

Schedule of Expenditures of Federal
Awards Audit

Michigan Technological University

Year Ended June 30, 2017

Michigan Technological University

Schedule of Expenditures of Federal Awards Audit

Year Ended June 30, 2017

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Independent Auditors' 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*

Board of Trustees
Michigan Technological University
Houghton, Michigan

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of Michigan Technological University (University), 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 19, 2017.

Internal Control over Financial Reporting

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

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. *A material weakness* is a deficiency, or 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.

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, and therefore, material weaknesses or significant deficiencies may exist that were not identified. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

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

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.

Andrews Hooper Faulstich PLC

Bay City, Michigan
October 19, 2017

Independent Auditors' Report on Compliance for Each Major Program;
Report on Internal Control Over Compliance; and Report on the Schedule of
Expenditures of Federal Awards Required by the Uniform Guidance

Board of Trustees
Michigan Technological University
Houghton, Michigan

Report on Compliance for Each Major Federal Program

We have audited Michigan Technological University's (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 the University's major federal programs for the year ended June 30, 2017. The University's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

Management's Responsibility

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

Auditors' Responsibility

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

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

Opinion on Each Major Federal Program

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

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

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

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

Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

We have audited the financial statements of Michigan Technological University, as of and for the year ended June 30, 2017, and the related notes to the financial statements, which collectively comprise the University's financial statements. We issued our report thereon dated October 19, 2017, which contained an unmodified opinion on those financial statements. Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the 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 financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated in all material respects in relation to the financial statements as a whole.

Andrews Hooper Paulik PLC

Bay City, Michigan
January 25, 2018

Michigan Technological University

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2017

Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Pass-Through Entity Identifying Number	Passed Through to Subrecipients	Federal Expenditures
Student Financial Aid Cluster					
U.S. Department of Education					
Federal Supplemental Education Opportunity Grant	84.007	Direct	P007A162046	\$ -	\$ 218,568
Federal Work Study Program	84.033	Direct	P033A162046	-	296,207
Federal Perkins Loans	84.038	Direct	n/a	-	13,290,826
Federal Pell Grant Program	84.063	Direct	P063P160234	-	5,409,811
Federal Direct Student Loans	84.268	Direct	P268K170234	-	<u>29,391,241</u>
Total Student Financial Aid Cluster				-	<u>48,606,653</u>
Research and Development Cluster					
U.S. Department of Agriculture					
No CFDA Number:					
USAGR-ESC-FFC-Emerald Ash Borer	10.unk	Direct	14-8130-0464-CA	-	4,640
USAGR-FFC-ESC-Climate Change Plan	10.unk	Direct	12-CR-11242306-131	-	158,589
USAGR-CWS2-Sand AcumltN Lk Superior	10.unk	Direct	11-CR-11242307-107	-	3,578
USAGR-ESC-FFC-Wood Stake Decomp.	10.unk	Direct	11-JV-11242301-081	-	4
USAGR-GIS Interface WEPP Watershed	10.unk	Direct	12-JV-11221634-175	-	4,275
USAGR-ESC-FFC-Environmental Change	10.unk	Direct	12-JV-11242306-105	-	116,342
USAGR-ESC-FFC-Tropical Ecosystems	10.unk	Direct	13-JV-11242306-044	-	115,288
USAGR-ESC-FFC-Carbon Rsch Managemnt	10.unk	Direct	13-CR-11242306-065	-	103,481
USAGR-FlamMap Model Complement	10.unk	Direct	13-JV-11221634-135	-	6,537
USAGR-ESC-FFC-Puerto Rican Forest	10.unk	Direct	13-JV-11120101-033	-	1,200
USAGR-ESC-FFC-Wood Decomposition	10.unk	Direct	13-JV-11330140-120	-	16,836
USAGR-ESC-FFC-Post-Fire Salvage Log	10.unk	Direct	14-JV-11221634-138	-	36,025
USAGR-ESC-FFC-Black Ash Wetlands	10.unk	Direct	14-JV-11242307-153	-	152,178
USAGR-ESC-Longitudinal Analysis	10.unk	Direct	15-JV-11221636-092	-	8,838
USAGR-Smoke Management	10.unk	Direct	15-CR-11261987-035	-	99,387
USAGR-GLRC-FFC-Aquatic Organism	10.unk	Direct	16-CS-11090700-005	-	6,043
USAGR-ESC-FFC-Eval Biochar Impacts	10.unk	Direct	16-JV-11221633-057	-	42,249
USAGR-FFC-Bonding Mixed Species	10.unk	Direct	17-JV-11111133-013	-	3,623
USAGR-ESC-FFC-Lake State Hardwoods	10.unk	Direct	17-JV-11111133-018	-	5,204
USAGR-ESC-FFC-13C Sample Analysis	10.unk	Direct	MTU #1607040	-	1,507
USAGR-FFC-ESC-Pine Samples	10.unk	Direct	12-CR-11242313-106	-	6,131
USAGR-ESC-FFC-Radiocarbon Collabora	10.unk	Direct	16-CR-11242306-094	-	2,360
USAGR-ESC-FFC-Web Development	10.unk	Direct	16-CR-11242306-100	-	97,269
USAGR-ESC-FFC-Wood Stake Decomp	10.unk	Direct	16-JV-11242303-062	-	64
USAGR-ESC-FFC-NWOS Support	10.unk	Direct	16-JV-11242305-093	-	24,828
USAGR-ESC-FFC-Tropical Ecosystems	10.unk	Direct	17-JV-11242306-017	-	42,166
USAGR-ESC-FFC-Coastal Wetland	10.unk	Direct	17-PA-11091000-023	-	<u>26,102</u>
				-	<u>1,084,744</u>
Agricultural Research Basic and Applied Research:					
USAGR-SFI-LCA Cropping Systems	10.001	Direct	58-2074-7-001	-	<u>13,000</u>
Cooperative Forestry Research:					
USAGR-MS-FFC-FY15 Admin	10.202	Direct	2015-32100-06098	-	303,076
USAGR-MS-ESC-FFC-ADV ACCT-FY17-Admin	10.202	Direct	NI17MSCFRXXXG079	-	<u>103,965</u>
				-	<u>407,041</u>
Institution Capacity Building Grants:					
ALCOR-3-D-Near Infrared Bruise Detc	10.216	Alcorn State University	2014-38821-22394 SUB#330092	-	<u>56,271</u>
Biotechnology Risk Assessment Research:					
USAGR-LSTI-FFC-STERILE APETALA(SAP)	10.219	Direct	2016-33522-25626	-	<u>29,548</u>
Agricultural Market and Economic Research:					
COLOR-National GHG Inventory	10.290	Colorado State University	SUB G-01801-1 / 58-0111-15-011	-	<u>8,708</u>
Agriculture and Food Research Initiative:					
USAGR-BRC-Rice Callus Culture	10.310	Direct	2014-67018-21767	-	212
MICHI-ESC-FFC-Xeric Jack PineForest	10.310	Michigan State University	2015-67019-23007 RC104605MTU	-	65,681
UNIVE-GLRC-Sustainable Water-Desert	10.310	University of Texas at El Paso	SUBAWARD NO. 226300313E	-	67,071
USAGR-ESC-FFC-Novel Timber Systems	10.310	Direct	2017-67013-26261	-	<u>39,041</u>
				-	<u>172,005</u>
Biomass Research and Development Initiative Competitive:					
USAGR-SFI-HRJ Fuel	10.312	Direct	59-3620-3-002	-	<u>48,551</u>

