agriculture | Direct | 10.678 | 15-CS-11083601-002 | USDA - Forest service | 17,201 | - |
| Agriculture | Direct | 10.678 | 15-JV-11242303-067 | USDA - Forest service | 27,160 | - |
| Agriculture | Direct | 10.678 | 15-JV-11242315-036 | USDA - Forest service | 17,870 | - |
| Agriculture | Direct | 10.680 | 11-DG-11420004-060 | USDA - Forest service | (987) | - |
| Agriculture | Direct | 10.680 | 14-CA-11420004-054 | USDA - Forest service | 21,732 | - |
| Agriculture | Direct | 10.680 | 14-CA-11420004-061 | USDA - Forest service | 1,938 | - |
| Agriculture | Direct | 10.680 | 14-CA-11420004-201 | USDA - Forest service | 85,814 | - |
| Agriculture | Direct | 10.680 | 14-DG-11420004-059 | USDA - Forest service | 34,992 | - |
| Agriculture | Direct | 10.680 | 14-JV-11242307-114 | USDA - Forest service | 11,309 | - |
| Agriculture | Direct | 10.680 | 14-JV-11242313-149 | USDA - Forest service | 3,801 | - |
| Agriculture | Direct | 10.680 | 15-CA-11420004-102 | USDA - Forest service | 5,884 | - |
| Agriculture | Direct | 10.680 | 15-DG-11420004-222 | USDA - Forest service | 53,039 | - |
| Agriculture | Direct | 10.680 | 16-CA-11420004-072 | USDA - Forest Service | 23,348 | - |
| Agriculture | Direct | 10.680 | 16-DG-11420004-081 | USDA - Forest service | 220,121 | - |
| Agricilture | Direct | 10.680 | USDA FS 11-DG-11420004-257 COGNATO | USDA - Forest service | 20,043 | - |
| Agricilture | Direct | 10.912 | 69-3A75-12-175 | USDA-NATURAL RESOURCES CONSERVATION SERVICE | 8,188 | 36 |
| Agriculture | Direct | 10.912 | 69-3A75-13-93 | usda-natural resources conservation service | 44,449 | 17,360 |
| Agriculture | Direct | 10.960 | 58-3148-1-113 | foreign agricultural service | 31,336 | - |
| Agriculture | Direct | 10.960 | TA-CR-15-050-03 | foreign agricultural service | 106,879 | - |
|  | Direct | 10.960 | TA-CR-16-017 | Foreign agricultural service | 18,032 | 2 |
|  | Direct Total |  |  |  | 32,625,597 | 8,478,949 |
| Agriculture | Pass-through | 10 | 080500.330397.01 | MISSISSIPPI STATE UNIV | 7,792 | - |
| Agriculture | Pass-through | 10.001 | 25-6235-0205-004 | UNIVERSITY OF NEBRASKA LINCOLN | 1,586 | - |
| Agriculture | Pass-through | 10.001 | 59-3655-2-619 | UNIVERSITY OF WISCONSIN MADISON | $(3,605)$ | - |
| Agriculture | Pass-through | 10.001 | 59-3655-2-619 | UNIVERSITY OF WISCONSIN MADISON | $(7,225)$ | - |
| Agriculture | Pass-through | 10.001 | 59-8062-6.0003 | cornell univ | 22,964 | - |
| Agriculture | Pass-through | 10.001 | RUTGERS 2012-M1001-AR5 WISE/CHEN | RUTGERS UNIV | 29,300 | - |
| Agricilture | Pass-through | 10.025 | 791N6600347 | michigan department of natural | 41,869 | - |
| Agriculture | Pass-through | 10.025 | 791N6600428 | MI DEPT OF AG \& RURAL Develop | 92,000 | - |
| Agriculture | Pass-through | 10.025 | 791N6600429 | MI dept of Ag \& rural develop | 39,001 | - |
| Agriculture | Pass-through | 10.025 | 791N6600430 | michigan dept of agriculture \& rural development | 20,000 | - |



| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total Expenditures | Subaward Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| Commerce | Pass-through | 11 | Coastal Dunes | michigan environmental council | 32 | \$ - |
| Commerce | Pass-through | 11.407 | NA11NMF4070279 | illinois dept of nat resources | 10,602 | - |
| Commerce | Pass-through | 11.417 | 3003003042 | UNIVERSITY OF MICHIGAN | 33,168 | - |
| Commerce | Pass-through | 11.417 | 3003003182 | UNIVERSITY OF MICHIGAN | 44,434 | - |
| Commerce | Pass-through | 11.417 | WSU14081 | WAYNE STATE UNIV | 20,672 | - |
| Commerce | Pass-through | 11.419 | 2015 CZM-MSU | NETWORKS NORTHWEST | 37,674 | - |
| Commerce | Pass-through | 11.431 | 3001671117 | UNIVERSITY OF MICHIGAN | $(31,929)$ | - |
| Commerce | Pass-through | 11.431 | 3003959776 | UNIVERSITY OF MICHIGAN | 20,518 | - |
| Commerce | Pass-through | 11.431 | 505075-78052 | northeastern univ | 29,424 | - |
| Commerce | Pass-through | 11.432 | 3003314015 | UNIVERSITY OF MICHIGAN | 67,535 | - |
| Commerce | Pass-through | 11.432 | 3004178132 | UNIVERSITY OF MICHIGAN | 58,187 | - |
| Commerce | Pass-through <br> Pass-through Total | 11.438 | 15-FAA-367186-MSU | auburn univ | (158) | - |
|  |  |  |  |  | 290,159 |  |
| Commerce Total |  |  |  |  | 780,703 | - |
| Defense | Direct | 12 | 2017-17020200004 | inteligence advanced research projects activity | 180,537 | - |
| Defense | Direct | 12 | W912HP-17-C-0006 | US ARMY Corps of engineers | 18,773 | - |
| Defense | Direct | 12 | W912P6-16-C-0006 | US ARMY CORPS Of Engineers | 223,008 | - |
| Defense | Direct | 12.010 | ARMY CORP W912DR-17-2-0001 Cui | US ARMY Corps of engineers | 4,274 | - |
| Defense | Direct | 12.116 | FA9453-14-C-0215 | AIR FORCE RESEARCH LABORATORY | 96,497 | - |
| Defense | Direct | 12.116 | hdtrai-11-1-0061 | DEFENSE US DEPT OF | 7,917 | - |
| Defense | Direct | 12.116 | W912HQ-12-C-0020 | us dept of the army | 101,179 | - |
| Defense | Direct | 12.116 | W912HQ-13-C-0071 | us army corps of engineers | 317,591 | 39,810 |
| Defense | Direct | 12.300 | FA8750-16-2-0284 | us dept of the army | 157,215 | - |
| Defense | Direct | 12.300 | FA8750-17-1-0139 | AIR FORCE RESEARCH Laboratory | 22,565 | - |
| Defense | Direct | 12.300 | No0014-14-1-0216 | NAVAL RESEARCH US OFFICE OF US | 30,602 | - |
| Defense | Direct | 12.300 | No0014-14-1-0631 | NAVAL RESEARCH US OFFICE OF US | 151,295 | - |
| Defense | Direct | 12.300 | N00014-15-1-2005 | Naval research us office of us | 166,964 | - |
| Defense | Direct | 12.300 | No0014-15-1-2070 | NAVAL RESEARCH US OFFICE OF US | 10,417 | - |
| Defense | Direct | 12.300 | N00014-16-1-2109 | NAVAL RESEARCH US OfFICE OF US | 127,042 | - |
| Defense | Direct | 12.300 | No0014-16-1-2457 | NAVAL RESEARCH US OfFICE OF US | 155,717 | - |
| Defense | Direct | 12.300 | No0014-16-1-2760 | NAVAL RESEARCH US OFFICE OF US | 240,820 | - |
| Defense | Direct | 12.300 | No0014-16-1-2841 | Naval research us office of us | 110,604 | - |
| Defense | Direct | 12.300 | No0014-17-1-2265 | NAVAL RESEARCH US OfFICE OF US | 10,959 | - |
| Defense | Direct | 12.300 | NAVY-No0014-17-1-2102-Yuan | Naval research us office of us | 29,133 | - |
| Defense | Direct | 12.300 | ONR - Noo014-16-1-3051 Mukherjee | Naval research us office of us | 52,699 | - |
| Defense | Direct | 12.300 | W91266-12-2-0020 | us Army corps of engineers | $(116,401)$ | 12,403 |
| Defense | Direct | 12.300 | W91266-13-2-0022 | us army corps of engineers | 92,859 | - |
| Defense | Direct | 12.300 | W9126-14-2-0044 | US dept of the army | 17,209 | - |
| Defense | Direct | 12.420 | W81XWH-12-1-0418 | US dept of the army | 24,569 | 8,404 |
| Defense | Direct | 12.420 | W81xWH-14-1-0349 | us dept of the army | 34,428 | - |
| Defense | Direct | 12.420 | W81XWH-15-1-0018 | US DEPT OF THE ARMY | 215,416 | - |
| Defense | Direct | 12.420 | W81XWH-15-1-0453 | US dept of the army | 124,145 | - |
| Defense | Direct | 12.420 | W81XWH-15-1-0454 | US dept of the army | 25,064 | - |
| Defense | Direct | 12.420 | W81XWH-15-1-0689 | US DEPT OF THE ARMY | 204,757 | - |
| Defense | Direct | 12.420 | W81XWH-15-1-0689 | US dept of the army | 51,224 | - |
| Defense | Direct | 12.420 | W81xWH-16-1-0631 | US DEPT OF DEFENSE | 146,993 | - |
| Defense | Direct | 12.420 | W81XWH-16-1-0676 | US DEPT OF THE ARMY | 107,687 | - |
| Defense | Direct | 12.420 | W81xWH-16-1-0732 | US DEPT OF THE ARMY | 55,252 | - |
| Defense | Direct | 12.420 | W81XWH-16-1-0735 | US DEPT OF THE ARMY | 117,069 | - |
| Defense | Direct | 12.431 | ARO W911NF-14-1-0063 Swain | ARMY RESEARCH OFFICE US | 75,612 | - |
| Defense | Direct | 12.431 | W911NF-12-1-0235 | ARMY RESEARCH OFFICE U S | (133) | - |
| Defense | Direct | 12.431 | W911NF-14-1-0063 | ARMY RESEARCH OFFICE U S | 4,531 | - |
| Defense | Direct | 12.431 | W911NF-14-1-0327 | ARMY RESEARCH OFFICE U S | 7,704 | - |
| Defense | Direct | 12.431 | W911NF-15-1-0487 | ARMY RESEARCH OFFICE U S | 283,208 | - |
| Defense | Direct | 12.431 | W911NF-17-1-0153 | ARMY RESEARCH OFFICE U S | 12,670 | - |
| Defense | Direct | 12.630 | DOD HM04761510001 Liu | DEfENSE US DEPT OF | 86,349 | - |
| Defense | Direct | 12.630 | W911NF-14-1-0026 | US DEPT OF THE ARMY | 122,882 | - |
| Defense | Direct | 12.800 | FA9550-11-1-010 | AIR FORCE OFFICE OF SCIENTIFIC RESEARCH | 187,945 | - |
| Defense | Direct | 12.800 | FA9550-12-1-0343 | AIR FORCE OFFICE OF SCIENTIFIC RESEARCH | 182,686 | - |
| Defense | Direct | 12.800 | FA9550-12-1-0455 | AIR FORCE OFFICE OF SCIENTIFIC RESEARCH | (1) | - |
| Defense | Direct | 12.800 | FA9550-15-1-0224 | AIR FORCE OFFICE OF SCIENTIFIC RESEARCH | 250,313 | - |
| Defense | Direct | 12.800 | FA9550-15-1-0282 | AIR FORCE OFFICE OF SCIENTIFIC RESEARCH | 209,341 | - |
| Defense | Direct | 12.800 | FA99550-17-1-0150 | AIR FORCE OFFICE OF SCIENTIFIC RESEARCH | 36,166 | - |
| Defense | Direct | 12.901 | H98230-15-1-0260 | NATL SECURITY AGENCY | 21,761 | - |
| Defense | Direct | 12.901 | H98230-16-1-0031 | natl security agency | 31,238 | - |
| Defense | Direct | 12.901 | H98230-16-1-0031 | NatL SECURITY AGENCY | 2,823 | - |
| Defense | Direct | 12.910 | ARMY W56HzV-07-2-0001 TACOM HAQ | us dept of the army | 854 | (686) |
| Defense | Direct | 12.910 | ARMY W56HZV-07-2-0001 TACOM HAQ | US DEPT OF THE ARMY | 88 | - |
| Defense | Direct | 12.910 | ARMY W56HZV-07-2-0001 TACOM HOOLE | US DEPT OF THE ARMY | 33,167 | - |
| Defense | Direct | 12.910 | DARPA D16AP00117 Hirn | defense advanced research projects agency | 112,558 | - |
| Defense | Direct | 12.910 | FA8650-15-1-7525 | AIR FORCE US DEPT OF | 158,152 | 121,443 |
| Defense | Direct | 12.910 | FA8650-16-1-7600 | defense advanced research projects agency | 55,563 | - |
| Defense | Direct | 12.910 | HROO11-15-2-0002 | Defense advanced research projects agency | 457,456 | 419,434 |
| Defense | Direct | 12.910 | HROO11-15-2-0034 | Defense advanced research projects agency | 398,832 |  |
| Defense | Direct | 12.910 | N66001-14-1-4038 | defense advanced research projects agency | 269,389 | - |
|  | Direct Total |  |  |  | 6,317,233 | 600,808 |
| Defense | Pass-through | 12 | 137253 | Johns hopkins univ | 50,985 | - |
| Defense | Pass-through | 12 | 2016-0443 | michigan dept of transportation | 14,007 | - |
| Defense | Pass-through | 12 | 404-77-20 | IOWA STATE UNIV | 49,131 | - |
| Defense | Pass-through | 12 | 8217 | MATECH GSM | 10,803 | - |
| Defense | Pass-through | 12 | CRE-MSU-01 | CREATV MICROTECH INC | 2,999 | - |
| Defense | Pass-through | 12 | FA8650-16-C-1764-MSU | TECH-X Corporation | 174,380 | - |
| Defense | Pass-through | 12 | VEM-MSU-3 | VIRTUAL EM INC | 37,522 | - |
| Defense | Pass-through | 12.116 | 12-57114-02-C1 | UNIVERSAL TECHNOLOGY CORP | 18,046 | - |
| Defense | Pass-through | 12.116 | 13-57128-01-C1 | UNIVERSAL TECHNOLOGY CORP | 240,962 | - |
| Defense | Pass-through | 12.116 | 16-57412-06-C1 | UNIVERSAL TECHNOLOGY CORP | 38,565 | - |
| Defense | Pass-through | 12.116 | 4200876747 | RAYTHEON COMPANY | 457 | - |
| Defense | Pass-through | 12.116 | 45714.t.yonts: SCRTS-003 | Matrix research inc | 19,790 | . |
| Defense | Pass-through | 12.116 | 7000295420 | MASSACHUSETTS INST OF TECHNOLOGY | 133,183 | - |
| Defense | Pass-through | 12.116 | 8140000819 | NORTHROP GRUMMAN CORP | 245,147 | - |
| Defense | Pass-through | 12.116 | DRC.MSU.IDIQ.RADIAEM. 15 Task Order \#001 | RIVErSIDE RESEARCH | 47,284 | - |
| Defense | Pass-through | 12.116 | VEM-MSU-2 | VIRTUAL EM, Inc. | 25,121 | - |
| Defense | Pass-through | 12.225 | NCMS 201658-140851 Haq | national center for manufacturing science | 14,520 | - |
| Defense | Pass-through | 12.300 | 28907001 | UNIIERSITY OF MARYLAND | 90,115 | - |
| Defense | Pass-through | 12.420 | ${ }^{1(G G 6011705)}$ | COLUMBIA UNIV | 45,017 | - |
| Defense | Pass-through | 12.420 | 3004148034 | UNIVERSITY OF MICHIGAN | 18,367 | - |
| Defense | Pass-through | 12.420 | 731265 | UNIVERSITY OF WASHINGTON | 110 | - |
| Defense | Pass-through | 12.420 | UWSC8721 | UNIVERSITY OF WASHINGTON | 60,697 | - |
| Defense | Pass-through | 12.431 | 00000834 | BROWN UNIV | 169,821 | - |
| Defense | Pass-through | 12.431 | 10034220-S1 | UNIVERSITY OF UTAH | 401,872 | - |
| Defense | Pass-through | 12.630 | HM02101310002 | natl geospatial-INTELIGEnCE A | 32,145 | - |


| Federal Agency | Direct/Pass-through | CFDA ( Note 5) | Award Number | Grantor Name | Total Expenditures | Subaward Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| Defense | Pass-through | 12.800 | 3004148184 | UNIVERSITY OF MICHIGAN | 35,249 | \$ |
| Defense | Pass-through | 12.800 | NMC0155-01 | NEW MEXICO CONSORTIUM | 177,134 | - |
| Defense | Pass-through | 12.800 | RFO1224336 | OHIO STATE UNIV | 54,770 | - |
| Defense | Pass-through | 12.910 | 079287-15764 | UNIVERSITY OF ILLINOIS URBANA CHAMPAIGN | 17,582 | - |
| Defense | Pass-through | 12.910 | 1015 S TA037 | UNIVERSITY OF CALIFORNIA LOS ANGELES | 116,598 | - |
| Defense | Pass-through | 12.910 | 126.001 | SIEMENS CORP | 20,254 | - |
| Defense | Pass-through | 12.910 | 14-503 | ARIZONA STATE UNIV | 13,838 | - |
| Defense | Pass-through | 12.910 | SUB00000006 | RUTGERS UNIV | 40,732 | - |
|  | Pass-through Total |  |  |  | 2,417,203 | - |
| Defense Total |  |  |  |  | 8,734,436 | 600,808 |
| Education | Direct | 84.015 | P0158140098 | US DEPT OF EDUCATION | 298,882 | - |
| Education | Direct | 84.021 | P0218120017-15 | US DEPT OF EDUCATION | 9,209 | - |
| Education | Direct | 84.021 | P0218120017-15 | US DEPT OF EDUCATION | 7,402 | - |
| Education | Direct | 84.200 | P200A120149-14 | US DEPT OF EDUCATION | 89,107 | - |
| Education | Direct | 84.305 | R305A110293 | US DEPT OF EDUCATION | 27,246 | 21,052 |
| Education | Direct | 84.305 | R305A120416-15 | US DEPT OF EDUCATION | 64,574 | - |
| Education | Direct | 84.305 | R305A150210-17 | US DEPT OF EDUCATION | 325,925 | 86,179 |
| Education | Direct | 84.305 | R305A160049 | US DEPT OF EDUCATION | 160,501 | - |
| Education | Direct | 84.324 | R324A150063-15A | US DEPT OF EDUCATION | 388,643 | - |
|  | Direct Total |  |  |  | 1,371,489 | 107,231 |
| Education | Pass-through | 84 | APP 142705 | ILLINOIS ACTION FOR CHILDREN | 60,020 | - |
| Education | Pass-through | 84.004 | 5004D160011 | INDIANA UNIVERSITY PURDUE UNIVERSITY INDIANAPOLIS | 14,741 | - |
| Education | Pass-through | 84.010 | College Ambition APP147960 | GOGEBIC ONTONAGON INTERMEDIATE SCHOOL DISTRICT | 13,666 | - |
| Education | Pass-through | 84.010 | Men of Promise | GOGEBIC ONTONAGON INTERMEDIATE SCHOOL DISTRICT | 92,430 | - |
| Education | Pass-through | 84.048 | 173430-17133 | MICHIGAN DEPT OF EDUCATION | 74,478 | - |
| Education | Pass-through | 84.116 | SP00012139-06 | GEORGIA STATE UNIV | 165,921 | - |
| Education | Pass-through | 84.126 | MRSM-14-99004 | MI DEPT Of HUMAN SERVICES | 72,434 | - |
| Education | Pass-through | 84.133 | 282 K 741 | UNIVERSITY OF WISCONSIN MADISON | 3,339 | - |
| Education | Pass-through | 84.263 | $84.263 \mathrm{BP000160361}$ | UNIVERSITY OF WISCONSIN STOUT | 48,428 | - |
| Education | Pass-through | 84.287 | 162122 - MSUEVAL | MICHIGAN DEPT OF EDUCATION | 203,525 | - |
| Education | Pass-through | 84.287 | 172122-MSUEVAL | MICHIGAN DEPT OF EDUCATION | 212,894 | - |
| Education | Pass-through | 84.305 | 0388700002 | AMER INSTITUTES FOR RESEARCH | 37,748 | - |
| Education | Pass-through | 84.305 | 130596 | UNIVERSITY OF CONNECTICUT | 84,167 | - |
| Education | Pass-through | 84.305 | 224640 A | UNIVERSITY OF OREGON | 64,247 | - |
| Education | Pass-through | 84.305 | 511140-02 | TEACHERS COLLEGE COLUMBIA UNIV | 19,779 | - |
| Education | Pass-through | 84.305 | ED162A-A | OREGON STATE UNIV | 22,958 | - |
| Education | Pass-through | 84.324 | 201501255-02 | UNIVERSITY OF CALIFORNIA DAVIS | 87,099 | - |
| Education | Pass-through | 84.324 | Efficacy of Comprehensive | CANIIIUS COLLEGE | 29,948 | - |
| Education | Pass-through | 84.412 | Able Change Pilot | ILLINOIS ACTION FOR CHILDREN | 45,702 | - |
|  | Pass-through Total |  |  |  | 1,353,524 | - |
| Education Total |  |  |  |  | 2,725,013 | 107,231 |
| Energy | Direct | 81.049 | 0016604 | US DEPT OF ENERGY | 80,007 | - |
| Energy | Direct | 81.049 | DE-FG02-01ER15228 | US DEPT OF ENERGY | 131,752 | - |
| Energy | Direct | 81.049 | DE-FG02-01ER15282 | US DEPT OF ENERGY | 151,758 | - |
| Energy | Direct | 81.049 | DE-FG02-03ER41259 | us dept of energy | 62,237 | - |
| Energy | Direct | 81.049 | DE-FG02-06ER15808 | US DEPT OF ENERGY | 88,610 | - |
| Energy | Direct | 81.049 | DE-FG02-06ER15808 | US DEPT OF ENERGY | 49,767 | - |
| Energy | Direct | 81.049 | DE-FG02-06ER46309 | US DEPT OF ENERGY | 220,410 | - |
| Energy | Direct | 81.049 | DE-FG02-06ER46341 | US DEPT OF ENERGY | $(11,814)$ | - |
| Energy | Direct | 81.049 | DE-FG02-08ER15929 | US DEPT OF ENERGY | 141,295 | 24,560 |
| Energy | Direct | 81.049 | DE-FG02-08ER41546 | US DEPT OF ENERGY | 171,646 | - |
| Energy | Direct | 81.049 | DE-FG02-08ER41556 | US DEPT OF ENERGY | 62,003 | - |
| Energy | Direct | 81.049 | DE-FG02-08ER41556 | US DEPT OF ENERGY | 1,398 | - |
| Energy | Direct | 81.049 | DE-FG02-91ER20021 | US DEPT OF ENERGY | 2,908,825 | - |
| Energy | Direct | 81.049 | DE-FG02-91ER20021 | US DEPT OF ENERGY | 10,587 | - |
| Energy | Direct | 81.049 | DE-FG02-98ER14907 | US DEPT OF ENERGY | 106,247 | - |
| Energy | Direct | 81.049 | DE-FG02-98ER41070 | US DEPT OF ENERGY | (51) | - |
| Energy | Direct | 81.049 | DE-FG02-99ER62848 | US DEPT OF ENERGY | 326,448 | - |
| Energy | Direct | 81.049 | DE-SC0000661 | US DEPT OF ENERGY | 89,975,306 | 1,337,870 |
| Energy | Direct | 81.049 | DE-SC0001525 | US DEPT OF ENERGY | 208,671 | - |
| Energy | Direct | 81.049 | DE-SC0002325 | us dept of energy | 175,073 | - |
| Energy | Direct | 81.049 | DE-SC0004835 | US dept of energy | 16,834 | - |
| Energy | Direct | 81.049 | DE-SC0006400 | US DEPT OF Energy | 85,512 | - |
| Energy | Direct | 81.049 | DE-SC0006956 | US DEPT OF ENERGY | 11,912 | - |
| Energy | Direct | 81.049 | DE-SC0007101 | US DEPT OF EnERGY | 154,791 | - |
| Energy | Direct | 81.049 | DE-SC0007101 | US DEPT OF ENERGY | $(6,783)$ | - |
| Energy | Direct | 81.049 | DE-SC0008338 | US DEPT OF ENERGY | 34,826 | 6,785 |
| Energy | Direct | 81.049 | DE-SC0008509 | US DEPT OF Energy | 142,608 | - |
| Energy | Direct | 81.049 | DE-SC0008511 | US DEPT OF ENERGY | 88,777 | - |
| Energy | Direct | 81.049 | DE-SC0008511 | US DEPT OF ENERGY | 56,302 | - |
| Energy | Direct | 81.049 | DE-SC0009962 | US DEPT OF ENERGY | 164,425 | 6,554 |
| Energy | Direct | 81.049 | DE-SC0010472 | US DEPT OF ENERGY | 69,971 | - |
| Energy | Direct | 81.049 | DE-SC0010847 | US DEPT OF ENERGY | 237,818 | 16,238 |
| Energy | Direct | 81.049 | DE-SC0013365 | US DEPT OF ENERGY | 184,337 | - |
| Energy | Direct | 81.049 | DE-SC0013617 | US DEPT OF ENERGY | 133,278 | - |
| Energy | Direct | 81.049 | DE-SC0014108 | US DEPT OF ENERGY | 229,975 | - |
| Energy | Direct | 81.049 | DE-SC0014108 | US DEPT OF Energy | 181,857 | - |
| Energy | Direct | 81.049 | DE-SC0014108 | US DEPT OF ENERGY | 115,311 | - |
| Energy | Direct | 81.049 | DE-SC0014108 | US DEPT OF ENERGY | 7,545 | - |
| Energy | Direct | 81.049 | DE-SC0014384 | US DEPT OF ENERGY | 2,115,812 | 92,888 |
| Energy | Direct | 81.049 | DE-SCOO14530 | US DEPT OF ENERGY | 213,807 | - |
| Energy | Direct | 81.049 | DE-SC0014537 | US DEPT OF ENERGY | 798,721 | - |
| Energy | Direct | 81.049 | DE-SC0015646 | US DEPT OF ENERGY | $(8,025)$ | - |
| Energy | Direct | 81.049 | DE-SC0015903 | US DEPT OF ENERGY | 122,437 | - |
| Energy | Direct | 81.049 | DE-SC0015904 | US DEPT OF ENERGY | 106,626 | - |
| Energy | Direct | 81.049 | DE-SC0016052 | us dept of energy | 136,584 | - |
| Energy | Direct | 81.049 | DE-SC0017342 | us dept of energy | 32,023 | . |
| Energy | Direct | 81.049 | DOE DE-FG02-98ER20305 BENNING | us dept of energy | 233,562 | - |
| Energy | Direct | 81.049 | DOE DE-SC0014554 Zegers | us dept of energy | 490,735 | 102,948 |
| Energy | Direct | 81.049 | DOE DE-SC0016948 Thoennessen | US DEPT OF ENERGY | 106,862 | - |


| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total <br> Expenditures | Subaward <br> Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| Energy | Direct | 81.049 | frib doe funding | us dept of energy | 13,836,318 | \$ - |
| Energy | Direct | 81.086 | DE-EE0006424 | us dept of energy | 186,470 | 22,012 |
| Energy | Direct | 81.086 | DE-EE0007803 | US DEPT OF ENERGY | 84,997 | - |
| Energy | Direct | 81.089 | DE-FE0023315 | US DEPT OF ENERGY | 184,520 | . |
| Energy | Direct | 81.112 | DE-NA0002574 | US DEPT OF ENERGY | 286 |  |
| Energy | Direct | 81.112 | DE-NA0002847 | US DEPT Of Energy | 306,741 | - |
| Energy | Direct | 81.112 | DE-NA0002923 | US DEPT OF ENERGY | 208,350 | - |
| Energy | Direct | 81.112 | DE-NA0002924 | US DEPT OF ENERGY | 217,319 |  |
| Energy | Direct | 81.112 | DE-NA0003221 | US DEPT Of Energy | 217,491 | - |
| Energy | Direct | 81.135 | DE-AR0000455 | US DEPT OF ENERGY | 630,163 | 267,763 |
|  | Direct Total |  |  |  | 116,991,270 | 1,877,618 |
| Energy | Pass-through | 81 | 16-P0616 | Jefferson science associates l | 8,245 | - |
| Energy | Pass-through | 81 | 270062 | BROokhaven natl laboratory | $(7,202)$ | - |
| Energy | Pass-through | 81 | 276363 | LoS alamos natl laboratory | 74,280 |  |
| Energy | Pass-through | 81 | 300839 | brookhaven natl laboratory | 6,640 | - |
| Energy | Pass-through | 81 | 308720 | Brookhaven natl laboratory | 170,993 |  |
| Energy | Pass-through | 81 | 312011 | brookhaven natl laboratory | 351,436 | - |
| Energy | Pass-through | 81 | 319838 | Los alamos natl laboratory | 72,510 | - |
| Energy | Pass-through | 81 | 332574 | LOS ALAMOS NATL LABORATORY | 59,059 |  |
| Energy | Pass-through | 81 | 337256 | PACIFIC NORTHWEST NATL LAB | 34,857 | - |
| Energy | Pass-through | 81 | 3 319676 | SOUTH DAKOTA STATE UNIV | 1,210 | - |
| Energy | Pass-through | 81 | 3 3T676 | SOUTH DAKOTA STATE UNIV | 951 | . |
| Energy | Pass-through | 81 | 404227 | los alamos natl laboratory | 52,671 | - |
| Energy | Pass-through | 81 | 6F-31063 | argonne national laboratory | 96,428 | - |
| Energy | Pass-through | 81 | Joint Appt Hao | brookhaven science Assoc llc | 90,459 | . |
| Energy | Pass-through | 81 | Joint Appt Peter Ostroumov | argonne national laboratory | 33,295 | - |
| Energy | Pass-through | 81 | No00199915 | HONEYWELL CORP | 185,756 | - |
| Energy | Pass-through | 81 | No00216846 | HONEYWELL CORP | 63,642 |  |
| Energy | Pass-through | 81 | TCS72964 | general motors corp | 52,519 | - |
| Energy | Pass-through | 81.049 | 130300-5085053 | harvard univ | 313,622 | - |
| Energy | Pass-through | 81.049 | 145841 | Kopess biomass solutions lic | 55,924 | - |
| Energy | Pass-through | 81.049 | 17630-77181004 | UNIVERSITY OF MARYLAND | 131,507 | - |
| Energy | Pass-through | 81.049 | 2014-13 | UNIVERSITY OF OKLAHOMA | 121,992 |  |
| Energy | Pass-through | 81.049 | 3003805140 | UNIVERSITY OF MICHIGAN | 142,023 | - |
| Energy | Pass-through | 81.049 | $384 \mathrm{H963}$ | UNIVERSITY OF WISCONSIN MADISON | 8,556,138 |  |
| Energy | Pass-through | 81.049 | 5103977 | UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL | 69,674 |  |
| Energy | Pass-through | 81.049 | AGR2017 00021 - DE-SC0013233 | E3TEC SERVICE LLC | 163,614 | - |
| Energy | Pass-through | 81.049 | APP 128563-K3840 | Shear form inc | 1,669 |  |
| Energy | Pass-through | 81.049 | NAMESFORLIFE STTR AMEND 1 GARRITY | namesforlife lic | 71,397 | - |
| Energy | Pass-through | 81.049 | RMD C15-25 Zegers | RADIATION MONITORING devices inc | 7,067 | - |
| Energy | Pass-through | 81.049 | Translume/DOE Phase ISBIR Ringle | TRANSLUME, Inc. | 219,309 |  |
| Energy | Pass-through | 81.049 | UHV-1501 | UHV TECHNOLOGIES INC | 67,998 | - |
| Energy | Pass-through | 81.086 | CCS CORP-PA16-0349-5.3-01-Drzal | COLLABORATIVE COMPOSITE SOLUTIONS CORP | 51,203 | - |
| Energy | Pass-through | 81.086 | CCSD A16-0349-5005 Drzal | COLLABORATIVE COMPOSITE SOLUTIONS CORP | (77) | - |
| Energy | Pass-through | 81.086 | PA16-0349-3.1-01 | COLLABORATIVE COMPOSITE SOLUTIONS CORP | 5,126,706 | - |
| Energy | Pass-through | 81.086 | PA16-0349-3.3-01 | COLLABORATIVE COMPOSITE SOLUTIONS CORP | 42,759 | - |
| Energy | Pass-through | 81.087 | NCGA APP114981 MILLER | natl corn growers association | 233,164 | - |
| Energy | Pass-through | 81.112 | 4-10469-28 | Carnegie inst | 73,345 |  |
| Energy | Pass-through | 81.112 | 519241065108 | RUTGERS UNIV | 67,448 |  |
| Energy | Pass-through | 81.112 | S1928815 5109 | RUTGERS UNIV | 182,686 |  |
| Energy | Pass-through | 81.113 | 00007638 | UNIVERSITY OF CALIFORNIA BERKELEY | 672,722 | (219) |
| Energy | Pass-throughPass-through Total | 81.113 | 00009330 | UNIVERSITY OF CALIFORNIA BERKELEY | 149,105 |  |
|  |  |  |  |  | 17,868,744 | (219) |
| Energy Total |  |  |  |  | 134,880,014 | 1,877,399 |
| Environmental Protection Agency | Direct | 66.001 | EPA 83589201 Schock | US EnVIRonmental protection agency | 315,498 | - |
| Environmental Protection Agency | Direct | 66.001 | GL-00E00461-1 | US ENVIRONMENTAL PROTECTION AGENCY | 85,277 | - |
| Environmental Protection Agency | Direct | 66.469 | Gl-00e01294 | US ENVIRONMENTAL PROTECTION AGENCY | 45,983 | - |
| Environmental Protection Agency | Direct | 66.469 | GL-00E01294 | US EnVIRonmental protection agency | 772 | - |
| Environmental Protection Agency | Direct | 66.509 | 83479701 | US ENVIRONMENTAL PROTECTION AGENCY | 437,288 | 437,288 |
| Environmental Protection Agency | Direct | 66.509 | 83479701 | US ENVIRONMENTAL PROTECTION AGENCY | 131,714 |  |
| Environmental Protection Agency | Direct | 66.509 | 83479701 | US ENVIRONMENTAL PROTECTION AGENCY | 110,285 | 83 |
| Environmental Protection Agency | Direct | 66.509 | 83479701 | US EnVIRONMENTAL Protection agency | 75,596 | 63,833 |
| Environmental Protection Agency | Direct | 66.509 | 83479701 | US ENVIRONMENTAL PRotection agency | 2,454 | 2,453 |
| Environmental Protection Agency | Direct | 66.509 | 83579801 | US ENVIRONMENTAL PROTECTION AGENCY | 179,422 | 85,894 |
| Environmental Protection Agency | Direct | 66.509 | 83616801 | US ENVIRONMENTAL PROTECTION AGENCY | 11,643 | - |
| Environmental Protection Agency | Direct | 66.509 | RD-83518301 | US ENVIRONMENTAL PROTECTION AGENCY | 15,410 | 1,306 |
| Environmental Protection Agency | Direct | 66.509 | RD-83520301-1 | US ENVIRONMENTAL PROTECTION AGENCY | 193,688 |  |
| Environmental Protection Agency | Direct | 66.511 | CR83422601 | US ENVIRONMENTAL PROTECTION AGENCY | 156,970 | 132,420 |
| Environmental Protection Agency | Direct | 66.516 | 83594101 | US ENVIRONMENTAL PROTECTION AGENCY | 13,454 | - |
| Environmental Protection Agency | Direct | 66.516 | 83676701 | US ENVIRONMENTAL PROTECTION AGENCY | 12,448 |  |
| Environmental Protection Agency | Direct | 66.951 | 00E01570-0 | US ENVIRONMENTAL PROTECTION AGENCY | 34,102 | - |
| Environmental Protection Agency | Direct | 66.951 | 00E01570-0 | US ENVIRONMENTAL PROTECTION AGENCY | 11,381 | - |
|  | Direct Total |  |  |  | 1,833,385 | 723,194 |
| Environmental Protection Agency | Pass-through | 66 | 10006-7-105247 | CH2M HILL | 355,128 |  |
| Environmental Protection Agency | Pass-through | 66.469 | 150908072 | MICHIGAN TECHNICAL RESEARCH INST | 17,051 | - |
| Environmental Protection Agency | Pass-through | 66.469 | APP\# 150589 | tip of the mitt watershed coun | 9,373 | - |
| Environmental Protection Agency | Pass-through | 66.469 | Stewardship Network/EPA 143652 Gasteyer | THE STEWARDSHIP NETWORK | 8,806 | - |
| Environmental Protection Agency | Pass-through | 66.509 | 2013-04551-02 | UNIVERSITY OF ILLINOIS URBANA CHAMPAIGN | 59,822 | - |
| Environmental Protection Agency | Pass-through | 66.509 | 3002303905 | UNIVERSITY OF MICHIGAN | 3,416 | - |
| Environmental Protection Agency | Pass-through | 66.509 | 429-40-100 | IOWA STATE UNIV | 1,951 |  |
| Environmental Protection Agency | Pass-through | 66.511 | 4109-79628 | pURDUE UNIV | 42,703 | - |
| Environmental Protection Agency | Pass-through | 66.608 | 0583549201 | MI ENVIRONMENTAL QUALITY | (3,594) | - |
|  | Pass-through Total |  |  |  | 494,656 |  |
| Environmental Protection Agency Total |  |  |  |  | 2,328,041 | 723,194 |
| Federal Council on the Arts and Humanities | Direct | 45.024 | 15-5500-7116 | NATIONAL ENDOWMENT FOR THE ARTS | 13,552 | - |
| Federal Council on the Arts and Humanities | Direct | 45.149 | PW-51639-14 | natl endowment for the humanit | 60,278 | - |
| Federal Council on the Arts and Humanities | Direct | 45.161 | RZ-51461-12 | NatL endowment for the humanit | 62,922 | 38,713 |
| Federal Council on the Arts and HumanitiesFederal Council on the Arts and Humanities | Direct | 45.163 | NEH EH-50443-14 GIFFORD | NatL endowment for the humanit | $(11,349)$ | - |
|  | Direct | 45.169 | HK-50173-14 | natl endowment for the humanit | 89,975 | - |
|  | Direct Total |  |  |  | 215,378 | 38,713 |
| Federal Council on the Arts and Humanities Total |  |  |  |  | 215,378 | 38,713 |
| Health and Human Services | Direct | 93 | 200-2016-89831 | Centers for disease control and prevention | 1,319,493 | - |
| Health and Human Services | Direct | 93.103 | FDA HHS-UFD0046328 (P) Supp-Reams | FOOD \& DRUG ADMINISTRATION | 9,995 | - |
| Health and Human Services | Direct | 93.110 | 5 R40MC27704-03-00 | Health resources \& SERVICES AdMINIITRATION | 271,839 | - |
| Health and Human Services | Direct | 93.113 | 1K22ES026208-01A1 | National inst of environmental health sciences | 114,987 | - |
| Health and Human Services | Direct | 93.113 | 1R01ES024966-01A1 Revised | national inst of health | 669,775 | 10,678 |
| Health and Human Services | Direct | 93.113 | 1R01ES027353-01A 1 | NATIONAL INST OF HEALTH | 31,499 | - |
| Health and Human Services | Direct | 93.113 | 1R21ES027418-01 | national inst of health | 30,759 | - |
| Health and Human Services | Direct | 93.113 | 4ROOES024570-03 | national inst of health | 141,805 | - |



| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total Expenditures | Subaward Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| Health and Human Services | Direct | 93.361 | NH-1R21NR015589-01A1-Neighbors (P) | national inst of health | \$ 34,419 | \$ - |
| Health and Human Services | Direct | 93.393 | 4R01CA160514-05 | NATIONAL INST OF HEALTH | 248,947 |  |
| Health and Human Services | Direct | 93.393 | 5ROOCA177868-03 | national inst of health | 210,583 | - |
| Health and Human Services | Direct | 93.393 | 5R01CA151973-05 | national inst of health | 115,211 | 42,835 |
| Health and Human Services | Direct | 93.393 | 5R21CA185021-02 | national inst of health | 22,679 |  |
| Health and Human Services | Direct | 93.395 | 4R01CA162401-04 | national inst of health | 268,253 | 17,188 |
| Health and Human Services | Direct | 93.395 | 5R01CA149451-05 REVIISED | NATIONAL INST OF HEALTH | 88,576 | 129 |
| Health and Human Services | Direct | 93.395 | 5R01CA157459-05 | national inst of health | 70,433 | 700 |
| Health and Human Services | Direct | 93.395 | 5R01CA193706-02 Revised | national inst of health | 492,204 | 172,188 |
| Health and Human Services | Direct | 93.395 | 5R21CA178854-02 | national inst of health | $(2,614)$ | . |
| Health and Human Services | Direct | 93.396 | 5R01CA188305-02 | national inst of health | 385,027 | - |
| Health and Human Services | Direct | 93.396 | 5R21CA171251-02 | NATIONAL INST OF HEALTH | 19,781 |  |
| Health and Human Services | Direct | 93.398 | 1F99CA212221-01 | national inst of health | 22,849 | - |
| Health and Human Services | Direct | 93.398 | 5K22CA188199-03 | national inst of health | 186,062 | - |
| Health and Human Services | Direct | 93.822 | 4D18HP23030-03-02 | Health resources \& SERVICES AdMIIIITRATION | 164,812 | - |
| Health and Human Services | Direct | 93.837 | 2R25HL103156-06 Revised | national inst of health | 78,623 | - |
| Health and Human Services | Direct | 93.837 | 2R25HL108864-06A1 | national inst of health | 226,431 | - |
| Health and Human Services | Direct | 93.837 | 4ROOHL121160-03 | national inst of health | 193,123 | - |
| Health and Human Services | Direct | 93.837 | 4ROOHL121073-03 | national inst of health | 340,299 | - |
| Health and Human Services | Direct | 93.837 | 5F31HL128035-02 | national inst of health | 14,784 | - |
| Health and Human Services | Direct | 93.837 | 5K01HL128843-02 | national inst of health | 109,596 | - |
| Health and Human Services | Direct | 93.837 | 5P01HL070687-13 | national inst of health | 474,000 | - |
| Health and Human Services | Direct | 93.837 | 5P01HL070687-13 | national inst of health | 221,221 | . |
| Health and Human Services | Direct | 93.837 | 5P01HL070687-13 | national inst of health | 206,054 |  |
| Health and Human Services | Direct | 93.837 | 5P01HL070687-13 | national inst of health | 135,410 | - |
| Health and Human Services | Direct | 93.837 | 5P01HL070687-13 | national inst of health | 131,883 | . |
| Health and Human Services | Direct | 93.837 | 5P01HL070687-13 | national inst of health | 86,529 |  |
| Health and Human Services | Direct | 93.837 | 5P01HL070687-13 | national inst of health | 53,865 |  |
| Health and Human Services | Direct | 93.837 | 5R01HL107495-04 | national inst of health | 244,498 | - |
| Health and Human Services | Direct | 93.837 | 5R01HL109101-05 | national inst of health | 244,994 | 3,398 |
| Health and Human Services | Direct | 93.837 | 5RO1HL115185-04 | national inst of health | 158,106 | - |
| Health and Human Services | Direct | 93.837 | 5R01HL117847-03 | national inst of health | 313,455 |  |
| Health and Human Services | Direct | 93.837 | 5R01HL117847-04 | national inst of health | 132,891 | , |
| Health and Human Services | Direct | 93.837 | 5R01HL130624-03 | national inst of health | 551,822 | 458,229 |
| Health and Human Services | Direct | 93.837 | 5R25HL108864-05 | national inst of health | (297) |  |
| Health and Human Services | Direct | 93.846 | 5R01AR066028-02 | national inst of health | 527,517 | 157,860 |
| Health and Human Services | Direct | 93.847 | 1R01DK108798-01A1 | NATIONAL INST OF HEALTH | 51,558 | - |
| Health and Human Services | Direct | 93.847 | 1R01DK111475-01A1 | national inst of health | 72,751 |  |
| Health and Human Services | Direct | 93.847 | 1R01DK112695-01 | national inst of health | 113,410 | - |
| Health and Human Services | Direct | 93.847 | 3R01DK101050-02S1 | National inst of health | 38,290 | - |
| Health and Human Services | Direct | 93.847 | 3R010k103723-02S1 | national inst of health | 359,277 | 44,820 |
| Health and Human Services | Direct | 93.847 | 4R01DK094932-05 | national inst of health | 197,134 | - |
| Health and Human Services | Direct | 93.847 | 5F300K107163-03 Revised | NATIONAL INST OF HEALTH | 31,846 | - |
| Health and Human Services | Direct | 93.847 | 5F310K107081-02 Revised | national inst of health | 30,430 |  |
| Health and Human Services | Direct | 93.847 | 5R01DK073566-09 | national inst of health | 279,509 |  |
| Health and Human Services | Direct | 93.847 | 5R010 K101050-03 | national inst of health | 196,010 | - |
| Health and Human Services | Direct | 93.847 | 5R010K103723-03 Revised | national inst of health | 51,151 | - |
| Health and Human Services | Direct | 93.847 | 5R01DK103759-03 Revised | national inst of health | 321,578 | 64,427 |
| Health and Human Services | Direct | 93.847 | 5R01DK103808-04 | national inst of health | 358,267 | - |
| Health and Human Services | Direct | 93.847 | 5R010K105099-03 Revised | national inst of health | 306,476 | 27,840 |
| Health and Human Services | Direct | 93.847 | 5R01DK107697-03 | national inst of health | 684,844 | 46,720 |
| Health and Human Services | Direct | 93.847 | 5R01DK110665-02 | national inst of health | 391,595 |  |
| Health and Human Services | ${ }^{\text {Direct }}$ | 93.847 | NHH-FDK1072322A (P) - Brown | NATIONAL INST OF HEALTH | 30,694 | - |
| Health and Human Services | Direct | 93.853 | 1F31NS090866-01A1 | national inst of health | 1,948 | - |
| Health and Human Services | Direct | 93.853 | 1R01NSO94460-01 | national inst of health | 775,540 | 580,720 |
| Health and Human Services | Direct | 93.853 | 1R13NS101877-01 | national inst of health | 10,000 | - |
| Health and Human Services | Direct | 93.853 | 5R01NS028421-22 | national inst of health | 33,025 | . |
| Health and Human Services | Direct | 93.853 | 5R01NS045195-15 | national inst of health | 318,701 | - |
| Health and Human Services | Direct | 93.853 | 5R01NS065338-05 | NATIONAL INST OF HEALTH | (344) | - |
| Health and Human Services | Direct | 93.853 | 5R03NS095202-02 | national inst of health | 67,233 | - |
| Health and Human Services | Direct | 93.853 | 5R21NS090107-02 | national inst of health | 223,869 | - |
| Health and Human Services | Direct | 93.853 | 5R21Ns094900-02 Revised | NATIONAL INST OF HEALTH | 217,276 |  |
| Health and Human Services | Direct | 93.853 | 5R21N5096637-02 | NATIONAL INST OF HEALTH | 54,877 | - |
| Health and Human Services | Direct | 93.853 | 5R21NS098079-02 | national inst of health | 144,831 | 36,047 |
| Health and Human Services | Direct | ${ }^{93.853}$ | 5R25NS090989-02 | NATIONAL INST OF HEALTH | 222,196 |  |
| Health and Human Services | Direct | 93.853 | 5T32N5044928-13 | national inst of health | 139,578 | . |
| Health and Human Services | Direct | 93.853 | 5T32NS044928-13 | national inst of health | 17,207 | - |
| Health and Human Services | Direct | 93.853 | NIH-R21NS098173-Yan (P) | NATIONAL INST OF HEALTH | 20,048 | - |
| Health and Human Services | Direct | 93.853 | NH-RNSO99632A (P)-Manfredsson | national inst of health | 118,793 | - |
| Health and Human Services | Direct | 93.853 | RNS095656A (P) | national inst of health | 202,470 | 31,718 |
| Health and Human Services | Direct | 93.855 | 1R01A1116605-01A1 | NATIONAL INST OF HEALTH | 475,336 | 11,870 |
| Health and Human Services | Direct | 93.855 | 1R01A1121178-01A1 | national inst of health | 119,428 | - |
| Health and Human Services | Direct | 93.855 | 1R03AII30554-01 REVIIED | national inst of health | 38,775 | - |
| Health and Human Services | Direct | 93.855 | 1U01A126610-01 | National inst of health | 314,644 | 115,018 |
| Health and Human Services | Direct | 93.855 | 2R56A1081817-06 | NATIONAL INST OF HEALTH | 48,565 | - |
| Health and Human Services | Direct | 93.855 | 4R01AIO48758-17 | National inst of health | 213,740 | - |
| Health and Human Services | Direct | 93.855 | 5R01AIO47153-15 | national inst of health | 103,351 |  |
| Health and Human Services | Direct | 93.855 | 5R01A1110894-02 | national inst of health | 3,756 | 2,447 |
| Health and Human Services | Direct | 93.855 | 5R01A1113257-02 | NATIONAL INST OF HEALTH | 572,132 | 58,269 |
| Health and Human Services | Direct | 93.855 | 5RO1A120189-03 | National inst of health | 125,953 | - |
| Health and Human Services | Direct | 93.855 | 5R03A1111054-02 | NATIONAL INST OF HEALTH | 124,486 | - |
| Health and Human Services | Direct | 93.855 | 5R21A1099404-02 | National inst of health | 861 | . |
| Health and Human Services | Direct | 93.855 | 5R21A105867-02 | national inst of health | 1,186 | - |
| Health and Human Services | Direct | 93.855 | 5R21A1106477-02 | NATIONAL INST OF HEALTH | 148,567 | 647 |
| Health and Human Services | Direct | 93.855 | 5R21A1111192-03 | National inst of health | 105,330 | 1,647 |
| Health and Human Services | Direct | 93.855 | 5R21A1121748-02 | national inst of health | 151,751 | - |
| Health and Human Services | Direct | 93.855 | 5R21A1122808-02 | National inst of health | 197,522 | - |
| Health and Human Services | Direct | 93.855 | 5R21A1122863-02 | NATIONAL INST OF HEALTH | 134,322 | - |
| Health and Human Services | Direct | 93.855 | 5R21A1126359-02 | national inst of health | 66,799 | - |
| Health and Human Services | Direct | 93.855 | ${ }^{\text {5R21A117018-02 }}$ | NATIONAL INST OF HEALTH | 10,776 | - |
| Health and Human Services | Direct | 93.855 | 5R37A1021884-32 | national inst of health | 415,086 | - |
| Health and Human Services | Direct | 93.855 | 5U19A1089683-04 | national inst of health | 1,570,098 | 1,127,406 |
| Health and Human Services | Direct | 93.855 | 5 519A1090872-05 REVISED | NATIONAL INST OF HEALTH | 16,798 | - |
| Health and Human Services | Direct | 93.855 | 5U19A1090872-05 REVISED | national inst of health | 1 | (195) |
| Health and Human Services | Direct | 93.855 | 5 519A1090872-05 REVISED | NATIONAL INST OF HEALTH | (9) | - |
| Health and Human Services | Direct | 93.855 | NIH 1R01A1121178-01A1 (P) Kaminski | National inst of health | 15,658 | - |
| Health and Human Services | Direct | 93.855 | NIH 1R01A1121178-01A1 (P) Mulks | national inst of health | 54,472 | - |
| Health and Human Services | Direct | 93.855 | NIH-RA1117018A (P) -Tepe | national inst of health | 102,287 | - |
| Health and Human Services | Direct | 93.859 | 1R01GM122085-01 | National inst of health | 336,140 | 185,679 |
| Health and Human Services | Direct | 93.859 | 1R25GM116761-01A1 | national inst of health | 72,877 | - |
| Health and Human Services | Direct | 93.859 | 2т326м092715-06 | national inst of health | 129,614 | - |
| Health and Human Services | Direct | 93.859 | 3R01GM072667-1151 | national inst of health | 103,895 | - |


| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total Expenditures | Subaward <br> Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| Health and Human Services | Direct | 93.859 | зT34GM100872-0351 | national inst of health | 44,619 | \$ - |
| Health and Human Services | Direct | 93.859 | зT34GM100872-0351 | national inst of health | 6,631 | - |
| Health and Human Services | Direct | 93.859 | 4R01GM100908-05 | national inst of health | 188,863 | - |
| Health and Human Services | Direct | 93.859 | 4RO1GM101353-04 | national inst of health | 339,616 |  |
| Health and Human Services | Direct | 93.859 | 5R01GM026916-35 | national inst of health | 23,422 |  |
| Health and Human Services | Direct | 93.859 | 5R01GM043585-21 | national inst of health | 49,045 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM057440-16 | national inst of health | 172,730 | 27,000 |
| Health and Human Services | Direct | 93.859 | 5R01GM063188-11 | national inst of health | 123,057 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM063584-12 | national inst of health | 38,801 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM072667-12 Revised | national inst of health | 378,665 | 95,834 |
| Health and Human Services | Direct | 93.859 | 5R01GM084953-08 | national inst of health | 316,430 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM090063-04 | national inst of health | 29,998 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM094478-04 | NATIONAL INST OF HEALTH | (914) | - |
| Health and Human Services | Direct | 93.859 | 5R01GM094534-06 | national inst of health | 275,011 | 77,580 |
| Health and Human Services | Direct | 93.859 | 5R01GM101038-04 | national inst of health | 4,692 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM101038-06 Revised | NATIONAL INST OF HEALTH | 184,152 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM101219-06 | national inst of health | 310,758 |  |
| Health and Human Services | Direct | 93.859 | 5R01GM101386-04 | national inst of health | 65,048 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM102637-03 | national inst of health | 17,004 |  |
| Health and Human Services | Direct | 93.859 | 5R01GM104009-04 | national inst of health | 562,839 |  |
| Health and Human Services | Direct | 93.859 | 5R01GM109259-03 | national inst of health | 437,732 | 235,677 |
| Health and Human Services | Direct | 93.859 | 5R01GM109928-02 | national inst of health | 438,174 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM110185-02 | national inst of health | 313,854 | 15,353 |
| Health and Human Services | Direct | 93.859 | 5R01GM110195-03 | NATIONAL INST OF HEALTH | 198,509 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM110525-03 | national inst of health | 256,482 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM115373-03 | national inst of health | 290,843 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM115459-02 | National inst of health | 271,399 | 53,130 |
| Health and Human Services | Direct | 93.859 | 5R01GM115475-02 | national inst of health | 323,579 | - |
| Health and Human Services | Direct | 93.859 | 5R01GM118685-02 | national inst of health | 300,975 | - |
| Health and Human Services | Direct | 93.859 | 5R25GM108593-02 | NATIONAL INST OF HEALTH | 198,233 | - |
| Health and Human Services | Direct | 93.859 | 5R25GM115335-03 | national inst of health | 56,770 | 24,975 |
| Health and Human Services | Direct | 93.859 | 5T32GM092715-05 | NATIONAL INST OF HEALTH | 16,516 | - |
| Health and Human Services | Direct | 93.859 | 5T32GM092715-05 | national inst of health | (14) | - |
| Health and Human Services | Direct | 93.859 | 5T326M110523-03 | national inst of health | 160,670 |  |
| Health and Human Services | Direct | 93.859 | 5T32GM110523-03 | NATIONAL INST OF HEALTH | 53,418 |  |
| Health and Human Services | Direct | 93.859 | 7R01GM099992-04 | national inst of health | 109,592 | - |
| Health and Human Services | Direct | 93.859 | KGM115766A (P) | National inst of health | 60,719 |  |
| Health and Human Services | Direct | 93.859 | R016M061893 | national inst of health | 232,045 |  |
| Health and Human Services | Direct | 93.865 | 1R21HD083058-01A1 | national inst of health | 24,434 | - |
| Health and Human Services | Direct | 93.865 | 1T32HD087166-01 | national inst of health | 149,591 | - |
| Health and Human Services | Direct | 93.865 | 2R01HD042280-10A1 | national inst of health | 184,909 | 26,304 |
| Health and Human Services | Direct | 93.865 | 3R01HD066040-0451 | national inst of health | (6) | - |
| Health and Human Services | Direct | 93.865 | 4R01HD072972-05 | national inst of health | 260,795 | - |
| Health and Human Services | Direct | 93.865 | 5F32HD081856-02 | national inst of health | 48,567 |  |
| Health and Human Services | Direct | 93.865 | 5K12HD065879-05 | national inst of health | 587 | - |
| Health and Human Services | Direct | 93.865 | 5ROOHD058698-05 | National inst of health | 93,016 | - |
| Health and Human Services | Direct | 93.865 | 5R01HD057962-05 | NATIONAL INST OF HEALTH | $(8,980)$ |  |
| Health and Human Services | Direct | 93.865 | 5R01HD064416-05 | national inst of health | 179,052 | 29,584 |
| Health and Human Services | Direct | 93.865 | 5R01HD066040-05 | national inst of health | 278 | - |
| Health and Human Services | Direct | 93.865 | 5R01HD070723-05 | national inst of health | 109,155 | 95,246 |
| Health and Human Services | Direct | 93.865 | 5R01HD070723-05 | national inst of health | 43,154 | 37,315 |
| Health and Human Services | Direct | 93.865 | 5R01HD072489-05 | national inst of health | 487,051 | 2,154 |
| Health and Human Services | Direct | 93.865 | 5R01HD072968-05 Revised | national inst of health | 298,005 | 6,334 |
| Health and Human Services | Direct | 93.865 | 5R01HD075903-04 Revised | national inst of health | 297,668 | 34,851 |
| Health and Human Services | Direct | 93.865 | 5R01HD083273-02 Revised | national inst of health | 437,171 | 19,759 |
| Health and Human Services | Direct | 93.865 | ${ }^{\text {5RO1H }}$ 0083377-02 | National inst of health | 332,211 | 83,506 |
| Health and Human Services | Direct | 93.865 | 5R01HD08447-02 Revised | NATIONAL INST OF HEALTH | 331,300 | - |
| Health and Human Services | Direct | 93.865 | 5R01HD084494-03 | national inst of health | 390,097 | - |
| Health and Human Services | Direct | 93.865 | ${ }^{\text {5RO1HDO859990-02 }}$ | NATIONAL INST OF HEALTH | 238,240 | 67,580 |
| Health and Human Services | Direct | 93.865 | 5R03HD073275-02 | NATIONAL INST OF HEALTH | 50,585 | - |
| Health and Human Services | Direct | 93.865 | 5R03HD077112-02 | national inst of health | 18,150 | - |
| Health and Human Services | Direct | 93.865 | 5R03HD08184-02 | NATIONAL INST OF HEALTH | 50,709 | - |
| Health and Human Services | Direct | 93.865 | 5R21HD075974-02 | national inst of health | 57,431 | 4,433 |
| Health and Human Services | Direct | 93.865 | 5R21HD078471-02 | national inst of health | 16,475 | - |
| Health and Human Services | Direct | 93.865 | 5R21HD078566-02 | National inst of health | 87,578 | 12,556 |
| Health and Human Services | Direct | 93.865 | 5R21HD082453-02 | national inst of health | 34,954 | - |
| Health and Human Services | Direct | 93.865 | 5R21HD085138-02 | national inst of health | 149,004 | 29,455 |
| Health and Human Services | Direct | 93.865 | $7 \mathrm{RO} 1 \mathrm{HD} 045611-12$ | NATIONAL INST OF HEALTH | $(12,244)$ |  |
| Health and Human Services | Direct | 93.865 | NIH-1T32HD087166-01-Latham (P) | national inst of health | 3,459 | - |
| Health and Human Services | Direct | 93.866 | 1RA56AG0523328-01A1 | national inst of health | 313,992 | 36,076 |
| Health and Human Services | Direct | 93.866 | 5K01AGO43417-03 | national inst of health | 113,515 |  |
| Health and Human Services | Direct | 93.866 | 5R01AG034949-05 | NATIONAL INST OF HEALTH | 12,245 | - |
| Health and Human Services | Direct | 93.866 | 5R01AG034949-05 | national inst of health | (368) | - |
| Health and Human Services | Direct | 93.866 | 5R01AG040715-05 | national inst of health | 222,300 | 25,696 |
| Health and Human Services | Direct | 93.866 | 5R01AG044372-04 Revised | National inst of health | 422,614 | 42,504 |
| Health and Human Services | Direct | 93.866 | 5R01AG048642-03 | national inst of health | 1,308,322 | 1,023,210 |
| Health and Human Services | Direct | 93.866 | 5R21AG044712-02 | national inst of health | 52,865 | - |
| Health and Human Services | Direct | 93.866 | 5R21AGO551820-02 | National inst of health | 109,878 | 41,462 |
| Health and Human Services | Direct | 93.866 | 5R21AG053581-02 | national inst of health | 110,237 | - |
| Health and Human Services | Direct | 93.866 | 7R01AG030425-06 | national inst of health | 83,310 | - |
| Health and Human Services | Direct | 93.867 | 4R01EY022727-05 | NATIONAL INST OF HEALTH | 198,099 | 8 |
| Health and Human Services | Direct | 93.867 | 5R01EY016077-09 Revised | NATIONAL INST OF HEALTH | 551,466 | 131,861 |
| Health and Human Services | Direct | 93.867 | 5R21EY024757-02 | NATIONAL INST OF HEALTH | 140,735 | - |
|  | Direct Total |  |  |  | 56,930,895 | 9,632,009 |
| Health and Human Services | Pass-through | 93 | 15TJP0085 | ICFINCLle | 13 | - |
| Health and Human Services | Pass-through | 93 | 3004138691 | UNIVERSITY OF MICHIGAN | 152,580 | - |
| Health and Human Services | Pass-through | 93 | 52000 L | RTI INTERNATIONAL | 27,421 | - |
| Health and Human Services | Pass-through | 93 | APP 146044 | bloodcenter of WIISONSIN | 5 | - |
| Health and Human Services | Pass-through | 93 | BCHS/MSU FY17 | State of MICHIGAN | 229,844 | - |
| Health and Human Services | Pass-through | 93 | CK \#3058112 | SOUTHWEST ONCOLOGY GROUP | 18,231 | - |
| Health and Human Services | Pass-through | 93 | EAY-131 | NRG Oncology | 903 | - |
| Health and Human Services | Pass-through | 93 | NRG Oncology B-43 | NRG Oncology | 726 | - |
| Health and Human Services | Pass-through | 93 | PROTOCOLS 1207 | NRG ONCOLOGY | 41 | - |
| Health and Human Services | Pass-through | 93 | UA-NIH-000388010-016 | UNIVERSITY Of ALABAMA AT BIRMINGHAM | 81,422 | - |
| Health and Human Services | Pass-through | 93.070 | E20172768-00-AO | MICHIGAN DEPT OF HEALTH \& HUMAN SERVIICES | 548 | - |
| Health and Human Services | Pass-through | 93.077 | 114970-5101334 | harvard univ | 8,018 | - |
| Health and Human Services | Pass-through | 93.084 | $723 \times 866$ | UNIVERSITY OF WISCONSIN SYSTEM | 43,891 | - |
| Health and Human Services | Pass-through | 93.110 | ATHN2014-NHPCC-1 | munson medical center | 110 | - |
| Health and Human Services | Pass-through | 93.113 | 1009036_MSU | OREGON HEALTH SCIENCES UNIV | 75,139 | - |
| Health and Human Services | Pass-through | 93.113 | 2013-00165-01 | UNIVERSITY OF ILLINOIS URBANA CHAMPAIGN | 6,694 | - |
| Health and Human Services | Pass-through | 93.113 | ${ }^{\text {зRвb7 }}$ | UNIVERSITY OF NEW MEXICO | 88,990 | - |
| Health and Human Services | Pass-through | 93.113 | 713K053 | UNIVERSITY OF WISCONSIN MADISON | 13,469 | - |


| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total Expenditures | Subaward Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| Health and Human Services | Pass-through | 93.113 | UIUC-083348-16161-Gardinerloseph | UNIVERSITY OF ILILNois urbana champaign | 34,578 | \$ |
| Health and Human Services | Pass-through | 93.113 | WSU16078 | wayne state univ | 18,154 | - |
| Health and Human Services | Pass-through | 93.136 | 2003124173 | Johns hopkins univ | 49,722 | - |
| Health and Human Services | Pass-through | 93.136 | 3001820588 | UNIVERSITY OF MICHIGAN | 237 | - |
| Health and Human Services | Pass-through | 93.142 | 007038-009 | cincinnati univ of | $(1,700)$ | - |
| Health and Human Services | Pass-through | 93.172 | 3002897437 | UNIVERSITY OF MICHIGAN | 105,768 | - |
| Health and Human Services | Pass-through | 93.173 | 0044466 (125619-1) | UNIVERSITY OF PITTSBURGH | 44,332 | - |
| Health and Human Services | Pass-through | 93.173 | 13-0385 | BRIGHAM YOUNG UNIV | 1,496 | - |
| Health and Human Services | Pass-through | 93.173 | 3002722836 | UNIVERSITY OF MICHIGAN | 6,163 | - |
| Health and Human Services | Pass-through | 93.173 | 3004261216 | UnIVERSITY OF MICHIGAN | 14,239 | - |
| Health and Human Services | Pass-through | 93.173 | 60051342 | OHIO STATE UNIV | 129,051 | - |
| Health and Human Services | Pass-through | 93.173 | BL-4633518-MSU | indiana univ | 68,898 | - |
| Health and Human Services | Pass-through | 93.173 | VANDERBILT VUMC56181 McAuley | vanderbilt univ | 4,946 | - |
| Health and Human Services | Pass-through | 93.226 | FY17.688.002 | UNIVERSITY OF COLORADO DENVER | 63,038 | - |
| Health and Human Services | Pass-through | 93.226 | Project 2-5-15980 FY16.688.001 AMD 1 | UNIVERSITY OF COLORADO DENVER | 58,379 | - |
| Health and Human Services | Pass-through | 93.226 | UWSC8138 | University of WAshington | 43,848 | - |
| Health and Human Services | Pass-through | 93.242 | 00000777 | brown univ | 29,740 | - |
| Health and Human Services | Pass-through | 93.242 | 00000778 | brown univ | 7,044 | - |
| Health and Human Services | Pass-through | 93.242 | 3003112208 | UNIVERSITY Of MICHIGAN | 13,369 | - |
| Health and Human Services | Pass-through | 93.242 | 3003210937 | UNIVERSITY OF MICHIGAN | 35,089 | - |
| Health and Human Services | Pass-through | 93.242 | 5-20953 | SCRIPPS RESEARCH INST | 38,835 | - |
| Health and Human Services | Pass-through | 93.242 | 5-20953 | SCRIPPS RESEARCH INST | 11,206 | - |
| Health and Human Services | Pass-through | 93.242 | V2561-3 | Van andel research inst | 42,901 | - |
| Health and Human Services | Pass-through | 93.242 | WSU16128 | wayne state univ | 19,539 | - |
| Health and Human Services | Pass-through | 93.243 | 162734-AWARE16 | michigan dept of education | 39,016 | - |
| Health and Human Services | Pass-through | 93.243 | 172734-AWARE17 | MICHIGAN DEPT OF EDUCATION | 87,440 | - |
| Health and Human Services | Pass-through | 93.262 | WSU16039 | wayne state univ | 6,529 | - |
| Health and Human Services | Pass-through | 93.273 | 3002128731 | UNIVERSITY OF MICHIGAN | 1,897 | - |
| Health and Human Services | Pass-through | 93.273 | 9053-8349 | butler hospital | 5,809 | - |
| Health and Human Services | Pass-through | 93.273 | BUTLER HOS 9053-8349 Johnson | bUtLER HOSPITAL | 62,050 | - |
| Health and Human Services | Pass-through | 93.273 | ORI-APP 144593-Roseth | OREGON RESEARCHINST | 39,028 | - |
| Health and Human Services | Pass-through | 93.273 | R921 | DARTMOUTH COLLEGE | 32,438 | - |
| Health and Human Services | Pass-through | 93.279 | 1418(R195) | DARTMOUTH COLLEGE | 42,373 | 5,840 |
| Health and Human Services | Pass-through | 93.279 | 2003097399 | Johns Hopkins univ | 37,449 | - |
| Health and Human Services | Pass-through | 93.279 | 3002871750 | UNIVERSITY OF MICHIGAN | 20,635 | - |
| Health and Human Services | Pass-through | 93.279 | 3020746 | duke univ | 20,465 | - |
| Health and Human Services | Pass-through | 93.279 | 9522 | WOMEN \& InFANTS HOSPITAL | 7,661 | - |
| Health and Human Services | Pass-through | 93.279 | W81 HOSP-9522-JohnsonJennifer | WOMEN \& INFANTS HOSPITAL | 4,793 | - |
| Health and Human Services | Pass-through | 93.279 | WH/NIH 9522 YR 2 Johnson | WOMEN \& INFANTS HOSPITAL | 11,044 | - |
| Health and Human Services | Pass-through | 93.283 | 20160890-00 | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 8,632 | - |
| Health and Human Services | Pass-through | 93.283 | 20160897-00 Attachment S | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 10,483 | - |
| Health and Human Services | Pass-through | 93.283 | E20170245-00-M | Michigan dept of health \& human services | 15,986 | - |
| Health and Human Services | Pass-through | 93.283 | E20170253-00-R | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 42,664 | - |
| Health and Human Services | Pass-through | 93.283 | E20170657-00-U | MICHIGAN DEPT OF COMMUNITY HEALTH | 15,988 | - |
| Health and Human Services | Pass-through | 93.307 | 057063-8705 | UNIVERSITY OF NEW MEXICO | 69,491 | - |
| Health and Human Services | Pass-through | 93.310 | 5106190 | UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL | 22,328 | - |
| Health and Human Services | Pass-through | 93.310 | 68-1096430 | CALIFORNIA INSTITUTE OF TECHNO | 340,340 | - |
| Health and Human Services | Pass-through | 93.310 | 7066672 | UNIVERSITY OF WISCONSIN MADISON | 27,405 | - |
| Health and Human Services | Pass-through | 93.310 | CK\# 407 | WINDROSE VIIIION | 431 | - |
| Health and Human Services | Pass-through | 93.310 | FP060906 | UNIVERSITY OF CHICAGO | 975 | - |
| Health and Human Services | Pass-through | 93.310 | UCHICAGO FP060906 Yadav Year 2 | UNIVERSITY OF CHICAGO | 31,165 | - |
| Health and Human Services | Pass-through | 93.325 | Reeve Foundation Grant | CHRISTOPHER \& DANA REEVE FOUNDATION | 11,192 | - |
| Health and Human Services | Pass-through | 93.351 | 2157208 | UNiversity of oregon | 90,527 | - |
| Health and Human Services | Pass-through | ${ }^{93.351}$ | App 143125 | FREEZEBACK LLC | 90,267 | - |
| Health and Human Services | Pass-through | 93.393 | 153405503 | UNIVERSITY OF WISCONSIN MILWAUKEE | 9,144 | - |
| Health and Human Services | Pass-through | 93.393 | 3002478030 | UNIVERSITY OF MICHIGAN | 11,065 | - |
| Health and Human Services | Pass-through | 93.393 | 5102580 | UNIVERSITY OF NORTH CAROLINA | 72,325 | 34,552 |
| Health and Human Services | Pass-through | 93.393 | R789 | TRUSTEES OF DARTMOUTH COLLEGE | 46,449 | - |
| Health and Human Services | Pass-through | 93.395 | 9500080216-13c | CHILDRENS Hospital of philadelphia | 22,057 | - |
| Health and Human Services | Pass-through | 93.395 | APP 145069 Martinez Hackert | ABREOS BIOSCIIENCES INC | 839 | - |
| Health and Human Services | Pass-through | 93.395 | NIH/CHOP APP 140619 U10CA180886 GERA | CHILDRENS HOSPITAL Of PHILADELPHIA | 834 | - |
| Health and Human Services | Pass-through | 93.395 | NSABP B-49 TAMKUS | NATL SURGICAL ADJ BRST \& BWL P | 5,641 | - |
| Health and Human Services | Pass-through | 93.395 | SIRNAX/NIH APP 130373 GARAVITO | SIRNAXINC. | $(3,446)$ | - |
| Health and Human Services | Pass-through | 93.395 | TFED37-090, AMD\#1 | NATL SURGICAL ADJ BRST \& BWL P | 38,526 | - |
| Health and Human Services | Pass-through | 93.398 | App 152611 | UNIVERSITY OF ILLINOIS CHICAGO | 35,911 | - |
| Health and Human Services | Pass-through | 93.506 | BHCS/MSU-CMS NBCP 2013-2016 | MI DEPT OF LICENSING \& REG AFF | 71,430 | - |
| Health and Human Services | Pass-through | 93.600 | WAYNE ST U-WSU17003 Vallotton | WAYNE STATE UNIV | 122,114 | - |
| Health and Human Services | Pass-through | 93.600 | WSU16012 | WaYne state univ | 74,761 | - |
| Health and Human Services | Pass-through | 93.757 | 20160913-00-Al | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 2,718 | - |
| Health and Human Services | Pass-through | 93.757 | 20160914-00-AJ | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 12,197 | - |
| Health and Human Services | Pass-through | $\begin{array}{r}93.757 \\ \hline 93757\end{array}$ | E20170242-00-J | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 795 10.077 | $:$ |
| Health and Human Services | Pass-through | 93.757 | E20170243-00-k | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 10,077 | - |
| Health and Human Services | Pass-through | 93.778 | 20161931 | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 5,803 | - |
| Health and Human Services | Pass-through | 93.810 | E20170245-00-M | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 5,329 | - |
| Health and Human Services | Pass-through | 93.810 | E20170657-00-U | MICHIGAN DEPT OF COMMUNITY HEALTH | 5,330 | - |
| Health and Human Services | Pass-through | 93.837 | No03631001 | UNIVERSITY OF MINNESOTA TWIN CITIES | 98,047 | - |
| Health and Human Services | Pass-through | 93.837 | OOS100311-MSU | KAISER PERMANENTE | 13,044 | - |
| Health and Human Services | Pass-through | 93.837 | WSU15107-A1 | Wayne state univ | 13,616 | - |
| Health and Human Services | Pass-through | 93.838 | 540544 | UNIVERSITY OF MEMPHIS | 40,574 | - |
| Health and Human Services | Pass-through | 93.838 | MEMPHIS 540544 Ewart | UNIVERSITY OF MEMPHIS | 71,136 | - |
| Health and Human Services | Pass-through | 93.846 | 3003073874 | UNIVERSITY OF MICHIGAN | 104,688 | - |
| Health and Human Services | Pass-through | 93.846 | STTR R41AR068804 | Abreos biosciences inc | 27,424 | - |
| Health and Human Services | Pass-through | 93.847 | 15-A0-00-003649-01 | NEW YORK UNIV SCHOOL OF MEDICIINE | 21,533 | - |
| Health and Human Services | Pass-through | 93.847 | 3003071149 | UNIVERSITY OF MICHIGAN | 189,092 | - |
| Health and Human Services | Pass-through | 93.847 | 3003853558 | UNIVERSITY OF MICHIGAN | 31,156 | - |
| Health and Human Services | Pass-through | 93.847 | UND10495 | UNIVERSSITY OF NORTH DAKOTA | 36,107 | - |
| Health and Human Services | Pass-through | 93.853 | 3004086345 | UNIIERSITY OF MICHIGAN | 26,571 | - |
| Health and Human Services | Pass-through | 93.853 | 416854 | UNIVERSITY OF ROCHESTER | 4,614 | - |
| Health and Human Services | Pass-through | 93.853 | 488389 E27281 | UNIVERSITY OFF ILLINOIS CHICAGO | 266,885 | - |
| Health and Human Services | Pass-through | 93.853 | 60036745 MSU | NORTHWESTERN UNIV | 14,616 | - |
| Health and Human Services | Pass-through | 93.853 | IN4689687MSU | indiana univ | 15,830 | - |
| Health and Human Services | Pass-through | 93.853 | PSG 186 | MASSACHUSETTS GENERAL HOSPITAL | 26,513 | - |
| Health and Human Services | Pass-through | 93.853 | R21Ns088554- West/Tseng | ROSALIND FRANKLIN UNIV OF MEDICIINE \& SCIENCE | 91,553 | - |
| Health and Human Services | Pass-through | 93.853 | Univ of Rochester 416854 Shapiro | UNIVERSITY OF ROCHESTER | 9,819 | - |
| Health and Human Services | Pass-through | 93.855 | 3002992954 | UNIVERSITY OF MICHIGAN | 10,252 | - |
| Health and Human Services | Pass-through | 93.855 | 3200000654-17-016 | UNIVERSITY OF KENTUCKY | 54,263 | - |
| Health and Human Services | Pass-through | 93.855 | LDR 01 MOD 3 | Johns hopkins univ | 39,470 | - |
| Health and Human Services | Pass-through | 93.855 | MODO2 2002283506 | Johns hopkins univ | 40,583 | - |
| Health and Human Services | Pass-through | 93.855 | UNIV OF MEMPHIS/NIH 5-40150 EWART | UNIVERSITY OF MEMPHIS | 12,719 | - |
| Health and Human Services | Pass-through | 93.859 | 0051314 (126984-2) | UNIVERSITY OF PITTSBURGH | 99,406 | - |
| Health and Human Services Health and Human Services | Pass-through Pass-through | $\begin{aligned} & 93.859 \\ & 93.859 \end{aligned}$ | $\begin{aligned} & \text { 0056117(129070-1) } \\ & \text { 202375MSU } \end{aligned}$ | UNIVERSITY OF PITTSBURGH UNIVERSITY OF NOTRE DAME | $\begin{aligned} & 15,897 \\ & 26,607 \end{aligned}$ | $:$ |


| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name |  | $\begin{gathered} \text { Total } \\ \text { Expenditures } \\ \hline \end{gathered}$ |  | Subaward Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |  |  |
| Health and Human Services | Pass-through | 93.859 | 5104410 | UNIVERSITY OF NORTH CAROLINA | \$ | 85,590 | \$ | - |
| Health and Human Services | Pass-through | 93.859 | 5104410 | UNIVERSITY OF NORTH CAROLINA |  | $(10,766)$ |  | - |
| Health and Human Services | Pass-through | 93.859 | 56810 РО H005230501 | UNIVERSITY OF MINNESOTA |  | 8,497 |  | - |
| Health and Human Services | Pass-through | 93.859 | Prime 4R44GM112406-02 | QUANTUMBIO, INC. |  | 116,868 |  | - |
| Health and Human Services | Pass-through | 93.859 | U OF M-3004222911-Feig (P) | UNIVERSITY OF MICHIGAN |  | 17,205 |  | - |
| Health and Human Services | Pass-through | 93.859 | UTA13-000938 | UNIVERSITY OF TEXAS AT AUSTIN |  | 4,216 |  | - |
| Health and Human Services | Pass-through | 93.865 | 000388010-016 | UNIVERSITY OF ALABAMA AT BIRMINGHAM |  | 210,688 |  | - |
| Health and Human Services | Pass-through | 93.865 | 2001660125 | JOHNS HOPKINS UNIV |  | 18,884 |  | - |
| Health and Human Services | Pass-through | 93.865 | 60042504-MSU | OHIO STATE UNIV |  | 9,255 |  | - |
| Health and Human Services | Pass-through | 93.865 | AGMSU-01 | AGGAMIN LLC |  | 182,229 |  | - |
| Health and Human Services | Pass-through | 93.865 | FY15.284.002 | UNIVERSITY OF COLORADO |  | 396 |  | - |
| Health and Human Services | Pass-through | 93.865 | JHU 2003075281 Boivin | JOHNS HOPKINS UNIV |  | 87,764 |  | - |
| Health and Human Services | Pass-through | 93.865 | QN857961 | UNIVERSITY OF KANSAS |  | 5,482 |  | - |
| Health and Human Services | Pass-through | 93.865 | R-16-0019 | UNIVERSITY OF HOUSTON |  | 31,633 |  | - |
| Health and Human Services | Pass-through | 93.865 | R866 | DARTMOUTH COLLEGE |  | 65,874 |  | - |
| Health and Human Services | Pass-through | 93.865 | RNG200543-02 (2680-2828) | KAISER PERMANENTE |  | 8,753 |  | - |
| Health and Human Services | Pass-through | 93.865 | WU-15-394 | WASHINGTON UNIV IN ST LOUIS |  | 27,508 |  | - |
| Health and Human Services | Pass-through | 93.866 | 1032114-MSU | DIGNITY HEALTH |  | 339,151 |  | - |
| Health and Human Services | Pass-through | 93.866 | 160236 | UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL CENTER |  | 83,596 |  | - |
| Health and Human Services | Pass-through | 93.866 | 3003090374 | UNIVERSITY OF MICHIGAN |  | 24,327 |  | - |
| Health and Human Services | Pass-through | 93.866 | 3003883640 | MI CNTR FOR URBAN AFRICAN AMER |  | 2,732 |  | - |
| Health and Human Services | Pass-through | 93.866 | 3004127215 | UNIVERSITY OF MICHIGAN |  | 44,342 |  | - |
| Health and Human Services | Pass-through | 93.866 | MCUAAAR / NIH 3004040429 Brittain | MI CNTR FOR URBAN AFRICAN AMER |  | 6,780 |  | - |
| Health and Human Services | Pass-through | 93.866 | U OF M 3004217514 Hawkins | UNIVERSITY OF MICHIGAN |  | 26,069 |  | - |
| Health and Human Services | Pass-through | 93.867 | 567945 | UNIVERSITY OF PENNSYLVANIA |  | 68,126 |  | - |
| Health and Human Services | Pass-through | 93.867 | IN4684832MSU | indiana univ |  | 220 |  | - |
| Health and Human Services | Pass-through | 93.867 | IN4684833MSU | Indiana univ |  | 164,117 |  | - |
| Health and Human Services | Pass-through | 93.958 | Contract 20160908-00 Attachment AD | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES |  | 9,316 |  | - |
| Health and Human Services | Pass-through | 93.958 | Contract 20160909-00 Attachment AE | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES |  | 5,189 |  | - |
| Health and Human Services | Pass-through | 93.958 | Contract 20160910-00 Attachment AF | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES |  | 7,582 |  | - |
| Health and Human Services | Pass-through | 93.958 | Contract 20160911-00 Attachment AG | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES |  | 37,495 |  | - |
| Health and Human Services | Pass-through | 93.958 | E20170238-00-F | MICHIGAN DEPT OF HUMAN SERVICES |  | 38,792 |  | - |
| Health and Human Services | Pass-through | 93.958 | E20170241-00-I | MICHIGAN DEPT OF HUMAN SERVICES |  | 15,341 |  | - |
| Health and Human Services | Pass-through | 93.958 | E20170248-00-Q | MICHIGAN DEPT OF HUMAN SERVICES |  | 30,440 |  | - |
| Health and Human Services | Pass-through | 93.958 | E20170666-00-V | MICHIGAN DEPT OF HUMAN SERVICES |  | 19,126 |  | - |
| Health and Human Services | Pass-through | 93.958 | E20170666-00-V | MICHIGAN DEPT OF HUMAN SERVICES |  | 17,207 |  | - |
| Health and Human Services | Pass-through | 93.958 | E20170674-00 | MICHIGAN DEPT OF HUMAN SERVICES |  | 112,852 |  | - |
| Health and Human Services | Pass-through | 93.989 | 4D43TW009639-05 | Fogarty intl Center |  | 324,101 |  | 236,165 |
| Health and Human Services | Pass-through | 93.989 | 5D43TW008267-05 | Fogarty intl center |  | 2,660 |  | 2,629 |
| Health and Human Services | Pass-through | 93.989 | 5K01TW009654-02 | FOGARTY INTL CENTER |  | 128,860 |  | 29,565 |
| Health and Human Services | Pass-through | 93.989 | TRN506258 | CASE WESTERN RESERVE UNIV |  | 109,279 |  | - |
| Health and Human Services | Pass-through | 93.989 | VUMC 42900 | VANDERBILT UNIV MEDICAL CENTER |  | 3,384 |  | 3,083 |
|  | Pass-through Total |  |  |  |  | 7,225,592 |  | 311,834 |
| Health and Human Services Total |  |  |  |  |  | 64,156,487 |  | 9,943,843 |
| Homeland Security | Pass-through | 97.061 | 2901213 | UNIVERSITY OF MARYLAND |  | 10,232 |  | - |
| Homeland Security | Pass-through | 97.062 | 30345-29058104 | UNIVERSITY OF MARYLAND |  | 33,608 |  | - |
|  | Pass-through Total |  |  |  |  | 43,840 |  | - |
| Homeland Security Total |  |  |  |  |  | 43,840 |  | - |
| Interior | Direct | 15.232 | 15-JV-11242313-115 | JOINT FIRE SCIENCE PROGRAM |  | 142,974 |  | - |
| Interior | Direct | 15.608 | USFWS F13AC00565 Infante | US FISH \& WILDLIFE SERVICE |  | 188,461 |  | - |
| Interior | Direct | 15.637 | F14AC00225 | US FISH \& WILDLIFE SERVICE |  | 36,286 |  | - |
| Interior | Direct | 15.647 | F14AC00397 | US FISH \& WILDLIFE SERVICE |  | 12,781 |  | - |
| Interior | Direct | 15.662 | F15AP00306 | US FISH \& WILDLIFE SERVICE |  | 26,504 |  | - |
| Interior | Direct | 15.662 | F15AP00549 | US FISH \& WILDLIFE SERVICE |  | (21) |  | - |
| Interior | Direct | 15.662 | F15AP00562 | US FISH \& WILDLIFE SERVICE |  | 29,830 |  | - |
| Interior | Direct | 15.662 | F16AC00099 | US FISH \& WILDLIFE SERVICE |  | 101,610 |  | - |
| Interior | Direct | 15.662 | F16AP00875 | US FISH \& WILDLIFE SERVICE |  | 13,768 |  | - |
| Interior | Direct | 15.678 | 155500 | US FISH \& WILDLIFE SERVICE |  | 405 |  | - |
| Interior | Direct | 15.805 | G16AP00020 | US GEOLOGICAL SURVEY |  | 50,799 |  | - |
| Interior | Direct | 15.805 | G16AP00063 | US GEOLOGICAL SURVEY |  | 86,616 |  | - |
| Interior | Direct | 15.805 | G17AP00031 | US GEOLOGICAL SURVEY |  | 7,317 |  | - |
| Interior | Direct | 15.808 | 16AC00421 | US GEOLOGICAL SURVEY |  | 97,378 |  | - |
| Interior | Direct | 15.808 | 612AC20394 | US GEOLOGICAL SURVEY |  | 4,298 |  |  |
| Interior | Direct | 15.808 | G12AC20457 | US GEOLOGICAL SURVEY |  | 25,077 |  | - |
| Interior | Direct | 15.808 | 613AC00112 | US GEOLOGICAL SURVEY |  | $(43,486)$ |  | - |
| Interior | Direct | 15.808 | 613AC00244 | US GEOLOGICAL SURVEY |  | 78,097 |  | - |
| Interior | Direct | 15.808 | G13AC00284 | US GEOLOGICAL SURVEY |  | $(28,103)$ |  | - |
| Interior | Direct | 15.808 | 615AC00026 | US GEOLOGICAL SURVEY |  | 20,236 |  | - |
| Interior | Direct | 15.808 | 615AC00164 | US GEOLOGICAL SURVEY |  | 86,574 |  | - |
| Interior | Direct | 15.808 | G16AC00116 | US GEOLOGICAL SURVEY |  | 78,608 |  | - |
| Interior | Direct | 15.808 | G16AC00244 | US GEOLOGICAL SURVEY |  | 71,559 |  | - |
| Interior | Direct | 15.808 | G17AC00148 | US GEOLOGICAL SURVEY |  | 5,192 |  | - |
| Interior | Direct | 15.808 | G1AC20368 | US GEOLOGICAL SURVEY |  | 22,844 |  | - |
| Interior | Direct | 15.808 | USGS G13AC00140 Mantha | US GEOLOGICAL SURVEY |  | 93,791 |  | - |
| Interior | Direct | 15.811 | 614AC00321 | US GEOLOGICAL SURVEY |  | 119,557 |  | - |
| Interior | Direct | 15.820 | G15AC00126 | US GEOLOGICAL SURVEY |  | 2,350 |  | - |
| Interior | Direct | 15.820 | G15AC00351 | US GEOLOGICAL SURVEY |  | 95,838 |  | - |
| Interior | Direct | 15.945 | P15AC01378 | NATIONAL PARK SERVICE |  | 21,558 |  | - |
|  | Direct | 15.945 | P16AC01326 | national park service |  | 98,131 |  | - |
|  | Direct Total |  |  |  |  | 1,546,829 |  | - |
| Interior | Pass-through | 15 | S183-2S-1932 | Stratus consulting |  | 17,057 |  | - |
| Interior | Pass-through | 15 | 5183-2S-1932 | STRATUS CONSULTING |  | 6,147 |  | - |
| Interior | Pass-through | 15 | 5183-2S-1932 | Stratus consulting |  | 4,668 |  | - |
| Interior | Pass-through | 15 | S183-2S-1932 Task Order 2 | Stratus consulting |  | $(59,005)$ |  | - |
| Interior | Pass-through | 15 | S183-2S-1932 Task Order 6 | STRATUS CONSULTING |  | (1) |  | - |
| Interior | Pass-through | 15 | USW0F028 | natureserve |  | 15,753 |  | - |
| Interior | Pass-through | 15.156 | 153877 | INTER TRIBAL COUNCIL OF MICHIGAN INC |  | 6,857 |  | - |
| Interior | Pass-through | 15.232 | 60040808 | OHIO STATE UNIV |  | 18,915 |  | - |


| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total <br> Expenditures | Subaward <br> Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| Interior | Pass-through | 15.608 | Phase 3 | great lakes commission | 40,775 | \$ - |
| Interior | Pass-through | 15.615 | Arkansas Darter | KANSAS DEPT OF WILDLIFE, PARKS \& TOURISM | 30,931 | - |
| Interior | Pass-through | 15.628 | APP 144778 | ASSOC OF FISH \& WILDLIFE AGENCY | 20,767 | - |
| Interior | Pass-through | 15.662 | 2013-0100 | MI ENVIRONMENTAL QUALITY | 23,453 | - |
| Interior | Pass-through | 15.662 | 74394 | Research foundation of suny | 13,193 | - |
| Interior | Pass-through | 15.820 | 16-008848A00 | UNIVERSITY OF MASSACHUSETTS AMHERST | 4,140 | - |
| Interior | Pass-through | 15.820 | 404-42-07A | IOWA STATE UNIV | 89,050 | - |
|  | Pass-through Total |  |  |  | 232,700 | - |
| Interior Total |  |  |  |  | 1,779,529 | - |
| Justice | Direct | 16.550 | 2014-Mu-CX-K037 | US DEPT OF JUSTICE | 9,950 | - |
| Justice | Direct | 16.550 | 2015-BJ-CX-K022 | US DEPT OF JUSTICE | 148,618 | . |
| Justice | Direct | 16.550 | 2016-BJ-CX-K026 | US DEPT Of JUSTICE | 70,311 | - |
| Justice | Direct | 16.560 | 2013-DN-BX-K039 | US DEPT OF JUSTICE | 68 | - |
| Justice | Direct | 16.560 | 2013-J-CX-0019 | US DEPT OF JUSTICE | 187,120 | - |
| Justice | Direct | 16.560 | 2013-R2-CX-0015 | US DEPT OF JUSTICE | 93,619 | 53,985 |
| Justice | Direct | 16.560 | 2014-NE-BX-0006 | US DEPT OF JUSTICE | 177,392 | - |
| Justice | Direct | 16.560 | 2014-ZA-BX-0004 | US DEPT OF JUSTICE | 214,343 | 80,770 |
| Justice | Direct | 16.560 | 2015-Ck-bx-0003 | US DEPT OF JUSTICE | 231,512 | 66,305 |
| Justice | Direct | 16.560 | 2015-CK-BX-0017 | US DEPT OF JUSTICE | 236,857 | 73,893 |
| Justice | Direct | 16.560 | 2015-DN-BX-K012 | US DEPT OF JUSTICE | ${ }^{174,736}$ | - |
| Justice | Direct | 16.560 | 2015-DN-BX-K013 | US DEPT OF JUSTICE | 239,327 | - |
| Justice | Direct | 16.560 | 2015-DN-BX-K031 | US DEPT OF JUSTICE | 61,738 | - |
| Justice | Direct | 16.560 | 2015-DN-BX-K036 | US DEPT OF JUSTICE | 77,850 | - |
| Justice | Direct | 16.560 | 2015-U-CX-K008 | US DEPT OF JUSTICE | 103,190 | - |
| Justice | Direct | 16.560 | 2015-R2-CX-K041 | US DEPT OF JUSTICE | 169,945 | ,155 |
| Justice | Direct | 16.560 | 2016-R2-CX-0052 | US DEPT OF JUSTICE | 21,060 |  |
| Justice | Direct | 16.562 | 2015-R2-CX-0005 | US DEPT OF JUSTICE | 41,451 | - |
| Justice | Direct | 16.609 | 2015-GP-BX-K003 | bureau of justice asilitance | 151,174 | . |
| Justice | Direct | 16.738 | 2016-MU-BX-K001 | US DEPT OF J JSTICE | 245,734 | 35,359 |
| Justice | Direct | 16.738 | DOJ-PSC-2016-MU-BX-K001-McGarrell | US DEPT OF JUSTICE | 47,059 | - |
| Justice | Direct | 16.751 | 2014-DB-BX-K010 | bureau of justice asistance | 105,852 | - |
| Justice | Direct | 16.751 | 2014-DB-BX-K010 | bureau of Justice asilitance | 95,615 | - |
|  | Direct Total |  |  |  | 2,904,521 | 373,467 |
| Justice | Pass-through | 16 | 09-097nn-msu | WEST VIRGINIA UNIV | 185,278 | - |
| Justice | Pass-through | 16.560 | 031100.364880.01 | MISSISSIPPI STATE UNIV | 134,774 | - |
| Justice | Pass-through | 16.560 | 40582-29246101 | UNIIERSITY OF MARYLAND | 111,318 | - |
| Justice | Pass-through | 16.560 | см00000097-00 | john Jay college | 1,999 | - |
| Justice | Pass-through | 16.560 | M15P12131 (P00359) | Yale univ | 66,895 | - |
| Justice | Pass-through | 16.609 | 153908 | BLACK FAMILY DEVELOPMENT INC | 7,690 | - |
| Justice | Pass-through | 16.662 | 791N5500195 | mi dept ag \& rural dev. | 48,140 | 5,243 |
| Justice | Pass-through | 16.662 | MDEQ-Burley | MICHIGAN DEPT OF ENVIRONMENTAL QUALITY | 23,790 | - |
| Justice | Pass-through | 16.751 | SAKI-15-04 | michigan department of state police | 55,855 | - |
| Justice | Pass-through | 16.817 | Kettering/DOJ 5301095MSU | kettering univ | 88,030 | - |
| Justice | Pass-through | 16.817 | Kettering/DOJ 5301095MSU | KETTERING UNIV | $(25,060)$ | - |
|  | Pass-through Total |  |  |  | 698,709 | 5,243 |
| Justice Total |  |  |  |  | 3,603,230 | 378,710 |
| National Aeronautics \& Space Administration | Direct | 43.001 | NASA NNX12AN71G KSC Brandizi | NATIONAL AERONAUTICS \& SPACE ADMIIIITRATION | 35,272 | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NASA-GSFC- NNX16AQ44G Zarnetske | national aeronautics \& SPACE Administration | 46,353 | 6,504 |
| National Aeronautics \& Space Administration | Direct | 43.001 | NASA-GSFC-NNX16AQ44G Zarnetske PSC | NATIONAL AERONAUTICS \& SPACE ADMINISTRATION | 18,385 |  |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX12AC98G | NATIONAL AERONAUTICS \& SPACE ADMINISTRATION | (7,742) | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX12AH49G | national aeronautics \& SPACE Administration | $(2,906)$ | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX12AL14A | national aeronautics \& SPACE ADMIIIITRATION | 5,338 | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX13A1419 | NATIONAL AERONAUTICS \& SPACE ADMIIIITTRATION | 5,785 | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX13A144G | national aeronautics \& SPACE Administration | 87,846 | 33,110 |
| National Aeronautics \& Space Administration | Direct | 43.001 | nnx13A144G | national aeronautics \& SPACE Administration | 71,686 |  |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX13AK419 | NATIONAL AERONAUTICS \& SPACE ADMIIIITRATION | (100) | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX13AQ51G | national aeronautics \& SPACE Administration | 15,640 | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX14AD93G | national aeronautics \& SPACE AdMIIIITRATION | 42,534 |  |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX14AQ36G | national aeronautics \& SPACE Administration | 21,662 | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX15AD10G | national aeronautics \& SPACE ADMINISTRATION | 272,722 | 110,894 |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX15AD51G | national aeronautics \& SPACE AdMIIIITRATION | 227,461 | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX15AI716 | NATIONAL AERONAUTICS \& SPACE ADMIIIITTAATION | 79,762 | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX15AP39G | NATIONAL AERONAUTICS \& SPACE ADMINISTRATION | 159,826 | 48,250 |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX15AU83G | national aeronautics \& SPACE Administration | 55,924 | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX16AE52G | NATIONAL AERONAUTICS \& SPACE ADMINISTRATION | 27,861 | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX16AL53G | national aeronautics \& SPACE ADMINISTRATION | 72,127 | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX16AN73G | national aeronautics \& SPACE Administration | 17,461 | - |
| National Aeronautics \& Space Administration | Direct | 43.001 | NNX17AE16G | NATIONAL AERONAUTICS \& SPACE ADMINISTRATION | 19,059 | - |
| National Aeronautics \& Space Administration | Direct | 43.002 | NNX15AR80G | national aeronautics \& SPACE AdMIIIITRATION | 120,488 | - |
| National Aeronautics \& Space Administration | Direct | 43.003 | nnx13AM77g | national aeronautics \& SPACE Administration | 299,128 | - |
| National Aeronautics \& Space Administration | Direct | 43.007 | NASA-NNX16AT85G GosFC Ayres | NATIONAL AERONAUTICS \& SPACE ADMINISTRATION | 30,591 | - |
| National Aeronautics \& Space Administration | Direct | 43.007 | nNX16AC24A | national aeronautics \& SPACE Administration | 58,566 | - |
| National Aeronautics \& Space Administration | Direct | 43.007 | NNX16AD52A | national aeronautics \& SPACE Administration | 131,605 | - |
| National Aeronautics \& Space Administration | Direct | 43.008 | NNX16AR52G | NATIONAL AERONAUTICS \& SPACE ADMIIIITRATION | 3,633 | - |
|  | Direct Total |  |  |  | 1,915,967 | 198,758 |
| National Aeronautics \& Space Administration | Pass-through | 43 | 1566995 | Jet Propulsion laboratory | 6,456 | - |
| National Aeronautics \& Space Administration | Pass-through | 43 | HST-GO-14086.001-A | SPACE TELESCOPE SCIENCE INST | 42,046 | - |
| National Aeronautics \& Space Administration | Pass-through | 43 | HST-GO-14704.003-A | SPACE TELESCOPE SCIENCE INST | 4,236 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | 1536353 | Jet Propulsion laboratory | 43,811 | 18,000 |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | 1552613 | UNIIERSITY OF COLORADO | 113,871 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | AR3-14013X | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 639 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | AR7-18008X | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 5,187 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | DD5-16078X | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 3,683 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | ${ }^{\text {G606-17040x }}$ | SMITHHONIAN ASTROPHYSICAL OBSERVATTRY | 8,072 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | 606-17047x | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 32,771 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | 603-14029x | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 7,695 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | 604-15035A | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 30,753 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | ${ }^{\text {G64-15089A }}$ | SMITH SONIAN ASTROPHYSICAL OBSERVATORY | 7,852 1,988 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | ${ }^{\text {604-15124X }}$ | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 1,998 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | ${ }_{\text {GO5-16036x }}$ | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 9,976 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | 605-16084A | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 18,428 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | G05-16132X | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 40,565 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | 606-17035 | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 5,293 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | 606-17045X | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 6,175 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | HST-AR-13261.01-A | SPACE TELESCOPE SCIENCE INST | $(2,093)$ | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | HST-AR-13923.001-A | SPACE TELESCOPE SCIENCE INST | 7,854 | - |
| National Aeronautics \& Space Administration | Pass-through | ${ }^{43.001}$ | HST-AR-14315.001-A | SPACE TELESCOPE SCIENCE INST SPACE TELESCOPE SCIENC INST | 32,847 3,821 | $:$ |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | HST-GA-13942.001-A | SPACE TELESCOPE SCIENCE INST | 3,821 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | HST-GO-12065.07-A | SPACE TELESCOPE SCIENCE INST | 598 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | HST-GO-13295.03-A | SPACE TELESCOPE SCIENCE INST | ${ }^{23}$ | - |


| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total <br> Expenditures | Subaward <br> Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | HST-GO-13367.001-A | SPACE TELESCOPE SCIIENCE INST | 7,437 | \$ - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | HST-GO-13720.001-A | SPACE TELESCOPE SCIENCE INST | 4,615 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | HST-GO-14203.002-A | SPACE TELESCOPE SCIIENCE INST | 6,352 |  |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | MA03401 | natl space biomedical research | 3,752 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | TM7-18005 | SMITHSONIAN ASTROPHYSICAL OBSERVATORY | 5,187 | - |
| National Aeronautics \& Space Administration | Pass-through | 43.001 | 2683602 | UNIVERSITY OF MARYLAND | 7,375 |  |
| National Aeronautics \& Space Administration | Pass-through | 43.008 | 3003977407 | UNIVERSITY OF MICHIGAN | 12,858 |  |
|  | Pass-through Total |  |  |  | 480,133 | 18,000 |
| National Aeronautics \& Space Administration Total |  |  |  |  | 2,396,100 | 216,758 |
| National Science Foundation | Direct | 47 | DUE-1523739 | national science foundation | 58,874 | - |
| National Science Foundation | Direct | 47 | SES-1612484-002 | national science foundation | 168,263 | - |
| National Science Foundation | Direct | 47.041 | 1100260 | national science foundation | 16,284 | - |
| National Science Foundation | Direct | 47.041 | 1150376 | National science foundation | 5,128 | - |
| National Science Foundation | Direct | 47.041 | 1231869 | national science foundation | 41,819 | - |
| National Science Foundation | Direct | 47.041 | 1336622 | national science foundation | $(2,807)$ | - |
| National Science Foundation | Direct | 47.041 | 1444991 | national science foundation | 37,340 | - |
| National Science Foundation | Direct | 47.041 | 1444991 | national science foundation | 2,290 | $\cdot$ |
| National Science Foundation | Direct | 47.041 | 1463164 | national science foundation | 40,954 | - |
| National Science Foundation | Direct | 47.041 | 1510895 | national science foundation | 89,421 |  |
| National Science Foundation | Direct | 47.041 | 1510895 | national science foundation | 1,461 | - |
| National Science Foundation | Direct | 47.041 | 1511098 | National science foundation | 112,455 | - |
| National Science Foundation | Direct | 47.041 | 1547518 | national Science foundation | 103,940 |  |
| National Science Foundation | Direct | 47.041 | 1549517 | national science foundation | 122,118 | - |
| National Science Foundation | Direct | 47.041 | 1549517 | National science foundation | 1,092 | - |
| National Science Foundation | Direct | 47.041 | 1561964 | national science foundation | 77,629 | - |
| National Science Foundation | Direct | 47.041 | 1565232 | national science foundation | 8,511 | - |
| National Science Foundation | Direct | 47.041 | 1600417 | National science foundation | 169,315 | 135,884 |
| National Science Foundation | Direct | 47.041 | 1603347 | national science foundation | 63,648 | - |
| National Science Foundation | Direct | 47.041 | 1603646 | national science foundation | 48,139 | - |
| National Science Foundation | Direct | 47.041 | 1603705 | National science foundation | 75,112 | - |
| National Science Foundation | Direct | 47.041 | 1603720 | national science foundation | 42,676 | - |
| National Science Foundation | Direct | 47.041 | 1603892 | national science foundation | 36,503 | - |
| National Science Foundation | Direct | 47.041 | 1603892 | national science foundation | 6,047 | - |
| National Science Foundation | Direct | 47.041 | 1628958 | national science foundation | 32,166 | - |
| National Science Foundation | Direct | 47.041 | 1632051 | national science foundation | 119,056 | 3,489 |
| National Science Foundation | Direct | 47.041 | 1639115 | National science foundation | 87,022 | - |
| National Science Foundation | Direct | 47.041 | 1658802 | national science foundation | 47,216 | - |
| National Science Foundation | Direct | 47.041 | 1700785 | National science foundation | 67,235 | - |
| National Science Foundation | Direct | 47.041 | 1700787 | national science foundation | 41,754 | - |
| National Science Foundation | Direct | 47.041 | CBET-1134215 | national science foundation | 63,847 | - |
| National Science Foundation | Direct | 47.041 | СВет-1233154 | NATIONAL SCIENCE FOUNDATION | 2,220 | - |
| National Science Foundation | Direct | 47.041 | CBET-1236120 | national science foundation | 3,995 | - |
| National Science Foundation | Direct | 47.041 | CBET-1254238 | national science foundation | 49,674 |  |
| National Science Foundation | Direct | 47.041 | CBET-1254453 | NATIONAL SCIENCE FOUNDATION | 84,043 | - |
| National Science Foundation | Direct | 47.041 | CBET-1254662 | national science foundation | 14,568 | - |
| National Science Foundation | Direct | 47.041 | CBET-1254662 | national science foundation | 12,704 |  |
| National Science Foundation | Direct | 47.041 | CBET-1258581 | NATIONAL SCIENCE FOUNDATION | 31,978 | - |
| National Science Foundation | Direct | 47.041 | CBET-1264772 | national science foundation | 46,494 | - |
| National Science Foundation | Direct | 47.041 | CBET-1336622 | national science foundation | 32,721 | - |
| National Science Foundation | Direct | 47.041 | CBET-1437657 | NATIONAL SCIENCE FOUNDATION | 92,496 | - |
| National Science Foundation | Direct | 47.041 | CBET-1437657 | national science foundation | 1,130 | - |
| National Science Foundation | Direct | 47.041 | CBET-1438105 | national science foundation | 92,903 | - |
| National Science Foundation | Direct | 47.041 | СВет-1507789 | national science foundation | 146,076 | - |
| National Science Foundation | Direct | 47.041 | CBET-1510203 | national science foundation | 158,383 | - |
| National Science Foundation | Direct | 47.041 | CMMI-1030821 | National science foundation | 2,889 | - |
| National Science Foundation | Direct | 47.041 | CMM1-1150376 | National science foundation | 67,943 |  |
| National Science Foundation | Direct | 47.041 | CMM1-1150376 | national science foundation | 6,378 | - |
| National Science Foundation | Direct | 47.041 | CMMI-1150376 | national science foundation | 365 | - |
| National Science Foundation | Direct | 47.041 | CMM1-1150376 | national science foundation | 36 | - |
| National Science Foundation | Direct | 47.041 | CMM1-1234067 | national science foundation | 950 | - |
| National Science Foundation | Direct | 47.041 | CMM1-1250261 | national science foundation | 133,761 | - |
| National Science Foundation | Direct | 47.041 | CMMI-1301243 | national science foundation | 89,162 | - |
| National Science Foundation | Direct | 47.041 | CMM1-1335177 | national science foundation | 43,826 | - |
| National Science Foundation | Direct | 47.041 | CMMI-1347533 | national science foundation | 8,457 | - |
| National Science Foundation | Direct | 47.041 | CMMI-1347533 | national science foundation | 1,374 | - |
| National Science Foundation | Direct | 47.041 | CMMI-1435126 | National science foundation | 50,809 | - |
| National Science Foundation | Direct | 47.041 | CMMI-1462118 | national science foundation | 52,818 | - |
| National Science Foundation | Direct | 47.041 | CMMI-1463006 | national science foundation | 87,441 | - |
| National Science Foundation | Direct | 47.041 | ECCS-1128467 | National science foundation | 76,045 | - |
| National Science Foundation | Direct | 47.041 | ECCS-1139773 | national science foundation | 9,601 | - |
| National Science Foundation | Direct | 47.041 | ECCS-1232109 | national science foundation | 106,385 | - |
| National Science Foundation | Direct | 47.041 | ECCS-1306311 | National science foundation | 101,521 | - |
| National Science Foundation | Direct | 47.041 | ECCS-1307939 | national science foundation | 25,679 | - |
| National Science Foundation | Direct | 47.041 | ECCS-1310257 | national science foundation | 102,883 | - |
| National Science Foundation | Direct | 47.041 | ECCS 1350560 | national science foundation | 75,696 | - |
| National Science Foundation | ${ }^{\text {Direct }}$ | 47.041 | ECCS 13350560 | NATIONAL SCIENCE FOUNDATION | 3,195 | 196 |
| National Science Foundation | Direct | 47.041 | ECCS-1407880 | National science foundation | 139,809 | 75,196 |
| National Science Foundation | Direct | 47.041 | ECCS-1408115 | national science foundation | 50,746 | - |
| National Science Foundation | ${ }^{\text {Direct }}$ | 47.041 | ECCS 1408506 | NATIONAL SCIENCE FOUNDATION | 75,747 | - |
| National Science Foundation | Direct | 47.041 | ECCS-1446793 | National science foundation | 218,675 | - |
| National Science Foundation | Direct | 47.041 | NSF 1544068 Yadav | national science foundation | 37,081 | - |
| National Science Foundation | Direct | 47.041 | NSF CBET-1254238 PSC Whitehead | National science foundation | 7,863 | - |
| National Science Foundation | Direct | 47.041 | PHY-1531199 | national science foundation | 229,519 | - |
| National Science Foundation | Direct | 47.049 | 10/6/6170 | national science foundation | 60,498 | - |
| National Science Foundation | Direct | 47.049 | 10/6/6170 | national science foundation | 21,522 | - |
| National Science Foundation | Direct | 47.049 | 1056840 | national science foundation | 99,353 | - |
| National Science Foundation | Direct | 47.049 | 1149408 | national science foundation | 56,561 | - |
| National Science Foundation | Direct | 47.049 | 1149408 | national science foundation | 2,647 | - |
| National Science Foundation | Direct | 47.049 | 1150872 | national science foundation | 82,601 | - |
| National Science Foundation | Direct | 47.049 | 1150872 | national science foundation | 5,844 | - |
| National Science Foundation | Direct | 47.049 | 1300096 | National science foundation | 4,848 | - |
| National Science Foundation | Direct | 47.049 | 1403906 | NATIONAL SCIENCE FOUNDATION | 122,795 | - |
| National Science Foundation | Direct | 47.049 | 1410417 | National science foundation | 18,042 | $\cdot$ |
| National Science Foundation | Direct | 47.049 | 1417352 | national science foundation | 22,000 | - |
| National Science Foundation | Direct | 47.049 | 1453661 | National science foundation | 122,749 | - |
| National Science Foundation | Direct | 47.049 | 1462156 | national science foundation | 48,669 | - |
| National Science Foundation | Direct | 47.049 | 1464807 | National science foundation | 123,061 | - |
| National Science Foundation | Direct | 47.049 | 1465043 | NATIONAL SCIENCE FOUNDATION | 181,775 | - |
| National Science Foundation | Direct | 47.049 | 1502135 | National science foundation | 3,472 | - |
| National Science Foundation | Direct | 47.049 | 1502135 | national science foundation | 2,398 | - |
| National Science Foundation | Direct | 47.049 | 1505364 | NATIONAL SIIENCE FOUNDATION | 101,891 | - |




| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total <br> Expenditures | Subaward <br> Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| National Science Foundation | Direct | 47.074 | 1257756 | national science foundation | 8,316 | \$ - |
| National Science Foundation | Direct | 47.074 | 1354089 | national science foundation | 134,850 |  |
| National Science Foundation | Direct | 47.074 | 1356380 | national science foundation | 72,662 |  |
| National Science Foundation | Direct | 47.074 | 1455405 | NATIONAL SCIENCE FOUNDATION | 95,793 | 1,568 |
| National Science Foundation | Direct | 47.074 | 1455405 | national science foundation | 7,387 | - |
| National Science Foundation | Direct | 47.074 | 1456615 | national science foundation | 88,423 | - |
| National Science Foundation | Direct | 47.074 | 1514706 | national science foundation | 249,495 |  |
| National Science Foundation | Direct | 47.074 | 1518366 | NATIONAL SCIENCE FOUNDATION | 220,753 | 39,301 |
| National Science Foundation | Direct | 47.074 | 1547961 | national science foundation | 3,630 | - |
| National Science Foundation | Direct | 47.074 | 1550765 | national science foundation | 13,270 | - |
| National Science Foundation | Direct | 47.074 | 1556262 | national science foundation | 128,432 | 22,713 |
| National Science Foundation | Direct | 47.074 | 1556262 | national science foundation | 70,615 | - |
| National Science Foundation | Direct | 47.074 | 1556262 | NATIONAL SCIENCE FOUNDATION | 4,568 | - |
| National Science Foundation | Direct | 47.074 | 1557324 | national science foundation | 145,745 |  |
| National Science Foundation | Direct | 47.074 | 1557324 | NATIONAL SCIENCE FOUNDATION | 7,749 | - |
| National Science Foundation | Direct | 47.074 | 1557437 | NATIONAL SCIENCE FOUNDATION | 373,646 |  |
| National Science Foundation | Direct | 47.074 | 1557657 | NATIONAL SCIENCE FOUNDATION | 23,469 |  |
| National Science Foundation | Direct | 47.074 | 1600556 | NATIONAL SCIENCE FOUNDATION | 53,618 |  |
| National Science Foundation | Direct | 47.074 | 1620018 | NATIONAL SCIENCE FOUNDATION | 11,249 |  |
| National Science Foundation | Direct | 47.074 | 1637653 | national science foundation | 293,448 |  |
| National Science Foundation | Direct | 47.074 | 1637653 | NATIONAL SCIENCE FOUNDATION | 376 |  |
| National Science Foundation | Direct | 47.074 | 1638679 | NATIONAL SCIENCE FOUNDATION | 150,692 |  |
| National Science Foundation | Direct | 47.074 | 1638778 | national science foundation | 21,810 |  |
| National Science Foundation | Direct | 47.074 | 1655386 | NATIONAL SCIENCE FOUNDATION | 1,064 | - |
| National Science Foundation | Direct | 47.074 | 1655392 | national science foundation | 5,169 |  |
| National Science Foundation | Direct | 47.074 | 1701602 | national science foundation | 510 | - |
| National Science Foundation | Direct | 47.074 | 1719376 | NATIONAL SCIENCE FOUNDATION | 7,370 | . |
| National Science Foundation | Direct | 47.074 | 1735934 | national science foundation | 76,030 | - |
| National Science Foundation | Direct | 47.074 | 1753543 | national science foundation | 447,114 | 103,669 |
| National Science Foundation | Direct | 47.074 | BCS-1349125 | NATIONAL SCIENCE FOUNDATION | 2,540 | - |
| National Science Foundation | Direct | 47.074 | DBI-0939454 | national science foundation | 13,054 | 13,054 |
| National Science Foundation | Direct | 47.074 | DB1-0953738 | NATIONAL SCIENCE FOUNDATION | 65,778 | - |
| National Science Foundation | Direct | 47.074 | DB1-1358474 | national science foundation | 111,347 |  |
| National Science Foundation | Direct | 47.074 | DBI-1358474 | national science foundation | 16,788 |  |
| National Science Foundation | Direct | 47.074 | DBI-1359302 | NATIONAL SCIENCE FOUNDATION | 60,836 |  |
| National Science Foundation | Direct | 47.074 | DB1-1359302 | NATIONAL SCIENCE FOUNDATION | 2,656 |  |
| National Science Foundation | Direct | 47.074 | DBI-1458556 | national science foundation | (1) |  |
| National Science Foundation | Direct | 47.074 | DBI-1460569 | NATIONAL SCIENCE FOUNDATION | 141,899 |  |
| National Science Foundation | Direct | 47.074 | DBI-1460569 | national science foundation | $(6,341)$ | - |
| National Science Foundation | Direct | 47.074 | DEB-1401582 | national science foundation | 5,322 | - |
| National Science Foundation | Direct | 47.074 | DEB 1354878 | NATIONAL SCIENCE FOUNDATION | 60,112 |  |
| National Science Foundation | Direct | 47.074 | DEB-0845932 | national science foundation | (5) | - |
| National Science Foundation | Direct | 47.074 | DEB-0919452 | National science foundation | (21) | - |
| National Science Foundation | Direct | 47.074 | DEB-1027253 | national science foundation | 151,527 |  |
| National Science Foundation | Direct | 47.074 | DEB-1027253 | national science foundation | 64,444 |  |
| National Science Foundation | Direct | 47.074 | DEB-1027253 | National science foundation | 49,410 | - |
| National Science Foundation | Direct | 47.074 | DEB-1027253 | national science foundation | 37,944 |  |
| National Science Foundation | Direct | 47.074 | DEB-1027253 | national science foundation | 35,911 |  |
| National Science Foundation | Direct | 47.074 | DEB-1027253 | NATIONAL SCIENCE FOUNDATION | 31,726 | - |
| National Science Foundation | Direct | 47.074 | DEB-1027253 | national science foundation | 22,202 |  |
| National Science Foundation | Direct | 47.074 | DEB-1027253 | national science foundation | 21,473 |  |
| National Science Foundation | Direct | 47.074 | DEB-1027253 | National science foundation | 7,778 |  |
| National Science Foundation | Direct | 47.074 | DEB-1027253 | national science foundation | 5,603 |  |
| National Science Foundation | Direct | 47.074 | DEB-1027253 | national science foundation | 3,216 |  |
| National Science Foundation | Direct | 47.074 | DEB-1136710 | NATIONAL SCIENCE FOUNDATION | 72,785 |  |
| National Science Foundation | Direct | 47.074 | DEB-1145808 | NATIONAL SCIENCE FOUNDATION | 111,798 |  |
| National Science Foundation | Direct | 47.074 | DEB-1256663 | NATIONAL SCIENCE FOUNDATION | 1,175 |  |
| National Science Foundation | Direct | 47.074 | DEB-1257756 | national science foundation | 37,377 |  |
| National Science Foundation | Direct | 47.074 | DEB-12588005 | NATIONAL SCIENCE FOUNDATION | 54,136 |  |
| National Science Foundation | Direct | 47.074 | DEB-1313677 | NATIONAL SCIENCE FOUNDATION | (58) |  |
| National Science Foundation | Direct | 47.074 | DEB-1342793 | national science foundation | 24,021 |  |
| National Science Foundation | Direct | 47.074 | DEB-1342793 | National science foundation | 17,650 |  |
| National Science Foundation | Direct | 47.074 | DEB-1354085 | National science foundation | 5,049 |  |
| National Science Foundation | Direct | 47.074 | DEB-1354085 | national science foundation | 1,605 | . |
| National Science Foundation | Direct | 47.074 | DEB-1354414 | National science foundation | 98,631 | 81,886 |
| National Science Foundation | Direct | 47.074 | DEB-1359138 | National science foundation | 25,226 | - |
| National Science Foundation | Direct | 47.074 | DEB-1407149 | national science foundation | 87 | . |
| National Science Foundation | Direct | 47.074 | DEB-1451740 | NATIONAL SCIENCE FOUNDATION | 74,781 | - |
| National Science Foundation | Direct | 47.074 | DEB-1518518 | National science foundation | 681,994 | 78,633 |
| National Science Foundation | Direct | 47.074 | DEB-1547024 | National science foundation | 46,073 | - |
| National Science Foundation | Direct | 47.074 | DEB-1547549 | NATIONAL SCIENCE FOUNDATION | 3,705 |  |
| National Science Foundation | ${ }^{\text {Direct }}$ | 47.074 | DEB-1547961 | NATIONAL SIIENCE FOUNDATION | 14,104 | $\cdot$ |
| National Science Foundation | Direct | 47.074 | DEB-1552197 | National science foundation | 106,121 | - |
| National Science Foundation | Direct | 47.074 | DEB-1552197 | national science foundation | 1,905 | . |
| National Science Foundation | Direct | 47.074 | EF-1065786 | NATIONAL SCIENCE FOUNDATION | 76,429 | - |
| National Science Foundation | Direct | 47.074 | EF-1065786 | NATIONAL SCIENCE FOUNDATION | 66,257 | - |
| National Science Foundation | Direct | 47.074 | EF-1114856 | national science foundation | 1,478 | - |
| National Science Foundation | Direct | 47.074 | EF-1137309 | NATIONAL SCIENCE FOUNDATION | 142,671 |  |
| National Science Foundation | Direct Direct | 47.074 47.074 | EF-1340604 | NATIONAL SCIENCE FOUNDATION | 2,302 659,093 | - |
| National Science Foundation | ${ }^{\text {Direct }}$ | 47.074 | EF-1340812 | NATIONAL SCIENCE FOUNDATION | 659,993 | - 28 |
| National Science Foundation | Direct | 47.074 | 105-0922493 | NATIONAL SCIENCE FOUNDATION | (245) | 6,285 |
| National Science Foundation | Direct | 47.074 | 10S-1025636 | National science foundation | 124,733 | 20,968 |
| National Science Foundation | Direct | 47.074 | 1OS-1051919 | NATIONAL SCIENCE FOUNDATION | 6,822 | - |
| National Science Foundation | Direct | 47.074 | 10S-1054243 | National science foundation | (62) | - |
| National Science Foundation | Direct | 47.074 | 10S-1121474 | National science foundation | 1 | - |
| National Science Foundation | Direct | 47.074 | 10S-1144391 | National science foundation | 8 | - |
| National Science Foundation | Direct | 47.074 | 1OS-1146128 | NATIONAL SCIENCE FOUNDATION | 1,761 | - |
| National Science Foundation | Direct | 47.074 | 1OS-1146128 | NATIONAL SCIENCE FOUNDATION | $(3,929)$ | $\checkmark$ |
| National Science Foundation | Direct | 47.074 | 1OS-1146614 | national science foundation | 71,841 | . |
| National Science Foundation | Direct | 47.074 | 10S-1237969 | National science foundation | 613,748 | 238,405 |
| National Science Foundation | Direct | 47.074 | 105-1237969 | NATIONAL SCIENCE FOUNDATION | 116,254 | - |
| National Science Foundation | Direct | 47.074 | 105-1237969 | NATIONAL SCIENCE FOUNDATION | 76,790 | - |
| National Science Foundation | Direct | 47.074 | 10S-1237969 | NATIONAL SCIENCE FOUNDATION | 6,244 | - |
| National Science Foundation | Direct | 47.074 | 10S-1331218 | national science foundation | 61,869 | - |
| National Science Foundation | Direct | 47.074 | 10S-1350772 | National science foundation | 175,931 | - |
| National Science Foundation | Direct | 47.074 | 10S-1350772 | NATIONAL SCIENCE FOUNDATION | 3,103 | - |
| National Science Foundation | Direct | 47.074 | 1OS-1353110 | NATIONAL SCIENCE FOUNDATION | ${ }^{125,015}$ | 2,308 |
| National Science Foundation | Direct | 47.074 | 1OS-1354195 | National science foundation | 200,002 | - |
| National Science Foundation | Direct | 47.074 | 10S-1354721 | National science foundation | 172,911 | - |
| National Science Foundation | Direct | 47.074 | 1OS-1354721 | NATIONAL SCIENCE FOUNDATION | 6,367 | - 28 |
| National Science Foundation | Direct | 47.074 | 1OS-1444499 | National science foundation | 675,929 | 429,287 |
| National Science Foundation | Direct | 47.074 | 1OS-1444499 | NATIONAL SCIENCE FOUNDATION | 10,191 |  |



| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total Expenditures | Subaward <br> Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| National Science Foundation | Direct | 47.076 | DGE-1424871 | national science foundation | 1,486,666 | \$ - |
| National Science Foundation | Direct | 47.076 | DGE-1438739 | national science foundation | 53,783 | - |
| National Science Foundation | Direct | 47.076 | DGE-1445583 | national science foundation | 43,196 | - |
| National Science Foundation | Direct | 47.076 | DGE-1535011 | national science foundation | 120,626 | 72,141 |
| National Science Foundation | Direct | 47.076 | DRL-0514431 | national science foundation | $(8,090)$ | - |
| National Science Foundation | Direct | 47.076 | DRL-0910001 | national science foundation | (33) | - |
| National Science Foundation | Direct | 47.076 | DRL-1020187 | national science foundation | 100 | - |
| National Science Foundation | Direct | 47.076 | DRL-1108833 | national science foundation | 11,066 | - |
| National Science Foundation | Direct | 47.076 | DRL-1109256 | national science foundation | 2,568 | - |
| National Science Foundation | Direct | 47.076 | DRL-1119055 | national science foundation | 128,362 | 37,813 |
| National Science Foundation | Direct | 47.076 | DRL-1119055 | national science foundation | (97) | - |
| National Science Foundation | Direct | 47.076 | DRL-1119327 | national science foundation | 168,878 | 8,864 |
| National Science Foundation | Direct | 47.076 | DRL-1228034 | National science foundation | 168,147 | 127,178 |
| National Science Foundation | Direct | 47.076 | DRL-1228034 | national science foundation | 17,927 | - |
| National Science Foundation | Direct | 47.076 | DRL-1232388 | national science foundation | 152,327 | 86,530 |
| National Science Foundation | Direct | 47.076 | DRL-1252439 | National science foundation | 70,456 | - |
| National Science Foundation | Direct | 47.076 | DRL-1253822 | national science foundation | 131,144 | - |
| National Science Foundation | Direct | 47.076 | DRL-1347187 | NATIONAL SCIENCE FOUNDATION | 32,344 | - |
| National Science Foundation | Direct | 47.076 | DRL-1347187 | national science foundation | 15,337 |  |
| National Science Foundation | Direct | 47.076 | DRL-1404467 | national science foundation | 420,540 |  |
| National Science Foundation | Direct | 47.076 | DRL-1420492 | national science foundation | 233,246 |  |
| National Science Foundation | Direct | 47.076 | DRL-1421116 | national science foundation | 27,962 | 4,928 |
| National Science Foundation | Direct | 47.076 | DRL-1421214 | national science foundation | 54,685 | - |
| National Science Foundation | Direct | 47.076 | DRL-1450756 | NATIONAL SCIENCE FOUNDATION | 27,283 |  |
| National Science Foundation | Direct | 47.076 | DRL-1461468 | national science foundation | 16,854 | - |
| National Science Foundation | Direct | 47.076 | DRL-1461833 | national science foundation | 8,909 | 6,991 |
| National Science Foundation | Direct | 47.076 | DRL-1502755 | National science foundation | 252,010 | 69,499 |
| National Science Foundation | Direct | 47.076 | DRL-1647033 | national science foundation | 12,241 | - |
| National Science Foundation | Direct | 47.076 | DUE-0335785 | national science foundation | (48) | - |
| National Science Foundation | Direct | 47.076 | DUE-1153778 | National science foundation | 25,140 | - |
| National Science Foundation | Direct | 47.076 | DUE-1153778 | national science foundation | 10,704 | - |
| National Science Foundation | Direct | 47.076 | DUE-1245402 | NATIONAL SCIENCE FOUNDATION | 16,810 | - |
| National Science Foundation | Direct | 47.076 | DUE-1323162 | national science foundation | 318,412 | - |
| National Science Foundation | Direct | 47.076 | DUE-1340048 | national science foundation | 175,452 |  |
| National Science Foundation | Direct | 47.076 | DUE-1340048 | National science foundation | 66,224 |  |
| National Science Foundation | Direct | 47.076 | DUE-1341987 | national science foundation | 1,732 | 549 |
| National Science Foundation | Direct | 47.076 | DUE-1347605 | national science foundation | 174,519 | 156,208 |
| National Science Foundation | Direct | 47.076 | DUE-1347740 | national science foundation | 139,744 |  |
| National Science Foundation | Direct | 47.076 | DUE-1431725 | national science foundation | 337,785 | 153,419 |
| National Science Foundation | Direct | 47.076 | DUE-1431725 | national science foundation | 14,091 | - |
| National Science Foundation | Direct | 47.076 | DUE-1431776 | national science foundation | 9,157 |  |
| National Science Foundation | Direct | 47.076 | DUE-1432563 | national science foundation | 262,552 | - |
| National Science Foundation | Direct | 47.076 | DUE-1432563 | national science foundation | 12,710 | - |
| National Science Foundation | Direct | 47.076 | DUE-1502552 | national science foundation | 39,471 |  |
| National Science Foundation | Direct | 47.076 | fed Gov felowshilps-fees | national science foundation | $(8,615)$ | - |
| National Science Foundation | Direct | 47.076 | HRD-0930182 | national science foundation | 15 | - |
| National Science Foundation | Direct | 47.076 | HRD-1305819 | national science foundation | 64,740 | - |
| National Science Foundation | Direct | 47.076 | NSF DRL-1316702 Schneider | national science foundation | 351,318 |  |
| National Science Foundation | Direct | 47.076 | NSF DRL-1417672 Herbel-Eisenmann | national science foundation | 559,025 | 230,677 |
| National Science Foundation | Direct | 47.076 | NSF DRL-1417672 PSC Herbel-Eisenmann | national science foundation | 37,496 | - |
| National Science Foundation | Direct | 47.076 | NSF DRL-1417900 Krjecik | national science foundation | 209,314 | - |
| National Science Foundation | Direct | 47.076 | NSF DRL-1417900 PSC Krajik | national science foundation | 17,973 | - |
| National Science Foundation | Direct | 47.076 | NSF DRL-1420532 Frank | national science foundation | 740,993 | 80,956 |
| National Science Foundation | Direct | 47.076 | NSF-1620934-PSC-Phillips | national science foundation | 5,690 | - |
| National Science Foundation | Direct | 47.076 | NSF-1623824 Ebert-MayDiane | national science foundation | 111,022 | - |
| National Science Foundation | Direct | 47.079 | 1443920 | national science foundation | 9,238 | - |
| National Science Foundation | Direct | 47.079 | 1556407 | national science foundation | 32,611 | - |
| National Science Foundation | Direct | 47.079 | 1556407 | national science foundation | 2,898 | - |
| National Science Foundation | Direct | 47.079 | 1614130 | NATIONAL SCIENCE FOUNDATION | 42,788 | - |
| National Science Foundation | Direct | 47.079 | \|IA-1358110 | NATIONAL SIIENCE FOUNDATION | 35,343 | - |
| National Science Foundation | Direct | 47.079 | \|IA-1358110 | national science foundation | 12,488 | - |
| National Science Foundation | Direct | 47.079 | OISE-1064641 | NATIONAL SCIENCE FOUNDATION | 4,452 | - |
| National Science Foundation | Direct | 47.079 | OISE - 1064641 | National science foundation | 1,910 | - |
| National Science Foundation | Direct | 47.079 | OISE-1545684 | national science foundation | 773,032 | - |
| National Science Foundation | Direct | 47.079 | \|1A-1260768 | NATIONAL SIIENCE FOUNDATION | 33,542 |  |
| National Science Foundation | Direct | 47.080 |  |  | 4,413 | - |
|  | Direct Total |  |  |  | 73,406,560 | 7,129,351 |
| National Science Foundation | Pass-through | 47 | 11-160H-MSU | WEST VIRGIIIA UNIV | 11,447 |  |
| National Science Foundation | Pass-through | 47 | 3004423504 | UNIVERSITY OF MICHIGAN | 50,684 | - |
| National Science Foundation | Pass-through | 47 | 52-000117 | SRI INTERNATL | 34,876 | - |
| National Science Foundation | Pass-through | 47.041 | 11-160-MSU-2 | WEST VIRGIIIA UNIV | 44,959 |  |
| National Science Foundation | Pass-through | 47.041 | 1431010 | UBIQUUTOUS ENERGY, INC. | (568) | - |
| National Science Foundation | Pass-through | 47.041 | 150282 | KOPESS AG TECH, LLC | 46,352 | - |
| National Science Foundation | Pass-through | 47.041 | 3003795364 | UNIVERSITY OF MICHIGAN | 9,309 | - |
| National Science Foundation | Pass-through | 47.041 | ${ }^{4101-71104}$ | PURDUE UNIV | 64,329 | - |
| National Science Foundation | Pass-through | 47.041 | 5218-MSU-NSF-5092 | PENNSYLVANIA STATE UNIV | 36,271 | - |
| National Science Foundation | Pass-through | 47.041 | G-01151-1 | colorado state of | 41,916 | - |
| National Science Foundation | Pass-through | 47.041 | ${ }^{\text {R01803 }}$ | Florida state univ | 754 | - |
| National Science Foundation | Pass-through | 47.049 | 10030626 | UNIVERSSITY OF UTAH | 53,058 | - |
| National Science Foundation | Pass-through | 47.049 | 201387 | UNIVERSITY OF NOTRE DAME | 16 | - |
| National Science Foundation | Pass-through | 47.049 | 201387 | UNIVERSITY OF NOTRE DAME | (135) | - |
| National Science Foundation | Pass-through | 47.049 | 203086 MSU | University of notre dame | 649 63590 | - |
| National Science Foundation | Pass-through | 47.049 | 68790 | THE RESEARCH FOUNDATION FOR THE STATE UNIV OF NEW YO | 635,390 | - |
| National Science Foundation | Pass-through | 47.049 | F-2015-76 | UNIVERSITY OF Toledo | 69,036 | - |
| National Science Foundation | Pass-through | 47.049 | GG006141 | COLUMBIA UNIV | 153,536 | - |
| National Science Foundation | Pass-through | 47.049 | 66006141 | columbia univ | 84,174 | - |
| National Science Foundation | Pass-through | 47.049 | HARDSHIP | Stony brook research | 84,768 | - |
| National Science Foundation | Pass-through | 47.049 | JHU-2003349346-Donahue | Johns Hopkins univ | 5,187 | - |
| National Science Foundation | Pass-through | 47.049 | SDSMT-Michigan St U 17-13 | SOUTH DAKOTA SCHOOL OF MINES \& TECHNOLOGY | 43,986 | - |
| National Science Foundation | Pass-through | 47.049 | U of M 3002333711 Brock | UNIVERSITY OF MICHIGAN | 470,285 | - |
| National Science Foundation | Pass-through | 47.050 | 15-2904 | UNIVERSITY OF SOUTH CAROLINA | 407 | - |
| National Science Foundation | Pass-through | 47.050 | 24(GG009393-01) | COLUMBIA UNIV | 11,841 | - |
| National Science Foundation | Pass-through | 47.050 | 479483-19057 | VIRGINIA POLYTECHNIC INST | 51,048 | - |
| National Science Foundation | Pass-through | 47.050 | 675K964 | UNIVERSITY OF WISCONSIN MADISON | 34,053 | - |
| National Science Foundation | Pass-through | 47.050 | SP0024578-PROJ0006670 | NORTHWESTERN UNIV | 61,206 | - |
| National Science Foundation | Pass-through | 47.070 | 3003646555 | UNIVERSITY OF MICHIGAN | 247,937 | - |
| National Science Foundation | Pass-through | 47.074 | 10022513-01 | UNIVERSITY OF UTAH | 83,175 | - |
| National Science Foundation | Pass-through | 47.074 | 10022513-01 | UNIVERSITY OF UTAH | 72,318 | - |
| National Science Foundation | Pass-through | 47.074 | 10022513-01 | UNIVERSITY OF UTAH | 67,583 | - |
| National Science Foundation | Pass-through | 47.074 | 10022513-01 | UNIVERSITY OF UTAH | 56,223 | - |
| National Science Foundation | Pass-through | 47.074 | 1002973-01 | NORTHERN ARIZONA UNIV | 282,128 | - |
| National Science Foundation | Pass-through | 47.074 | 1002973-01 | northern Arizona univ | 60,025 | - |


| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total <br> Expenditures | Subaward Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Research and Development Cluster (Continued): |  |  |  |  |  |  |
| National Science Foundation | Pass-through | 47.074 | 1002973-01 | northern arizona univ | 8,749 | \$ |
| National Science Foundation | Pass-through | 47.074 | 1457323MSU | Alma College | 45,907 |  |
| National Science Foundation | Pass-through | 47.074 | 15-571 | ARIZONA STATE UNIV | 67,318 | - |
| National Science Foundation | Pass-through | 47.074 | 1716340 | UNIVERSITY OF KENTUCKY | 15,910 | - |
| National Science Foundation | Pass-through | 47.074 | 2015-984-001 | Samuel roberts noble foundation | 228,018 | - |
| National Science Foundation | Pass-through | 47.074 | 202236 | UNIVERSITY OF NOTRE DAME | 86,261 | - |
| National Science Foundation | Pass-through | 47.074 | 4101-68711 | PURDUE UNIV | 7,302 | - |
| National Science Foundation | Pass-through | 47.074 | 420-66-08B | IOWA STATE UNIV | 100,570 | - |
| National Science Foundation | Pass-through | 47.074 | 502294-78050 | northeastern univ | 11,415 | - |
| National Science Foundation | Pass-through | 47.074 | 7793-MSU | WESTERN MICHIGAN UNIV | 176,092 | - |
| National Science Foundation | Pass-through | 47.074 | 7793-MSU | WESTERN MICHIGAN UNIV | 10,412 | - |
| National Science Foundation | Pass-through | 47.074 | N. Arizona/NSF 1002973-01 ROBERTSON | Northern arizona univ | 23,183 | - |
| National Science Foundation | Pass-through | 47.074 | RSC14014 | UNIVERSITY OF DAYton | 52,228 | - |
| National Science Foundation | Pass-through | 47.074 | UAF 13-0043 | UNIIERSITY OF ALASKA | 1,650 | - |
| National Science Foundation | Pass-through | 47.074 | UFDSP0001070 | UNIVERSITY OF FLORIDA | 139,644 | - |
| National Science Foundation | Pass-through | 47.074 | UNR 17-21 | university of nevada reno | 3,777 | - |
| National Science Foundation | Pass-through | 47.075 | 129152 | UNIVERSITY OF ARIZONA | 79,303 | - |
| National Science Foundation | Pass-through | 47.075 | 17-009496 A | UNIVERSITY OF MASSACHUSETTS | 2,870 | - |
| National Science Foundation | Pass-through | 47.075 | GTK137-SB-002 | UNIVERSITY OF IDAHO | 258 | - |
| National Science Foundation | Pass-through | 47.076 | 11052-007 | missour state univ | 1,296 | - |
| National Science Foundation | Pass-through | 47.076 | 11052-007 | MIISOURI STATE UNIV | $(26,457)$ | - |
| National Science Foundation | Pass-through | 47.076 | 16043-003 | MISSOURI ITATE UNIV | 127,448 | - |
| National Science Foundation | Pass-through | 47.076 | 16043-003 | MISSOURI STATE UNIV | 11,841 | - |
| National Science Foundation | Pass-through | 47.076 | 22512-S1 | VAnderbilt univ | 11,407 | - |
| National Science Foundation | Pass-through | 47.076 | 3001714504 | UNIVERSITY OF MICHIGAN | 65,035 | - |
| National Science Foundation | Pass-through | 47.076 | 3003620154 | UNIVERSITY OF MICHIGAN | 1,654 | - |
| National Science Foundation | Pass-through | 47.076 | 4101-65235 | PURDUE UNIV | 21,047 | - |
| National Science Foundation | Pass-through | 47.076 | 415612-G | UNIIERSITY OF ROCHESTER | (678) | - |
| National Science Foundation | Pass-through | 47.076 | 415908-G | UNIVERSITY OF ROCHESTER | 38,714 | - |
| National Science Foundation | Pass-through | 47.076 | 418 K 670 | UNIVESSITY OF WISCONSIN MADISON | 51,972 | - |
| National Science Foundation | Pass-through | 47.076 | 479493-19057 | VIRGIIIA TECH | 3,794 | - |
| National Science Foundation | Pass-through | 47.076 | 488k806 | UNIVERSITY OF WISCONSIN MADISON | 76,456 | - |
| National Science Foundation | Pass-through | 47.076 | 490 K 840 | UNIVERSITY OF WISCONSIN MADISON | 36,697 | - |
| National Science Foundation | Pass-through | 47.076 | 6A11161 150025 | UNIVERSITY Of VIRGINIA | 176,153 | - |
| National Science Foundation | Pass-through | 47.076 | NIU 64155-1 Schmidt | Northern illinois univ | 76,141 | - |
| National Science Foundation | Pass-through | 47.076 | SPO009801-PROJ0002727 | NORTHWESTERN UNIV | 20,184 | - |
| National Science Foundation | Pass-through | 47.076 | U OF M-3004280408-Caldwell | UNIVERSITY OF MICHIGAN | 26,422 | - |
| National Science Foundation | Pass-through | 47.076 | 24625001 | UNIVERSITY OF MARYLAND | 75,782 | - |
| National Science Foundation | Pass-through | 47.079 | OISE-1243433 | duke Univ | 302,379 | - |
| National Science Foundation | Pass-through | 47.079 | OISE-16-62750-0 | CRDF Global | 21,298 | . |
|  | Pass-through Total |  |  |  | 5,147,675 |  |
| National Science Foundation Total |  |  |  |  | 78,554,235 | 7,129,351 |
| State | Direct | 19 | SAQMMA15M2452 | US DEPT Of STATE | 53,312 | - |
| State | Direct | 19 | SAOMMA16M2200 | US DEPT OF STATE | 17,263 | - |
|  | Direct Total |  |  |  | 70,575 | - |
| State Total |  |  |  |  | 70,575 | - |
| Transportation | Direct | 20 | DTFH61-13-C-00023 | federal highway administration | 18,791 | 11,675 |
| Transportation | Direct | 20.200 | DTFH61-13-C-00015 | federal highway administration | 49,634 |  |
| Transportation | Direct | 20.200 | DTFH61-3-H-00009 | federal highway administration | 265,522 | 189,664 |
| Transportation | Direct | 20.215 | DTFH6416G00054 | US dept of transportation | 5,000 | - |
| Transportation | Direct | 20.701 | DTRT13-G-UTC44 | US dept of transportation | 1,016,004 | 805,044 |
| Transportation | Direct | 20.701 | DTRT13-G-UTC44 | US dept of transportation | 54,283 | - |
| Transportation | Direct | 20.701 | DTRT13-G-UTC44 | US dept of transportation | 30,354 | - |
| Transportation | Direct | 20.701 | USDOT-DTRT13-G-UTC44-Chatti | US DEPT OF TRANSPORTATION | 7,550 | - |
| Transportation | Direct | 20.701 | USDOT-DTRT13-G-UTC44-Dargazany | US dept of transportation | 17,725 | - |
| Transportation | Direct | 20.701 | USDOT-DTRT13-G-UTC44-Haider | US dept of transportation | 4,296 | - |
| Transportation | Direct | 20.701 | USDOT-DTRT13-G-UTC44-Zaabar | US DEPT OF TRANSPORTATION | 9,368 | - |
|  | Direct Total |  |  |  | 1,478,527 | 1,006,383 |
| Transportation | Pass-through | 20 | 2013-00665 | MICHIGAN DEPT OF TRANSPORTATION | 184,663 |  |
| Transportation | Pass-through | 20 | 2013-0066 26 | michigan dept of transportation | 86,171 | 37,706 |
| Transportation | Pass-through | 20 | 2013-0066 27 | Michigan dept of transportation | 34,598 | - |
| Transportation | Pass-through | 20 | 2013-0066 28 | MICHIGAN DEPT OF TRANSPORTATION | 66,143 | - |
| Transportation | Pass-through | 20 | 201401725-03 | University of California los angeles | 111,261 | - |
| Transportation | Pass-through | 20 | HR 10-82A | Natl academy of Sciences | 93,293 | 16,061 |
| Transportation | Pass-through | 20 | MSP-MC-17-02 | michigan state police | 10,919 | - |
| Transportation | Pass-through | 20.215 | 436-17-35B | IOWA STATE UNIV | 11,188 | - |
| Transportation | Pass-through | 20.505 | 2013-0066 29 | MICHIGAN DEPT OF TRANSPORTATION | 45,454 | - |
| Transportation | Pass-through | 20.724 | 17-158 | ARIZONA STATE UNIV | 25,527 | - |
| Transportation | Pass-through | 20.724 | FY16.675.001 | UNIVERSITY OF COLORADO DENVER | 28,074 | - |
|  | Pass-through Total |  |  |  | 697,291 | 53,767 |
| Transportation Total Pass-through Total |  |  |  |  | 2,175,818 | 1,060,150 |
| USAID | Direct | 98.001 | 155588 | US AGENCY For intl development | 3,095 | - |
| USAID | Direct | 98.001 | 611-A-00-11-00001-00 | us Agency for intl development | 32,329 | - |
| USAID | Direct | 98.001 | AID-482-LA-14-00003 | us agency for intl development | 1,306,696 | 713,546 |
| USAID | Direct | 98.001 | AID-612-LA-15-00001 | US Agency for intl development | 1,200,497 | 540,572 |
| USAID | Direct | 98.001 | AID-620-LA-15-00001 | us agency for intl development | 2,006,594 | 1,606,751 |
| USAID | Direct | 98.001 | AID-556-LA-12-00002 | us agency for intl development | 338,239 | , |
| USAID | Direct | 98.001 | AID-685-LA-15-00001 | us agency for intl development | 863,720 | 591,237 |
| USAID | Direct | 98.001 | AID-688-A-16-00001 | us agency for intl development | 872,252 | - |
| USAID | Direct | 98.001 | AID-EDH-A-00-07-00005 | US AGENCY FOR Intl development | 1,837,032 | 170,648 |
| USAID | Direct | 98.001 | AID-EDH-A-00-07-00005 | US Agency for intl development | 943,849 | 943,849 |
| USAID | Direct | 98.001 | AID-EDH-A-00-07-00005 | us agency for intl development | 246,833 | 246,833 |
| USAID | Direct | 98.001 | AID-OAA-A-15-00056 | US Agency for intl development | 1,350,685 | 660,556 |
| USAID | Direct | 98.001 | AID-OAA-L-13-00001 | US AGENCY FOR INTL DEVELOPMENT | 2,405,396 | 1,191,537 |
| USAID | Direct | 98.001 | AID-OAA-L-13-00001 | us agency for intl development | 416,498 | 102,632 |
| USAID | Direct | 98.001 | AID-OAA-L-13-00001 | us agency for intl development | 53,573 | - |
| USAID | Direct | 98.001 | AID-OAA-L-13-00001 | US AGENCY FOR Intl development | 23,933 | 20,240 |
| USAID | Direct | 98.001 | AID-OAA-LA-14-00005 | us agency for intl development | 783,092 | 452,006 |
| USAID | Direct | 98.001 | AID-OAA-LA-15-00006 | US AGENCY FOR Intl development | 540,730 | 288,044 |
| USAID | Direct | 98.001 | EDH-A-00-07-00005-00 | US AGENCY FOR INTL DEVELOPMENT | 650,495 | 650,495 |
| USAID | Direct | 98.001 | EDH-A-00-07-00005-00 | us agency for intl development | 636,220 | 636,456 |
| USAID | Direct | 98.001 | EDH-A-00-07-00005-00 | US Agency for intl development | 543,982 | 543,887 |
| USAID | Direct | 98.001 | EDH-A-00-07-00005-00 | US AGENCY FOR Intl development | 538,403 | 538,403 |
| USAID | Direct | 98.001 | EDH-A-00-07-00005-00 | US AGENCY For intl development | 397,958 | 397,958 |
| USAID | Direct | 98.001 | EDH-A-00-7-00005 MAREDIA MSU | us agency for intl development | 236,418 |  |
| USAID | Direct | 98.001 | sub of 61-2940 | us agency for intl development | 499,493 | 308,920 |
| USAID | Direct | 98.001 | Tanzania | us agency for intl development | 1,425,398 | 200,000 |
| USAID | Direct | 98.001 | USAID AID-442-LA-12-0001 BOUGHTON | US AGENCY FOR Intl development | 570,482 | 204,848 |




| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total Expenditures | Subaward <br> Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Other Federal Awards (Continued): |  |  |  |  |  |  |
| Agriculture | Direct | 10.962 | CO-CR-16-036 | foreign agricultural service | 20,895 | \$ - |
| Agriculture | Direct | 10.962 | Co-CR-16-043 | foreign agricultural service | 58,466 |  |
| Agriculture | Direct | 10.962 | Co-CR-17-013 | foreign agricultural service | 61,674 |  |
|  | Direct Total |  |  |  | 16,301,319 | 1,510,911 |
| Agriculture | Pass-through | 10.001 | 018000.340753.13 | MISSISSIPPI STATE UNIV | 6,483 |  |
| Agriculture | Pass-through | 10.170 | 791N6600147 | MI Dept ag \& rural dev. | 53,506 |  |
| Agriculture | Pass-through | 10.170 | 791N6600552 | MICHIGAN DEPT OF AGRICULTURE \& RURAL DEVELOPMENT | 18,483 | 16,200 |
| Agriculture | Pass-through | 10.170 | MDARD-791N7700164-Weinfeld | MICHIGAN DEPT OF AGRICULTURE \& RURAL DEVELOPMENT | 45,786 | 28,058 |
| Agriculture | Pass-through | 10.200 | 416-41-15A | IOWA STATE UNIV | 17,267 |  |
| Agriculture | Pass-through | 10.200 | 416-41-15R | IOWA STATE UNIV | 27,355 | - |
| Agriculture | Pass-through | 10.200 | 8000064756-AG | PURDUE UNIV | 88,125 |  |
| Agriculture | Pass-through | 10.216 | 362209139676190 | tuskegee univ | 11,764 |  |
| Agricilure | Pass-through | 10.216 | 362209139676190 | tuskegee univ | 646 |  |
| Agriculture | Pass-through | 10.310 | 3001825205 | UNIVERSITY OF MICHIGAN | 91,041 | - |
| Agriculture | Pass-through | 10.310 | 511204 | KANSAS STATE UNIV | 125,978 |  |
| Agriculture | Pass-through | 10.329 | 2014-07306-13 | UNIVERSITY OF ILILINOIS | 25,392 |  |
| Agriculture | Pass-through | 10.329 | 2014-07306-16 | UNIVERSITY OF ILILNOIS | 12,892 |  |
| Agriculture | Pass-through | 10.329 | Univ of Illinois 2014-07306-01 Jess | UNIVERSSITY OF ILILINOIS | 158,373 | - |
| Agriculture | Pass-through | 10.350 | 018000.340753 .26 | MISSISSIPPI STATE UNIV | 9,457 |  |
| Agricilture | Pass-through | 10.500 | 5367-MSU-USDA-4341 | pennsylvania state univ | 1,198 |  |
| Agriculture | Pass-through | 10.500 | 516047 | KANSAS STATE UNIV | 6,153 |  |
| Agriculture | Pass-through | 10.500 | 516047 | KANSAS STATE UNIV | 5,562 | - |
| Agriculture | Pass-through | 10.557 | 20162261-001 AN | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 9,818 |  |
| Agriculture | Pass-through | 10.557 | 20164109-00 | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 9,696 | - |
| Agriculture | Pass-through | 10.557 | Contract 20160880-00 Attachment C | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 59,610 | - |
| Agriculture | Pass-through | 10.557 | E20170237-00-E | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 23,872 |  |
| Agriculture | Pass-through | 10.572 | 20160902-00 Attachment X | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 15,918 |  |
| Agriculture | Pass-through | 10.572 | E20170668-00-Y | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 5,317 |  |
| Agriculture | Pass-through | 10.574 | 31387700003 | MICHIGAN DEPT OF EDUCATION | 10,137 |  |
| Agriculture | Pass-through | 10.574 | $313 P 5500018$ | State of MICHIGAN | 94,766 |  |
| Agriculture | Pass-through | 10.574 | $313 \mathrm{P6600017}$ | State of michigan | 68,727 |  |
| Agriculture | Pass-through | 10.680 | Purdue 8000064146-AG McCullough | purdue univ | 11,532 |  |
| Agriculture | Pass-through | 10.777 | 016258-141 | CIMMYT INC | 15,151 |  |
|  | Pass-through Total |  |  |  | 1,030,005 | 44,258 |
| Agriculture Total |  |  |  |  | 17,331,324 | 1,555,169 |
| Commerce | Direct | 11.417 | NA14OAR4170285 | NATIONAL OCEANIC \& ATMOSPHERIC ADMIIIITRATION | 15,697 | - |
| Commerce | Direct | 11.620 | 70NANB15H339 | NATIONAL INST OF STANDARDS \& TECHNOLOGY | 43,210 |  |
| Commerce | Direct | 11.900 | 16111007-0000-000 | COMMERCE US DEPT OF | 41,016 | . |
|  | Direct Total |  |  |  | 99,923 | . |
| Commerce | Pass-through | 11.407 | 102699 | minnesota dept of natural reso | 19,345 |  |
| Commerce | Pass-through | 11.417 | 3002999560 | UNIVERSITY OF MICHIGAN | 79,504 |  |
| Commerce | Pass-through | 11.417 | 3003003179 | University of michigan | 623,975 | - |
| Commerce | Pass-through | 11.417 | 3003003179 | UNIVERSITY OF MICHIGAN | 3,000 | - |
| Commerce | Pass-through | 11.417 | 3003003179 | UNIVERSITY OF MICHIGAN | 2,982 |  |
| Commerce | Pass-through | 11.417 | 3003003181 | UNIVERSITY OF MICHIGAN | 37,977 |  |
| Commerce | Pass-through | 11.417 | 3003675941 | UNIVERSITY OF MICHIGAN | 84,515 |  |
| Commerce | Pass-through | 11.417 | 3004235158 | UNIVERSITY OF MICHIGAN | 5,406 | - |
| Commerce | Pass-through | 11.417 | D004419455 | UNIVERSITY OF MINNESOTA | 2,125 |  |
| Commerce | Pass-through | 11.417 | NA14OAR4170070 | UNIVERSITY OF MICHIGAN | 10,335 |  |
| Commerce | Pass-through | 11.417 | UW/NOAA 695K671 Triezenberg | UNIVERSITY OF WISCONSIN MADISON | 5,000 | - |
|  | Pass-through | 11.463 | GVSU-226260-01 | grand valley state univ | 14,987 | - |
|  | Pass-through Total |  |  |  | 889,151 | - |
| Commerce Total |  |  |  |  | 989,074 | - |
| Defense | Direct | 12 | 152950 | US ARMY CORPS OF ENGINEERS | 35,848 | - |
| Defense | Direct | 12 | 153048 | US ARMY CORPS OF ENGINEERS | 29,909 |  |
| Defense | Direct | 12.431 | W911NF-16-1-0351 | ARMY ReSEARCH OFFICE U S | 7,336 | $\cdot$ |
| Defense | Direct | 12.431 | W911NF-16-1-0394 | ARMY ReSEARCH OFFICE U S | 26,785 | - |
|  | Direct Total |  |  |  | 99,878 | - |
| Defense | Pass-through | 12 | 3287-DPA-2S | luna innovations | 34,550 |  |
| Defense | Pass-through | 12.116 | Brainscope/Navy APP 148409 Covassin | BRAINSCOPE CO INC | 262,847 | - |
| Defense | Pass-through | 12.550 | 0054-MSU-22-PP-280-PO2 | inst of intl education | 334,898 | - |
| DefenseDefense | Pass-through | 12.550 | 0054-MSU-22-SSA-280-PO1 | INST OF INTL EDUCATION | 22,341 |  |
|  | Pass-through | 12.550 | 2340-MSU-7-P1-093-PO1 | Inst of intl education | 9,140 | - |
|  | Pass-through Total |  |  |  | 663,776 | - |
| Defense Total |  |  |  |  | 763,654 | - |
| Education | Direct | 84.015 | P015A140097-16 | US dept of education | 206,125 | - |
| Education | Direct | 84.015 | P015A140098-16 | us dept of education | 281,900 | $\cdot$ |
| Education | Direct | 84.015 | P0158140097-17 | US DEPT OF EDUCATION | 281,674 | - |
| Education | Direct | 84.015 | P0158140099-16 | us dept of education | 295,063 | - |
| Education | Direct | 84.015 | P0158140099-16 | US DEPT OF EDUCATION | 2,250 | - |
| Education | Direct | 84.022 | P022A140053 | us dept of education | 500 | - |
| Education | Direct | 84.022 | P022A150034 | US DEPT OF EDUCATION | 25,709 | - |
| Education | Direct | 84.022 | P022A150034 | US DEPT OF EDUCATION | 15,261 | - |
| Education | Direct | 84.022 | P022A160061 | us dept of education | 2,439 | - |
| Education | Direct | 84.022 | USDE-P022A160061-Bresnahan/Bradshaw | US DEPT OF EDUCATION | 14,171 | - |
| Education | Direct | 84.022 | USDE-P022A160061-Bresmahan/Glovsky | us dept of education | 14,988 | - |
| Education | Direct | 84.022 | USDE-P022A160061-Bresnahan/McDaniel | US DEPT OF EDUCATION | 29,075 | - |
| Education | Direct | 84.032 | FFFLP Loans Receivable | US DEPT OF EDUCATION | 1,089,771 |  |
| Education | Direct | 84.129 | H1298140012 | us dept of education | 200,443 | - |
| Education | Direct | 84.141 | S141A120000-15 | us dept of education | 505,238 | - |
| Education | Direct | 84.149 | S149A150003-16 | us dept of education | 444,313 | - |
| Education | Direct | 84.200 | P200A140215 | US DEPT OF EDUCATION | 208,622 | - |
| Education | Direct | 84.220 | P220A140001 | US DEPT OF EDUCATION | 313,409 | - |
| Education | Direct | 84.229 | P229A140006 | us dept of education | 190,384 | - |
| EducationEducation | Direct | 84.305 | R3058090011-13 | US DEPT OF EDUCATION | 138,658 | - |
|  | Direct | 84.334 | gear up | US DEPT OF EDUCATION | 866,024 | - |
|  | Direct Total |  |  |  | 4,346,017 | - |
| Education | Pass-through | 84.010 | App 151026 | GOGEBIC ONTONAGON INTERMEDIATE SCHOOL DISTRICT | 211,095 |  |
| Education | Pass-through | 84.010 | Coaching 101 | GOGEBIC ONTONAGON INTERMEDIATE SCHOOL DISTRICT | 196,751 | - |
| Education | Pass-through | 84.011 | 16185-1516 | michigan dept of education | 99,324 | - |
| Education | Pass-through | 84.011 | 171850-1617 | michigan dept of education | 67,030 | - |
| Education | Pass-through | 84.048 | 163280-16183 | MICHIGAN DEPT OF EDUCATION | 3,202 | - |
| Education | Pass-through | 84.048 | 163430-16133 | MICHIGAN DEPT OF EDUCATION | $(5,941)$ | - |
| Education | Pass-through | 84.048 | 173280-17183 | MICHIGAN DEPT OF EDUCATION | 64,880 | - |
| Education | Pass-through | 84.305 | SP0021157-PROJ0006411 | NORTHWESTERN UNIV | 28,522 |  |
| Education | Pass-through | 84.334 | 15-00-06 | MICHIGAN ECONOMIC DEVELOPMENT | 124,029 | - |
| Education | Pass-through | 84.334 | 16-00-06 | michigan economic development | 153,071 | - |
| Education | Pass-through | 84.367 | 150290-007 | MICHIGAN DEPT OF EDUCATION | 52,182 | - |


| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total <br> Expenditures | Subaward <br> Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Other Federal Awards (Continued): |  |  |  |  |  |  |
| Education | Pass-through | 84.367 | 94-MIO4-SEED2017-CRWPAI | National writing project corp | 3,225 | \$ - |
| Education | Pass-through Pass-through Total | 84.374 | MAPSA Teacher Mentoring | MAPSA | $\frac{(72)}{997.298}$ | - |
| Education Total |  |  |  |  | 5,343,315 |  |
| Energy | Direct | 81.049 | DE-SC0015419 | US DEPT OF ENERGY | 10,000 | - |
|  | Direct Total |  |  |  | 10,000 |  |
| Energy | Pass-through | 81.041 | MEO-16-022 | MI DEPT OF LICENSING \& REG AFF | 48,009 | , |
|  | Pass-through Total |  |  |  | 48,009 | - |
| Energy Total |  |  |  |  | 58,009 | - |
| Environmental Protection Agency | Direct | 66.514 | 91778301 | US ENVIRONMENTAL PRotection agency | 7,824 | - |
| Environmental Protection Agency | Direct | 66.716 | 83559101 | US ENVIRONMENTAL PROTECTION AGENCY | 16,388 | - |
|  | Direct Total |  |  |  | 24,212 |  |
| Environmental Protection Agency | Pass-through | 66.469 | APP\#143229 | THE STEWARDSHIP Network | 17,773 | - |
| Environmental Protection Agency | Pass-through | 66.605 | 791166600447 | MICHIGAN DEPT OF AGRICULTURE \& RURAL DEVELOPMENT | 7,999 | - |
| Environmental Protection Agency | ${ }^{\text {Pass-through }}$ | 66.605 | 791N7700173 | MICHIGAN DEPT OF AGRICULTURE \& RURAL DEVELOPMENT | 10,525 | - |
|  | Pass-through Total |  |  |  | 36,297 | - |
| Environmental Protection Agency Total |  |  |  |  | 60,509 | - |
| Federal Communications Commission | Direct | 32.001 | WKAR FCC Repack Account | federal communications commission | 750 | - |
|  | Direct Total |  |  |  | 750 | - |
| Federal Communications Commission Total |  |  |  |  | 750 | - |
| Federal Council on the Arts and Humanities | Direct | 45.024 | 15-5500-7066 | national endowment for the arts | 5,535 | - |
| Federal Council on the Arts and Humanities | Direct | 45.024 | 16-5500-7136 | national endowment for the arts | 32,503 | - |
| Federal Council on the Arts and Humanities | Direct | 45.024 | NEA-17-5500-7010-MacdowellMarsha | national endowment for the arts | 14,865 | - |
| Federal Council on the Arts and Humanities | Direct | 45.149 | PW-51583-14 | NATL ENDOWMENT FOR THE HUMANIT | 103,279 |  |
| Federal Council on the Arts and Humanities | Direct | 45.149 | PW-51583-14 | natl endowment for the humanit | 12,391 | - |
| Federal Council on the Arts and Humanities | Direct | 45.169 | HT-50088-14 | natl endowment for the humanit | 107,298 |  |
| Federal Council on the Arts and Humanities | Direct | 45.301 | 193247145 | INST OF MUSEUM \& LIBRARY SERVICES | 37,452 |  |
| Federal Council on the Arts and Humanities | Direct | 45.301 | MA-30-14-0073-14 | Inst of museum \& Library services | 3,911 | - |
| Federal Council on the Arts and Humanities | Direct | 45.301 | MA-30-15-0325-15 | INST OF MUSEUM \& LIBRARY SERVICES | 29,834 | - |
|  | Direct Total |  |  |  | 347,068 |  |
| Federal Council on the Arts and Humanities | Pass-through | 45.025 | 16NL3416MT | MICHIGAN COUNCIL FOR ARTS \& CULTURAL AFFAIRS | 1,565 | - |
| Federal Council on the Arts and Humanities | Pass-through | 45.025 | 160P3199PS | MICHIGAN COUNCIL FOR ARTS \& CULTURAL AFFAIRS | (74) | - |
| Federal Council on the Arts and Humanities | Pass-through | 45.025 | 160P3209Ps | MICHIGAN COUNCIL FOR ARTS \& CULTURAL AFFAIRS | 8,763 |  |
| Federal Council on the Arts and Humanities | Pass-through | 45.025 | 160P3210PS | MICHIGAN COUNCIL FOR ARTS \& CULTURAL AFFAIRS | $(1,178)$ | - |
| Federal Council on the Arts and Humanities | Pass-through | 45.025 | 165F33635V | MICHIGAN COUNCIL FOR ARTS \& CULTURAL AFFAIRS | 28,955 | - |
| Federal Council on the Arts and Humanities | Pass-through | 45.025 | 17NL4060MT_MSU | MICHIGAN COUNCIL FOR ARTS \& CULTURAL AFFAIRS | 997 | - |
| Federal Council on the Arts and Humanities | Pass-through | 45.025 | 17PS3670AC | MICHIGAN COUNCIL FOR ARTS \& CULTURAL AFFAIRS | 21,002 | - |
| Federal Council on the Arts and Humanities | Pass-through | 45.025 | 17PS3672ED | MICHIGAN COUNCIL FOR ARTS \& CULTURAL AFFAIRS | 18,000 | - |
| Federal Council on the Arts and Humanities | Pass-through | 45.025 | 17SF3476SV | MICHIGAN STRATEGIC FUND | 24,553 |  |
| Federal Council on the Arts and Humanities | Pass-through | 45.025 | MCACA 17PS4002AC Wilson | MICHIGAN COUNCIL FOR ARTS \& CULTURAL AFFAIRS | 9,753 | - |
| Federal Council on the Arts and Humanities | Pass-through | 45.129 | Q023-16P | MICHIGAN HUMANITIES COUNCIL | 985 | - |
| Federal Council on the Arts and Humanities | Pass-through | 45.169 | 15-119-100485-010 | old dominion univ | 19,579 | - |
| Federal Council on the Arts and Humanities | Pass-through | 45.169 | NEH \#HK-50155-14 | THE NEW SCHOOL | 9,577 | - |
| Federal Council on the Arts and Humanities | Pass-through | 45.169 | NEH \#HK-50155-14 | THE NEW SCHOOL | (966) | - |
|  | Pass-through Total |  |  |  | 141,511 | - |
| Federal Council on the Arts and Humanities Total |  |  |  |  | 488,579 | - |
| Health and Human Services | Direct | 93.103 | 3U18FD004632-0451 | FOOD \& DRUG ADMIIISTRATION | 4,703 | - |
| Heath and Human Services | Direct | 93.103 | 4U18FD004632-04 | FOOD \& DRUG ADMIIISTRATION | 16,428 | - |
| Heath and Human Services | Direct | 93.124 | 1A22HP29892-01-00 | Health resources \& SERVICES Administration | 19,827 | - |
| Heath and Human Services | Direct | 93.157 | 5D34HP24457-05-00 | health resources \& SERVIICES AdMINIITRATION | 679,914 | - |
| Health and Human Services | Direct | 93.247 | 5 D09HP26953-03-00 | Health resources \& SERVIICES Administration | 224,375 | - |
| Health and Human Services | Direct | 93.884 | $5 \mathrm{D} 54 \mathrm{HP} 23284-05-00$ | health resources \& SERVIICES Administration | 61,686 |  |
|  | Direct | 93.884 | 5D58HP23259-05-00 | Health resources \& SERVIICES ADMIIIITRATION | 101,980 | . |
|  | Direct Total |  |  |  | 1,108,913 | - |
| Health and Human Services | Pass-through | 93 | 391N6602397; 391N7700706 | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 27,078 |  |
| Heath and Human Services | Pass-through | 93 | AOEC Exposure Code | ASSOC OCCUPATIONAL \& ENVIRONMENT | 24,842 | - |
| Health and Human Services | Pass-through | 93 | Work@Health | aslhlin management group inc | (970) | - |
| Heath and Human Services | Pass-through | 93.070 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 42,815 | - |
| Health and Human Services | Pass-through | 93.070 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 21,408 | - |
| Heath and Human Services | Pass-through | 93.074 | 20160883-00-0-F | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 95,767 | - |
| Heath and Human Services | Pass-through | 93.074 | E20170235-00 D | michigan dept of human services | 87,447 | - |
| Health and Human Services | Pass-through | 93.080 | 15-16-442 | HEMOPHILA FOUNDATION OF MICHIGAN | 17,056 | - |
| Heath and Human Services | Pass-through | 93.080 | CDC 16-17-442 | HEMOPHILA FOUNDATION OF MICHIGAN | 40,214 | - |
| Heath and Human Services | Pass-through | 93.103 | 154180 | IOWA STATE UNIV | 5,251 | - |
| Health and Human Services | Pass-through | 93.103 | 15-AUFSI-360490-MSU | AUBURN UNIV | 11,098 | - |
| Health and Human Services | Pass-through | 93.103 | 791N770000252 | MICHIGAN DEPT OF AGRICULTURE \& RURAL DEVELOPMENT | 201,015 | - |
| Heath and Human Services | Pass-through | 93.103 | VERMONT-FDA-Tocco | University of vermont | 3,774 | - |
| Health and Human Services | Pass-through | 93.110 | ATHN2015-HRSA-2 | AMERICAN THROMBOSIS \& HEMOSTAS | 63,053 | - |
| Health and Human Services | Pass-through | 93.110 | E20172700-00-AL | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 2,736 | - |
| Heath and Human Services | Pass-through | 93.110 | HFM / HRSA 150689 Kulkarni | hemophila foundation of michigan | 59,639 | - |
| Health and Human Services | Pass-through | 93.110 | MCHB 442 17-18 | HEMOPHILIA FOUNDATION OF MICHIGAN | 305 | - |
| Heath and Human Services | Pass-through | 93.110 | MCHB Grant | hemophila foundation of michigan | (157) | - |
| Health and Human Services | Pass-through | 93.110 | WSU16154 | WAYNE STATE UNIV | 41,589 | - |
| Health and Human Services | Pass-through | 93.184 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 3,568 | - |
| Heath and Human Services | Pass-through | 93.243 | 7F044-A | RESEARCH Foundation of cuny | 2,856 | - |
| Health and Human Services | Pass-through | 93.243 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 8,028 | - |
| Heath and Human Services | Pass-through | 93.262 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 10,704 | - |
| Heath and Human Services | Pass-through | 93.268 | Contract 20160899-00 Attachment U | MI Dept of human services | 63,817 | - |
| Heath and Human Services | Pass-through | 93.268 | E20170667-00-X | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 134,410 | - |
| Heath and Human Services | Pass-through | 93.283 | 20160881-001-D | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 8,571 | - |
| Heath and Human Services | Pass-through | 93.283 | 20160882-00-E | MI Dept of human services | 223,373 | - |
| Health and Human Services | Pass-through | 93.283 | 20160891-00 Attachment L | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 4,844 | - |
| Health and Human Services | Pass-through | 93.283 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 226,258 | - |
| Health and Human Services | Pass-through | 93.283 | E20170234-00-C | MICHIGAN DEPT OF COMMUNITY YEALTH | 18,567 | - |
| Health and Human Services | Pass-through | 93.283 | E20170234-00-C | MICHIGAN DEPT OF COMMUNITY HEALTH | 2,513 | - |
| Health and Human Services | Pass-through | 93.283 | E20170247-00-P | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 118,203 | - |
| Health and Human Services | Pass-through | 93.283 | E20170672-00 | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 42,761 | - |
| Health and Human Services | Pass-through | 93.283 | E20172453-00-AA | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 200,763 | - |
| Health and Human Services | Pass-through | 93.283 | E20172468-00-0 | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 133 | - |
| Heath and Human Services | Pass-through | 93.305 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 29,435 | - |
| Health and Human Services | Pass-through | 93.469 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 7,136 | - |
| Health and Human Services | Pass-through | 93.556 | SFSC14-19001 | MI Dept of human services | 21,911 | - |
| Health and Human Services | Pass-through | 93.556 | SFSC14-19001 | MI DEPT OF HUMAN SERVICES | 824 | - |
| Health and Human Services | Pass-through | 93.590 | CTFDS-15-73001 | MI dept of human services | 27,470 | - |
| Heath and Human Services | Pass-through | 93.590 | CTFDS-15-73001 | MI Dept of human services | 7,329 | - |
| Health and Human Services | Pass-through | 93.600 | 05CH8365 | CACS HEAD START | 86,446 | - |
| Health and Human Services | Pass-through | 93.600 | 05CH8365 | CAPITAL AREA COMMUNITY SERVIICE | 22,326 | - |


| Federal Agency | Direct/Pass-through | CFDA (Note 5) | Award Number | Grantor Name | Total Expenditures | Subaward Payments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Other Federal Awards (Continued): |  |  |  |  |  |  |
| Health and Human Services | Pass-through | 93.624 | E20170233-00-B | Michigan dept of community health | 115,311 | \$ - |
| Health and Human Services | Pass-through | 93.624 | E20170234-00-C | MICHIGAN DEPT OF COMMUNITY HEALTH | 5,514 | - |
| Health and Human Services | Pass-through | 93.628 | 20160892-00 Attachment M | MI COMMUNITY HEALTH | 30,251 | - |
| Health and Human Services | Pass-through | 93.644 | E20172455-00 AH | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 23,529 | - |
| Heath and Human Services | Pass-through | 93.647 | FY16.150.002 | UNIVERSITY OF COLORADO DENVER | 28,758 |  |
| Heath and Human Services | Pass-through | 93.648 | 16-39 | RESEARCH Foundation of Suny | 125,055 |  |
| Heath and Human Services | Pass-through | 93.758 | E20172531-00-AK | michigan dept of Community health | 10,744 | - |
| Heath and Human Services | Pass-through | 93.758 | E20172532-00-AJ | MICHIGAN DEPT OF COMMUNITY HEALTH | 9,493 |  |
| Health and Human Services | Pass-through | 93.758 | E20172760-00-AM | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 1,353 |  |
| Health and Human Services | Pass-through | 93.778 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 2,676 | - |
| Heath and Human Services | Pass-through | 93.778 | U05M15ADM(17) | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 24,221 |  |
| Heath and Human Services | Pass-through | 93.808 | E20170233-00-B | MICHIGAN DEPT Of COMMUNITY HEALTH | 41,307 |  |
| Heath and Human Services | Pass-through | 93.872 | FY17.494.004 | UNIVERSITY OF COLORADO DENVER | 13,333 | - |
| Heath and Human Services | Pass-through | 93.926 | HR-SBP14-05 | SPECTRUM HEALTH SYSTEM | 69,795 |  |
| Heath and Human Services | Pass-through | 93.926 | SPECTRUM HR-SBP14-05 Roman | SPECTRUM HEALTH SYSTEM | 40,953 |  |
| Health and Human Services | Pass-through | 93.945 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 32,825 | - |
| Heath and Human Services | Pass-through | 93.945 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 7,136 |  |
| Heath and Human Services | Pass-through | 93.958 | E20170233-00-B | MICHIGAN DEPT OF COMMUNITY HEALTH | 8,920 |  |
| Heath and Human Services | Pass-through | 93.991 | 20160912 AH | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 36,455 |  |
| Heath and Human Services | Pass-through | 93.994 | 20163467-00 AR | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 18,500 |  |
|  | Pass-through Total |  |  |  | 2,662,335 | - |
| Health and Human Services Total |  |  |  |  | 3,771,248 | - |
| Homeland Security | Direct | 97.012 | 33165 RR160102 | US COAST GUARD | 81,805 | - |
|  | Direct Total |  |  |  | 81,805 | - |
| Homeland Security | Pass-through Pass-through Tolal | 97.061 | 06-S140695 | texas A\&muniv | $\frac{13,671}{13,671}$ | - |
| Homeland Security Total |  |  |  |  | 95,476 | - |
| Housing and Urban Development | Pass-through | 14.169 | 148914 | MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY | 33,589 | - |
|  | Pass-through Total |  |  |  | 33,589 | - |
| Housing and Urban Development Total |  |  |  |  | 33,589 | - |
| Interior | Direct | 15 | 616Px00039 | us geological survey | 40,585 | - |
| Interior | Direct | 15.805 | 615PX01660 | us geological survey | 19,510 | . |
|  | Direct Total |  |  |  | 60,095 |  |
| Interior | Pass-through | 15.805 | 2015-06806-02 | University of illinois urbana champaign | 9,000 |  |
| Interior | Pass-through | 15.805 | 2015-06806-02 | UNIVERSITY OF ILLINOIS URBANA CHAMPAIGN | 7,376 | - |
| Interior | Pass-through | 15.805 | UIUC 078687-15712 Stewart | UNIVERSITY OF ILLINOIS URBANA CHAMPAIGN | 15,892 |  |
| Interior | Pass-through | 15.805 | UIUC 078687-15712 Stewart | University of illinois urbana champaign | 8,197 |  |
| Interior | Pass-through | 15.922 | 153436 | CITY OF St IGNACE | 28,710 | - |
|  | Pass-through Total |  |  |  | 69,175 |  |
| Interior Total |  |  |  |  | 129,270 | - |
| Justice | Direct | 16.001 | 90-11-2-5292 | US DEPT OF JUSTICE | 60,040 | - |
|  | Direct Total |  |  |  | 60,040 |  |
| Justice | Pass-through | 16.001 | BAH/DOJ 20150521-140522-91 McGarrell | booz allen hamilton inc | 20,566 |  |
| Justice | Pass-through | 16.001 | B00Z-Dod-20161005-142733-49-McGarrell | booz allen hamilton inc | 26,609 | - |
| Justice | Pass-through | 16.575 | 20160907-00 Attachment AC | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 76,533 |  |
| Justice | Pass-through | 16.575 | E20172267-00 | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 195,525 |  |
| Justice | Pass-through | 16.575 | E20172639-00 | MICHIGAN DEPT OF HUMAN SERVIICES | 27,918 | - |
| Justice | Pass-through | 16.726 | 4-H National Mentoring Program Year 5 | NATIONAL 4H COUNCIL | 3,602 |  |
| Justice | Pass-through | 16.726 | MI4-H Tech Wizard | national 4 H COUNCIL | 257,535 |  |
| Justice | Pass-through | 16.726 | NMP7 | NATIONAL LH COUNCIL | 96,578 | - |
| Justice | Pass-through | 16.751 | Prime 2011-DB-Bx-0033 | MI STATE POLICE | (96) | - |
| Justice | ${ }^{\text {Pass-through }}$ | 16.833 | 3-321-0215016-52458L | RTI International | 72,613 |  |
|  | Pass-through Total |  |  |  | 777, 383 837,423 | - |
|  |  |  |  |  |  |  |
| Labor | Direct | 17.502 | SH-26316-14-60-F-26 | LABOR US DEPT OF | 38,993 | - |
|  | Direct Total |  |  |  | 38,993 | - |
| Labor Total |  |  |  |  | 38,993 | - |
| National Aeronautics \& Space Administration |  | 43.001 | NASA NNX14AO11H GoSFC Liu | NATIONAL AERONAUTICS \& SPACE ADMIIISTRATION | 29,903 | - |
|  | Direct Total |  |  |  | 29,903 | - |
| National Aeronautics \& Space Administration Total |  |  |  |  | 29,903 | - |
| Office of Personnel Management | Direct | 27.011 | US Veterans APP 151184 Reeves | U S dept of veterans affalirs | 11,081 | - |
|  | Direct Total |  |  |  | 11,081 | - |
| Office of Personnel Management Total |  |  |  |  | 11,081 |  |
| Social Security Administration | Pass-through | 96.644 | 20164110AT | MICHIGAN DEPT OF HEALTH \& HUMAN SERVICES | 12,810 | - |
|  | Pass-through Total |  |  |  | 12,810 | - |
| Social Security Administration Total |  |  |  |  | 12,810 | - |
| State | Pass-through | 12.550 | 0136 | inst of intl education | 623 | - |
| State | Pass-through | 19.010 | 3223_MSU_7.1.16 | inst of intl education | 197,140 | - |
| State | Pass-through | 19.400 | S-ECAGD-16-CA-1004 | INST OF INTL EDUCATION | 67,606 | - |
|  | Pass-through Total |  |  |  | $\underline{265,369}$ | $\square$ |
| State Total |  |  |  |  | 265,369 | - |
| Transportation | Pass-through | 20 | MFF 116500- DOT 2012-0730\#23 | michigan fitness foundation | 52,369 | - |
| Transportation | Pass-through | 20.215 | 2016-0131 | MICHIGAN DEPT OF TRANSPORTATION | 15,523 | - |
| Transportation | Pass-through | 20.215 | MDOT-2016-0131-LuschDavid | MICHIGAN DEPT OF TRANSPORTATION | 21,420 | - |
|  | Pass-through Total |  |  |  | 89,312 | - |
| Transportation Total |  |  |  |  | 89,312 | - |
| Treasury | Pass-through | 21.000 | NFMC Program | MICH STATE HOUSING DEVELOPMENT | 161 | - |
| Treasury | Pass-through | 21.000 | NFMC Round 9 | Mich state housing development | (26) | - |
|  | Pass-through Total |  |  |  | 135 | . |
| Treasury Total |  |  |  |  | 135 | - |
| USAID | Direct | 98.001 | AID-OAA-A-13-00006 | US AGENCY For intl development | 2,783,478 | 881,341 |
| USAID | Direct | 98.001 | AID-OAA-A-13-00006 | US Agency for intl development | 72,867 | 13,000 |
| USAID | Direct | 98.001 | AID-OAA-A-13-00006 | US Agency for intl development | 61,362 | - |
| USAID | Direct | 98.001 | USAID AID-OAA-A-13-00006 DERKSEN-GRAIN | US AGENCY FOR Intl development | 109,891 | - |
|  | Direct Total |  |  |  | 3,027,598 | 894,341 |
| USAID | Pass-through | 98 | 1856-000 | tetra techinc | 17,140 | - |
| USAID | Pass-through | 98.001 | 016258-158 | UNIVERSITY OF CALIFORNIA DAVIS | 9,160 | - |
| USAID | Pass-through | 98.001 | 2015-07022-02 | UNIVERSITY OF ILLINOIS URBANA CHAMPAIGN | 82,287 | - |
| USAID | Pass-through | 98.001 | 2015-07022-02 | University of illinois urbana champaign | 32,477 | - |
| USAID | Pass-through | 98.001 | 2420 | IMPAQ INTL | 41,469 | - |



## Michigan State University

## Notes to Schedule of Expenditures of Federal Awards Year Ended June 30, 2017

## Note I - Basis of Presentation

The accompanying schedule of expenditures of federal awards (the "Schedule") includes the federal grant activity of Michigan State University (the "University") under programs of the federal government for the year ended June 30, 2017. The information in the Schedule is presented in accordance with the requirements of the Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (the "Uniform Guidance"). Because the Schedule presents only a selected portion of the operations of Michigan State University, it is not intended to, and does not, present the financial position, changes in net position, or cash flows of Michigan State University.

## Note 2 - Summary of Significant Accounting Policies

Expenditures reported on the Schedule are reported on the accrual basis of accounting. Such expenditures are recognized following, as applicable, either the cost principles in OMB Circular A-2I, Cost Principles for Educational Institutions, or the cost principles contained in Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, wherein certain types of expenditures are not allowable or are limited as to reimbursement. Negative amounts shown on the Schedule represent adjustments or credits made in the normal course of business to amounts reported as expenditures in prior years. Pass-through entity identifying numbers are presented where available.

## Note 3 - Indirect Costs

The University has elected not to use the 10 percent de minimus indirect cost rate to recover indirect costs as allowed under the Uniform Guidance.

Included as federal expenditures are indirect costs of $\$ 66,653,809$, which are based on the approved university rate agreement negotiated with the cognizant agency. The negotiated rate is effective from July I, 2016 through June 30, 2019.

## Note 4 - Commingled Funds

Certain miscellaneous pass-through funds consist of commingled funds from federal and nonfederal sources. The commingled component cannot be separated to specify the individual funding sources; therefore, the total amount is included in the schedule of expenditures of federal awards.

## Note 5 - Catalog of Federal Domestic Assistance (CFDA) Numbers

All programs with identifiable CFDA numbers have been listed separately. Award numbers have been provided for all programs for which CFDA numbers were not available. Programs without an identifiable CFDA number are identified by agency number only. If the agency number is not known, the program is listed using an agency number of 99 .

## Michigan State University

## Notes to Schedule of Expenditures of Federal Awards Year Ended June 30, 2017

## Note 6 - Federal Student Loans Granted and Outstanding

As part of the Student Financial Assistance Cluster, the University participates in the Federal Perkins Loan Program through the U.S. Department of Education and the Health Professional Student Loan Program, Nursing Student Loan Program, and Nurse Faculty Loan Program, all through the U.S. Department of Health and Human Services. These loan programs are directly administered by the University and are considered revolving loan programs where collections received on past loans, including interest, and new funds received from federal agencies with University matching requirements are loaned out to current students. The loans disbursed during the year and year end outstanding balances for these loans are disclosed below.

| Loan Program | Loan Program | Loans Issued | Loan Balances |
| :---: | :---: | :---: | :---: |
| 84.038 | Perkins | \$ 2,557,661 | \$ 34,642,965 |
| 93.264 | Nurse Faculty Loans | 84,575 | 285,019 |
| 93.342 | Health Professional Student Loans | I,386,574 | 9,504,098 |
| 93.364 | Nursing Student Loans | - | 4,089 |
|  | Total | \$ 4,028,810 | \$ 44,436,171 |

The University participates in the Federal Direct Student Loan Program (FDLs). A total of $\$ 369,630,484$ of the amount presented in the schedule of expenditures of federal awards represents the value of the new FDLs accepted by students during the year ended June 30, 2017.

The University had participated in the discontinued U.S. Department of Education Federal Family Education Loan Program and continues to hold and service loans totaling \$829,285 at June 30, 2017.

## Note 7 - Federal Work Study Program Adjustments and Transfers

During the year ended June 30, 2017, certain Federal Work Study funds were transferred in accordance with federal guidelines. The transfers were as follows:

| Transferred from |  | Amount |  |  |
| :---: | :---: | :---: | :---: | :---: |

## Michigan State University

## Schedule of Findings and Questioned Costs Year Ended June 30, 2017

## Section I - Summary of Auditor's Results

## Financial Statements

Type of auditor's report issued: Unmodified
Internal control over financial reporting:

- Material weakness(es) identified?

- Significant deficiency(ies) identified that are not considered to be material weaknesses?


Noncompliance material to financial statements noted?


## Federal Awards

Internal control over major programs:

- Material weakness(es) identified? $\qquad$ Yes $\quad \mathrm{X}$ No
- Significant deficiency(ies) identified that are not considered to be material weaknesses? $\qquad$ Yes $\quad \mathrm{X}$ None reported

Type of auditor's report issued on compliance for major programs: Unmodified
Any audit findings disclosed that are required
to be reported in accordance with
Section 2 CFR 200.5 I6 (a)?


Identification of major programs:
CFDA Numbers
Name of Federal Program or Cluster
Various Research and Development Cluster
84.032 Federal Family Education Loan Program - Lenders
$10.500 \quad$ Cooperative Extension Service
98.001 USAID Foreign Assistance for Programs Overseas

Dollar threshold used to distinguish between type A and type B programs: \$3,000,000
Auditee qualified as low-risk auditee?
X Yes $\qquad$ No

## Michigan State University

# Schedule of Findings and Questioned Costs (Continued) Year Ended June 30, 2017 

## Section II - Financial Statement Audit Findings

None

Section III - Federal Program Audit Findings
None

## MICHIGAN STATE

U N I V ER S I T Y

## Single Audit Report: Summary Schedule of Prior Audit Findings

Year Ended June 30, 2017
Finding 2016-001
Program Name -Student Financial Assistance Cluster -CFDA \#84.007, 84.033, 84.038, 84.063, 84.268, 93.264, 93.342 and 93.364

Finding Type - Significant Deficiency
Corrective Action Plan - The University Registrar's Office and the National Student Clearinghouse (NSC), the University's agent for enrollment and degree reporting, have implemented additional controls and functionality to ensure data updates are completed within the reporting window established by NSLDS. The University considers this issue corrected and closed.

Position of Responsible Official - University Registrar, Office of the Registrar

Status of Finding - This finding is corrected.

## OFFICE OF THE CONTROLLER

Financial Analysis \& Reporting