See Notes to Schedule of Expenditures of Federal Awards.

Michigan Technological University

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2017

Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Pass-Through Entity Identifying Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Agriculture (continued)					
Forestry Research:					
USAGR-ESC-FFC-Wood Decomp:FACE Wood	10.652	Direct	16-DG-11330140-086	\$ -	18,608
USAGR-ESC-FFC-Carbon Stocks African	10.652	Direct	16-JV-11330140-052	-	99,354
				-	117,962
Wood Utilization Assistance:					
USAGR-ESC-FFC-Beetle-Killed Tree	10.674	Direct	16-DG-11420004-166	-	49,511
USDOW-APSRC-Low Lignin Woods	10.674	U.S. Endowment for Forestry and Communities	GRANT NUMBER: CW-4	-	42,658
UNIVE-ESC-FFC-Thermal Modification	10.674	University of Minnesota-Duluth	D004865401/15-DG-11420004-082	-	29,424
				-	121,593
				-	2,059,423
Total U.S. Department of Agriculture					
U.S. Department of Commerce					
No CFDA Number:					
LIMNO-GLOS DMAC 2014-2015	11.unk	LimnoTech Inc	DMAC-04 PRIME# NA11NOS0120041	-	15,362
USCOM-Under Ice Radiometer	11.unk	Direct	EE-133R-16-SE-0738	-	30
UTBAT-IMP-Lithium Interface	11.unk	UT-Battelle, LLC	SUBCONTRACT # 4000140845	-	53,244
LIMNO-GLOS DMAC 2017	11.unk	LimnoTech Inc	LIMNOTECH AGREEMENT	-	19,783
				-	88,419
Ocean Exploration:					
FRIEN-GLRC-Pushing the Boundaries	11.011	Friends of Thunder Bay National Marine Sanctuary	NA16OAR0110194	-	22,540
Integrated Ocean Observing System:					
GLOS-GLRC-Implementation Network	11.012	Great Lake Observing System	PROJECT NUMBER: IOOS/NBN-01	-	34,120
Sea Grant Support:					
OHIOS-Lake Superior Coastal	11.417	Ohio State Univ Research Foundation	SUB. 60045241, NA12OAR4170113	-	6,720
Coastal Zone Management Estuarine Research Reserves:					
MIDEQ-GLRC-FNR-Resilient Coastal	11.419	Michigan Dept of Environmental Quality	PRJCT#17-RESILIENCYSTRATEGY003	-	13,924
National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes:					
UNIVE-GLOS Observing Network	11.432	University of Michigan	3002475304 / NA12OAR4320071	-	49,864
REGEN-2016 SOAR	11.432	Regents of the University of Michigan	SUBAWARD NO. 3004145958	-	150,000
WOODS-Dev Biocompatible Whale Tag	11.432	Woods Hole Oceanographic Institution	SUBAWARD#A101333	-	5,083
				-	204,947
Measurement and Engineering Research and Standards:					
NATIO-Wildland Fire Incident Operat	11.609	Direct	70NANB17H174	-	23,953
Total U.S. Department of Commerce					
				-	394,623
U.S. Department of Defense					
No CFDA Number:					
BAESY-SECTR TA3	12.unk	BAE Systems	SUBCONTRACT #922473	-	15,261
BOEIN-Adaptive Optics for Imagery	12.unk	The Boeing Company	PURCHASE CONTRACT NO. 1247219	-	49,177
LEIDO-Cheetah	12.unk	Leidos Inc	P010168662 #FA8650-15-C-0019	-	234,827
AKELA-ICC-FNR-Multi-Static GPR	12.unk	AKELA Inc	SUBCONTRACT #AK-2016-0402-001	-	31,443
INFOS-AIM-FNR-Decentralized Control	12.unk	Infoscitex Corporation	PRIME#FA8650-15-D-2516 TO 0004	-	42,604
LEIDO-Oak II	12.unk	Leidos Inc	SUBCONTRACT #P010130462	-	194,816
SANDIA-AIM-FNR-Naval Electrical Sys	12.unk	Sandia National Laboratories	PO#1615622	-	13,886
LEIDO- Opera TO2	12.unk	Leidos Inc	P010151900-2 FA8650-13-D-1622	-	111,649
LEIDO-Acme	12.unk	Leidos, Inc.	PRIME 12-C-8917, PO10108055	-	48,164
THERM-Mitigate Sensor Saturationthe	12.unk	Thermoanalytics Inc	PRIME #FA8650-14-C-5014	-	178,743
TECHN-FNR-Sr Design-Design Challeng	12.unk	Technology Service Corporation	STUDENT PROJECT-TSC-1070-40066	-	19,505
UTAHS-LIFT-Geostationary Emitters	12.unk	Utah State University Research Foundation	LETTER CONTRACT DATED 12/16/15	-	544
UTAHS-LIFT-Communication Emitters	12.unk	Utah State University Research Foundation	PURCHASE ORDER CPOO39720	-	53,488
BATTE-IMP-Screen Fly Ashes	12.unk	Battelle	US001-000049661	-	1,559
CRAFT-AIM-JHSV Crane Review	12.unk	Craft Engineering Associates Inc	PO# AC0508	-	8,000
QUANT-AIM-Support RMCD Phase II	12.unk	Quantum Engineering Design Inc	PO#1149	-	(564)
DARPA-Adaptive RADAR Countermeasure	12.unk	Direct	HR0011-13-C-0032	-	722
DARPA-Microwave Photonic Links	12.unk	Direct	HR0011-15-C-0082	-	5,628
SPAWA-MIMO Tower of Babel	12.unk	Direct	N66001-16-C-4011	-	1,078,716

See Notes to Schedule of Expenditures of Federal Awards.

Michigan Technological University

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2017

Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Pass-Through Entity Identifying Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Defense (continued)					
No CFDA Number (continued):					
USAIR-Penetration Fuzing	12.unk	Direct	FA8651-15-C-0066	\$ -	\$ 1,447
USAIR-ESCAPE	12.unk	Direct	FA8750-16-C-0072	-	122,179
USARM-Handheld Explosive Hazard	12.unk	Direct	W909MY-13-C-0029	-	81,153
USARM-Artic Awareness Sensor	12.unk	Direct	W15QKN-16-C-0018	-	221,034
TACOM-ASSUREDIII-RCV Support	12.unk	Direct	W56HZV-14-C-0286 WD 003	-	42,753
TACOM-Assured III-Exploration Test	12.unk	Direct	W56HZV-14-C-0286 WD 006	-	1,676
TACOM-ASSUREDIII-Noise & Vibration	12.unk	Direct	W56HZV-14-C-0286 WD 007	-	67,307
TACOM-ASSUREDIII-JIEDDO-IED Payload	12.unk	Direct	W56HZV-14-C-0286 P006 WD 008	-	16,454
TACOM-ASSUREDIII-Adv Tech Insertion	12.unk	Direct	W56HZV-14-C-0286 MODP0006WD005	-	11,772
TACOM-ASSUREDIII-RCM Vehicle Kit	12.unk	Direct	W56HZV-14-C-0286 MOD P00008 WD	-	45,199
AKELA-SWARM-UAS Explosive Hazards	12.unk	AKELA Inc	SUBCONTRACT #AK-2016-0802	-	70,529
AKELA-Detection and Location	12.unk	AKELA Inc	SUBCONTRACT #AK-2016-0810	-	183,502
AKELA-Buried Landmines Detector	12.unk	AKELA Inc	SUBCONTRACT #AK-2016-0815	-	74,989
ALION-PARA Board Build	12.unk	Alion Science and Technology Corporation	#PUR1142712;#FA4600-06-D-0003	-	13,894
BOEIN-ASSC-FNR-Optical Limiting	12.unk	Boeing Company	PURCHASE CONTRACT NO. 1276851	-	43,263
CACIT-Smart Detection via Machines	12.unk	CACI Technologies Inc	PO #P000029459	-	163,706
CACIT-Forward Thinking Ground RADAR	12.unk	CACI Technologies Inc	PO# P000028947	-	242,597
DCSCO-M1 Abrams Active Protection	12.unk	DCS Corporation	PO#1707036	-	36
LEIDO-PRIDE	12.unk	Leidos, Inc.	SUBCONTRACT NO. P010189654	-	5,887
LEIDO-Corona	12.unk	Leidos, Inc.	SUBCONTRACT #P010190459	-	254,148
LEIDO-Roadrunner	12.unk	Leidos, Inc.	SUBCONTRACT #P010197000	-	38,225
LEIDO-ACME 4	12.unk	Leidos, Inc.	SUBCONTRACT NO P010192299	-	282,549
MITLI-ICC-Self-Interference Modelin	12.unk	Lincoln Labs MIT	PO#7000379788	-	11,436
MDAIN-LFORS Program	12.unk	MDA Information Systems LLC	SUB #SST-0008, SCLIN 0001	-	12,007
NAVAL-AIM-Hydrodynamic Control XBa	12.unk	Direct	N39430-16-C-1883	18,022	49,727
USAIR-Multi Domain Intelligence II	12.unk	Direct	FA8750-15-C-0051	-	77,796
TACOM-ASSUREDIII-BCS Vehicle Integr	12.unk	Direct	W56HZV-14-C-0286 MOD P00018 WD	-	376,807
TACOM-ASSURED III-Heavy Fuel Engine	12.unk	Direct	W56HZV-14-C-0286 MOD P00022 WD	-	139,279
TACOM-ASSURED III-Frozen Soil Test	12.unk	Direct	W56HZV-14-C-0286 MOD P00030 WD	-	2,599
TACOM-Assured III Blast Mitigation	12.unk	Direct	W56HZV-14-C-0286 MOD P0009WD10	-	383,381
TACOM-ASSURED III-Ice Cleat MARCOR	12.unk	Direct	W56HZV-14-C-0286 MODP00027 019	-	298,654
TACOM-Assured III CIED Payload	12.unk	Direct	W56HZV-14-C-0286 P00013 WD 011	-	518,576
TACOM-ASSURED III-APU Task 1	12.unk	Direct	W56HZV-14-C-0286 P00015 WD 013	-	265,077
TACOM-ASSURED III-RCV Enabler	12.unk	Direct	W56HZV-14-C-0286 P00016 WD 012	-	351,775
TACOM-ASSURED III-RCM Conversion	12.unk	Direct	W56HZV-14-C-0286 P00017 WD 015	-	204,488
TACOM-Assured III-AMS SIM Developme	12.unk	Direct	W56HZV-14-C-0286 P00026 WD 020	-	40,636
TACOM-ASSURED III-JIDA-Dismounted	12.unk	Direct	W56HZV-14-C-0286 WD008 REV002	-	234,209
TACOM-ASSURED III HFBC Blast Buck	12.unk	Direct	W56HZV-14-C-0286 WD17	-	689,859
TACOM-Assured III S19 Advanced	12.unk	Direct	W56HZV-14-C-0286MODP00025WD018	-	354,941
TACOM-ASSURED III-BMTD	12.unk	Direct	W56HZV-14-C-0286MODP00029WD021	-	40,621
SANDI-AIM-FNR-Pulsed Load Microgrid	12.unk	Sandia National Laboratories	PO#1746491	-	40,160
SRICO-CQP-Optical Isolators Phase I	12.unk	SRICO Inc	SUBCONTRACT NO. 16043MTU	-	30,419
UNIVE-GLRC-Experimental Buoy	12.unk	University of California at San Diego	UNIV CAL SD PO# 91528180	-	3,159
UTAHs-Fab Equip-Oculus-ASR Nanosate	12.unk	Utah State University Research Foundation	SUBCONTRACT #CP0043108	-	7,341
WOOLP-GLRC-Stamp Sand Threat	12.unk	Woolpert	SUB AGREEMENT NO. MTU-16-S-021	-	91,919
WYLEA-CQP-Nonreciprocal MagnetoOpti	12.unk	Wyle Aerospace Group	APSC02053/A10552-0005-S004/FA8	-	53,638
				<u>18,022</u>	<u>8,350,971</u>
Basic and Applied Scientific Research:					
OFFIC-Info Recovery Algorithm Comp	12.300	Direct	N00014-13-1-0018	-	(1)
OFFIC-Metamaterial Devices	12.300	Direct	N00014-15-1-2684	-	105,017
OFFIC-AIM-Undersea Persistence	12.300	Direct	N00014-15-1-2599	-	132,606
OFFIC-LSTI-FNR-Smart Adhesive	12.300	Direct	N00014-16-1-2463	-	107,479
SOUTH-AIM-Coastal Energy Conversion	12.300	South Dakota School of Mines & Technology	N00014-16-1-2137 MTU 16-21	-	5,163
OFFIC-AIM-Autonomous Microgrids	12.300	Direct	N00014-16-1-2422	-	78,354
OFFIC-AIM-Increasing Ship Power Sys	12.300	Direct	N00014-16-1-3044	-	140,631
OFFIC-AIM-Integrating Object Detect	12.300	Direct	N00014-17-1-2273	-	17,963
OFFIC-IMP-Microalloyed Aluminum	12.300	Direct	N00014-16-1-2878	-	67,490
OFFIC-MTRI-Standoff IED Detection	12.300	Direct	N00014-16-1-2623	-	208,050
				<u>-</u>	<u>862,752</u>

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Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Pass-Through Entity Identifying Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Defense (continued)					
Basic Scientific Research:					
OFFIC-MIMC-Agile Microgrids	12.431	Direct	W911NF-13-2-0024	\$ -	\$ 323,885
USARM-CQP-First Principles Study	12.431	Direct	W911NF-14-2-0088	-	85,595
OFFIC-ICC-Target Detection	12.431	Direct	W911NF-16-1-0017	-	157,710
ACADE-IMP-Reap Michigan Tech 2016	12.431	Academy of Applied Science	CHECK NO. 10051 DATED 6/7/16	-	3,592
OFFIC-ICC-Buried & Obscured Targets	12.431	Direct	W911NF-16-1-0241	-	99,779
				<u>-</u>	<u>670,561</u>
Basic, Applied, and Advanced Research in Science and Engineering:					
NATIO-Effects of Wind SAR Coherence	12.630	Direct	HM04761510009	-	56,357
AMERI-IMP-Melt 5a Development	12.630	American Lightweight Materials Manufacturing Innovation Inst	#N00014-14-2-0002 SUB 0002A-6	-	123,250
				<u>-</u>	<u>179,607</u>
Air Force Defense Research Sciences Program:					
USAIR-MuSTI-Magneto Electrostatic	12.800	Direct	FA9550-14-1-0337	100,556	239,289
USAIR-FNR-Fuze Test Capability	12.800	Direct	FA8651-14-2-0009	-	24,593
USAIR-MuSTI-Nanostructured Prop	12.800	Direct	FA2386-14-1-3030	61,850	89,485
NATIO-IMP-3D Weld Printing Platform	12.800	National Center for Defense Manufacturing and Machining	FA8650-12-2-7230	-	4,577
UNIVE-ICC-Wave Optics Turbulence	12.800	University of Dayton Research Institute	RSC12034	-	136,490
USAIR-ICC-FNR-Induced Anisoplanatis	12.800	Direct	FA9550-17-1-0201	-	23,674
USAIR-MuSTI-Magneto-Electrostatic	12.800	Direct	FA9550-17-1-0212	-	59,435
OFFIC-EPSSI-Lab Cloud Chamber	12.800	Direct	FA9453-16-1-0083	-	129,645
				<u>162,406</u>	<u>707,188</u>
Mathematical Sciences Grants Program:					
OFFIC-FNR-Designs, Codes & Finite	12.901	Direct	H98230-16-1-0011	-	37,993
CyberSecurity Core Curriculum:					
OFFIC-ICC-Cybersecurity Curriculum	12.905	Direct	H98230-17-1-0227	-	34,845
Research and Technology Development:					
VIRGI-IMP-FNR-Efficient Electronics	12.910	Virginia Polytechnic Institute and State University	SUBAWARD NO. 450393-19959	-	101,378
FLORI-ICC-DARPA XAI	12.910	Florida Institute for Human and Machine Cognition	FA8650-17-2-7711-1	-	2,641
SOUTH-AIM-Small Wave Energy	12.910	South Dakota School of Mines & Technology	SDSMT-MTU 16-25	-	38,830
USINT-GLRC-Bilge Water Microbiomes	12.910	Direct	D16AP00146	-	59,557
				<u>-</u>	<u>202,406</u>
Total U.S. Department of Defense				<u>180,428</u>	<u>11,046,323</u>
U.S. Department of Interior					
No CFDA Number:					
WISCO-ESC-FFC-Ecological Benefits	15.unk	Wisconsin Dept of Natural Resources	PO#37000-0000000058	-	5,442
WISCO-ESC-FFC-Lakeshore Restoration	15.unk	Wisconsin Dept of Natural Resources	PO #37000-0000000981	-	10,347
KEWEE-Cleanup Quincy Smelting Work	15.unk	Direct	MTU CONFIRMING ORDER #1509091	-	646
USPAR-Ghyllbank Twnship Archeol-NPS	15.unk	Direct	H.2215-LETTER	-	5,419
USPAR-Indiana Dunes Nat'l Lakeshore	15.unk	Direct	1258027	-	2,351
				<u>-</u>	<u>24,205</u>
Fish, Wildlife and Plant Conservation					
Resource Management:					
USBUR-NSSI Intergovernmental Webs	15.231	Direct	L14AC00007	-	48,587
Keweenaw National Historical Park (NHP)					
Enhancement Grants:					
KEWEE-Quincy Milling History	15.407	Keweenaw NHP Advisory Commission	C2015-015	-	957
Coastal Program:					
USFIS-Abiotic & Biotic Constraints	15.630	Direct	F12AC01384	-	13,372
Research Grants (Generic):					
USFIS-Carbon & Nutrient Flux	15.650	Direct	F16AC00321	-	42,988

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Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Pass-Through Entity Identifying Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Interior (continued)					
Migratory Bird Monitoring, Assessment and Conservation:					
USFIS-ESC-FFC-Woodcock Habitat	15.655	Direct	F15AP00518	\$ 3,950	\$ 4,977
Great Lakes Restoration:					
USFIS-ESC-FFC-Huron Bay Hunt Club	15.662	Direct	F16AC01002	-	22,465
Cooperative Ecosystem Studies Units:					
USFIS-Coastal Wetlands	15.678	Direct	F16AC01102	-	95,085
U.S. Geological Survey Research and Data Collection:					
USGEO-ESC-FFC-Dating Fecal Pellets	15.808	Direct	G16AC00154	-	5,334
National Cooperative Geologic Mapping:					
USGEO-GLRC-Keweenaw Fault Geometry	15.810	Direct	G17AC00115	-	7,343
National Land Remote Sensing-Education Outreach and Research:					
AMERI-StateView Program YR4	15.815	AmericaView Inc	AWARD #AV13-MI01	-	18,315
National Resource Stewardship:					
USPAR-ESC-FFC-Wolf-Moose monitoring	15.944	Direct	TASK AGREEMENT #P16AC00004	-	33,558
Cooperative Research and Training Programs - Resources of the National Park System:					
USPAR-ESC-FFC-Beech Reintroduction	15.945	Direct	P16AC01398	-	27,117
USPAR-Pullman National Monument	15.945	Direct	TASK AGRM # P17AC00005	-	12,316
				-	39,433
Total U.S. Department of Interior				3,950	356,619
U.S. Department of Labor					
Trade Adjustment Assistance Community College and Career Training (TAACCT):					
BAYDE-PLC Education Simulation Game	17.282	Bay de Noc Community College	AGREEMENT DATED 4/2/14	-	26,193
U.S. Department of Transportation					
No CFDA Number:					
OKLAH-IMP-Resist Frost Damage	20.unk	Oklahoma State University	PO # P0029297	-	3,665
TRANS-Measurements for Auto Safety	20.unk	Transportation Research Center, Inc.	TRANSPORT RSCH CTR PO 091728	-	83,055
MITRA-MTTI-Bridge Decks	20.unk	Michigan Dept of Transportation	2010-0295 AUTH Z7 JOB#128039	-	106,489
MITRA-Wireless Data Collection	20.unk	Michigan Dept of Transportation	2013-0067 AUTH 2 JOB#121389	-	53,488
MITRA-MTTI-NURail Tier 1	20.unk	Michigan Dept of Transportation	2013-0067, AUTH Z11 JOB#126721	-	11,572
MITRA-MTTI-Unmanned Aerial Vehicles	20.unk	Michigan Dept of Transportation	2016-0067 AUTHORIZATION 1	-	350,931
USTRA-Unpaved Road Conditions RS	20.unk	Direct	RITARS-11-H-MTU1	21,334	21,334
USTRA-MTTI-Driver Behavior	20.unk	Direct	DTFR5316C00022	-	111,822
INTEG-DOT Short Course	20.unk	Integrated Global Dimensions LLC	MTU AGREEMENT; #DTRT5717C10031	-	21,148
IOWAS-IMP-Jointed Concrete Pavement	20.unk	Iowa State University	SUBCONTRACT #436-17-09B	-	13,864
MITRA-MTTI-Wet Freeze Best Practice	20.unk	Michigan Dept of Transportation	AUTHORIZATION NO. Z3	-	54,634
NATIO-Measuring Saliency in Crash	20.unk	Direct	CHECK #193	-	3,434
UNIVE-Radar Congestion Task 1	20.unk	University of Michigan	PSA #3004183586	-	119,796
				21,334	955,232
Highway Research and Development Program:					
UNIVE-MTTI-Sustainable Hwy Practice	20.200	University of Washington	SUB# UWSC9460 BPO#20732	-	10,117
Metropolitan Transportation Planning and State and Non-Metropolitan Planning and Research:					
MITRA-Bridge Scour Technology	20.505	Michigan Dept of Transportation	AUTHORIZATION NO. Z4	-	2,729
Public Transportation Research, Technical Assistance, and Training:					
UNIVE-MTTI-Transit Response Plan	20.514	University of Chicago	SUB AWARD #FP062899-B	-	49,730

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Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Pass-Through Entity Identifying Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Transportation (continued)					
University Transportation Centers Program:					
OHIOS-Border Crossing Facilities	20.701	Ohio State University	SUB 60052149, DTRT12-G-UTC05	\$ -	\$ 2,053
UNIVE-MTTI-NURail Tier 1	20.701	University of Illinois at Urbana-Champaign	2013-05178-02	-	96,495
				-	98,548
Transportation Planning, Research and Education:					
USTRA-MTTI-Sust Geotech Asset Mgmt	20.931	Direct	RITARS-14-H-MTU	-	(212)
UNIVE-MTTI-Risk Infrastructure	20.931	University of Arkansas	SA1509067	-	43,570
				-	43,358
				21,334	1,159,714
Total U.S. Department of Transportation					
National Aeronautics and Space Administration					
No CFDA Number:					
USNAS-Harmful Algal Blooms	43.unk	Direct	NNC15VA51P	-	96,570
HONEY-AIM-FPP-Planetary Landing	43.unk	Honeybee Robotics LTD	HONEY.SUBCONTRACT #456.SBC.001	-	47,394
JETPR-MuSTI-FRN-ISRU on Mars	43.unk	Jet Propulsion Laboratory	SUBCONTRACT NO. 1576028	-	24,429
				-	168,393
Science:					
USNAS-FNR-EPPSI- A-Train Volcano	43.001	Direct	NNX11AF42G	-	7,616
USNAS-Linking Remote Sensing	43.001	Direct	NNX12AQ89G	-	133,821
USNAS - EPSSI - FNR - Climatology	43.001	Direct	NNX13AF50G	-	113,670
USNAS-EPSSI-FNR-Solar Activity	43.001	Direct	NNX113AF90G	-	45,685
USNAS-Linking Remote Sensing Data	43.001	Direct	NNX14AD63G	-	10,332
USNAS-GLRC-FNR-Spectral Character	43.001	Direct	NNX14AB80G	68,416	75,992
USNAS-GLRC-FNR-Changing Sea-Ice	43.001	Direct	NNX14AN78G	14,119	14,119
USNAS-EPSSI-FNR-EJC Observations	43.001	Direct	NNX15AC61G	-	15,333
USNAS-EPSSI-FNR-Basaltic Volcanic	43.001	Direct	NNX15AR97G	15,000	104,561
USNAS-Boreal-Taiga Ecosystems	43.001	Direct	NNX15AT83A	-	209,764
MASSA-GLRC-FNR-EcologicalVariabilit	43.001	Massachusetts Institute of Technology	5710003376 PRIME 3NNX13AC34G	-	29,732
UNIVE-Repeated Wildfire Burning	43.001	University of Maryland	Z6981001 / NNX15AT79A /PO31017	-	80,764
USNAS-FNR-NASAs Plum Brook Station	43.001	Direct	NNX16AL54G	-	29,715
USNAS-SMAP-Data. Soil Fuel Moisture	43.001	Direct	NNX16AN09G	24,717	240,795
				122,252	1,111,899
Education:					
USNAS-FNR-LIFT-Stratus: A CubeSat	43.008	Direct	NNX16AI74A	-	65,371
Cross Agency Support:					
USNAS-MUSTI-FNR-Cryogenic	43.009	Direct	NNX14AB05G	-	1,477
				122,252	1,347,140
Total National Aeronautics and Space Administration					
National Endowment for the Humanities					
Promotion of the Humanities - Division of Preservation and Access:					
NATIO-GLRC-CC Historical Spatial	45.149	Direct	PW-234885-16	-	(16,061)
National Science Foundation					
No CFDA Number:					
JFDRA-Digital Technology Education	47.unk	J F Drake State Technical College	DPO-1201002 DUE-1205169	-	9,902
STABI-CQP-Brightness Fluorophores	47.unk	Stabilux Biosciences Inc.	MTU AGMT #1411031	-	21,263
TREAM-APS-Mineral Removal	47.unk	Treamin Energy Inc.	MTU AGMT #1412015	-	32,439
MICRO-CSERI-Blood Typing Determinat	47.unk	Microdevice Engineering Inc	MICHIGAN TECH AGREEMENT1601065	-	54,788
MICRO-Microfabrication Fac Services	47.unk	Microdevice Engineering Inc	MTU CO#1703052;PO#2	-	8,135
				-	126,527
Engineering Grants:					
NSF-APSRC-CAREER Fluid Structure	47.041	Direct	CBET-0952218	-	42,210
NSF-Meeting NAE Grand Challenge	47.041	Direct	EEC-1024628	-	12,439
NSF-CWS1-IDR:SustianableWater	47.041	Direct	CBET-1014818	-	26,073
NSF-IMP-Solar Energy Conversion	47.041	Direct	CBET-1235750	-	(1,498)
NSF-SFI-Dust Mitigation	47.041	Direct	CMMI-1234126	-	7,327
NSF-BRC Preferential Hydration	47.041	Direct	CBET-1159425	-	21,756
NSF-SFI-Aerodynamic Vibration	47.041	Direct	CMMI-1300970	-	7,749
NSF-EPSSI-FNR-Damage Assessment	47.041	Direct	CMMI-1300720	-	61,357
NSF-MTTI-SusChEM/Collaborative Rese	47.041	Direct	CMMI-1300286	-	35,976

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Research and Development Cluster (continued)					
National Science Foundation (continued)					
Engineering Grants (continued):					
NSF-APSRC-Combustion Engines	47.041	Direct	CBET-1258720	\$ -	\$ 119,989
NSF-MuSTI-High Voltage Temperature	47.041	Direct	IIP-1362040	-	68,955
NSF-MuSTI-CAREER-Mobility Amputees	47.041	Direct	CBET-1350154	14,546	61,873
NSF-BRC-PFI: AIR-TT Blood Typing	47.041	Direct	IIP-1414331	-	15,419
NSF-MuSTI-FNR-Millimeter Scale Flow	47.041	Direct	CBET-1402702	-	52,350
NSF-APS-GOALI: Easily Verifiable	47.041	Direct	CMMI-1435257	-	36,989
NSF-CWS-Molecular Level Investigati	47.041	Direct	CBET-1435926	-	121,357
NSF-LSTI-CAREER:Improved Virus Remo	47.041	Direct	1451959	-	71,987
NSF-ILI-I-Corps Site Program	47.041	Direct	1450364	-	27,135
NSF-IMP-3D Integrated Circuit Pkg	47.041	Direct	1462204	-	1,451
NSF-LSTI-GOALI:Graphen PaperSensor	47.041	Direct	1510006	-	71,778
NSF-CQP-EAGER: Dynamic Characterist	47.041	Direct	1545804	-	66,759
NSF-MTTI-Active Mobile Sensor Net	47.041	Direct	1538105	-	23,173
NSF-Workshop on Solar Power	47.041	Direct	1543702	-	3,807
NSF-LSTI-EAGER:Therapeutic Protein	47.041	Direct	1548107	-	21,386
NSF-CWS-RET Site:Promoting Learning	47.041	Direct	1542383	5,268	155,953
NSF-MTTI-Water Flow In Soils	47.041	Direct	1562522	-	51,189
NSF-SFI-SusChEM:Efficient Hydrolysi	47.041	Direct	1605105	-	16,371
NSF-SFI-INFEWS/T3 Conservation	47.041	Direct	CBET-1639342	83,734	159,638
NSF-GLRC-The Role of Citizen Scienc	47.041	Direct	CBET-1644860	-	22,039
NSF-GLRC-CAREER:Underwater Acoustic	47.041	Direct	1651135	-	10,767
NSF-AIM-CAREER: Battery Lifetime	47.041	Direct	1651256	-	4,644
NSF-CISSIC-Near Ground Wireless	47.041	Direct	ECCS-1101843	-	1,252
NSF-IMP-Nanofabrication Three-Dimen	47.041	Direct	CMMI-1661699	-	30,160
NSF-LSTI-I-Corps Device Wheelchair	47.041	Direct	1645522	-	48,725
				103,548	1,478,535
Mathematical and Physical Sciences:					
NSF-SFI-Hydrocarbon Transportation	47.049	Direct	CHE-1230803	-	80,279
NSF-MuSTI Functional Boron Nitride	47.049	Direct	DMR-1261910	-	39,904
NSF-EPSSI-Cosmic Ray Acceleration	47.049	Direct	PHY-1307289 AMEND NO 1	-	51,750
NSF-Hyperbolic Conservation Laws	47.049	Direct	DMS-1316662	-	21,127
NSF-BRC-Tunable Nitric Oxide	47.049	Direct	DMR-1410192	-	3,455
NSF-IMP-Domain Mechanisms	47.049	Direct	DMR-1409317	-	68,101
NSF-IMP-Collab Research-Martensites	47.049	Direct	1506936	-	64,500
NSF-High Order Eigenvalue Problems	47.049	Direct	1521555	-	43,045
NSF-LSTI-New Identity of Galectin-3	47.049	Direct	1608537	-	52,601
NSF-CAREER:Engrg Bimetallic Nanostr	47.049	Direct	1651307	-	1,208
NSF-EPSSI-Galactic Plane Morphology	47.049	Direct	1607415	-	105,491
				-	531,461
Geosciences:					
NSF-RSI-CAREER Volcano-Seismic	47.050	Direct	EAR-1053794	-	2,941
NSF-CAREER Flood Risk Projections	47.050	Direct	EAR-1053655	-	38,314
NSF-EPSSI-Physical/Radar Meteor	47.050	Direct	AGS-1119164	-	7,400
NSF-EPSSI-CAREER-Magnet Fingerprint	47.050	Direct	EAR-1149434	-	99,436
NSF-CWS2-South Florida Water	47.050	Direct	EAR-1204474	-	68,254
NSF-CWS2-Impacts of Global Transpor	47.050	Direct	ICER-1313755	56,435	191,704
NATIO-GLRC-Continuation of MPOWIR	47.050	Direct	OCE-1356212	-	7,588
NSF-EPSSI-Single Silicate Crystals	47.050	Direct	1519967	-	64,009
NSF-EPSSI-EAGER: Aerosol Effects	47.050	Direct	1623429	-	102,617
NSF-AIM-Making Wave Energy	47.050	Direct	1635362	-	64,926
INTER-Bioenergy Development	47.050	InterAmerican Institute for Global Change Research	GRANT AGREEMENT FOR CRNIII	38,489	43,169
UNIVE-GLRC-Detect Microcystis Bloom	47.050	University of New Hampshire	SUB NO. 13-061, #OCE-1313783	-	5,715
UNIVE-CWS-Experimental Frameworks	47.050	University of New Hampshire	SUB 14-066, PRIME ICER-1313804	-	89,484
UNIVE-RUI: Probing Caldera-Forming	47.050	University of Wisconsin-Oshkosh	13309302013-1NSF	-	31,002
MOLIN-Black Carbon Emissions	47.050	Molina Center for Energy and the Environment	AGREEMENT MTU MCE2	-	39,424
NSF-EPSSI-Collab Research:Peat Fire	47.050	Direct	1464264	-	113,573
NSF-AIM-Collaborative Rsch:Wave Ene	47.050	Direct	1702327	-	38,109
NSF-EPSSI-Heterogeneous Ice Nucleat	47.050	Direct	1541998	-	44,688
NSF-EPSSI-MRI:Develop Mapping Syste	47.050	Direct	1625598	-	46,806
NSF-EPSSI-Correlated Random Process	47.050	Direct	1639868	-	23,854
				94,924	1,123,013

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Research and Development Cluster (continued)					
National Science Foundation (continued)					
Computer and Information Science and Engineering:					
NSF-ICC-Graph Sparsification	47.070	Direct	CCF-1318694	\$ -	\$ 28,476
NSF-ICC-CAREER-Integrated Research	47.070	Direct	CCF-1349984	-	43,445
CAREER-ICC-Heterogeneous Manycore	47.070	Direct	CCF-1350206	-	46,857
NSF-EAGER Imperative Programs	47.070	Direct	CCF-1450062	-	1,388
NSF-ICC-Collaborative Research	47.070	Direct	CNS-1422342	-	116,480
NSF-AIM- Architecture Optimization	47.070	Direct	CNS-1446622	-	63,588
NSF-AIM-CAREER:Autonomous System	47.070	Direct	1453886	-	51,256
NSF-ICC-XPS Collaborative Sphinx	47.070	Direct	1533828	-	188,004
NSF-ICC-EAGER:NeTS Under-Ice Mobile	47.070	Direct	1551067	-	119,605
NSF-ICC-Spatio-Temporal Correlation	47.070	Direct	1526152	-	45,654
NSF-AIM-Collab Research:CRISP Type2	47.070	Direct	1541000	-	203,950
NSF-ICC-Scalable Spectral Sparsifica	47.070	Direct	CCF-1618364	-	43,348
NSF-ICC-CSR:Small:Miss Ratio Curves	47.070	Direct	1618384	-	32,225
UNIVE-CGV:Big Scientific Data	47.070	University of Notre Dame	SUB: 202405 PRIME: IIS-1456763	-	4,837
				<u>-</u>	<u>989,113</u>
Biological Sciences:					
NSF-ESC-FFC-Predation Eco System	47.074	Direct	DEB-1019928	-	4,096
NSF-ESC-FFC-Yellowston Wolves LTREB	47.074	Direct	DEB-1245335	-	83,510
NSF-ESC-FFC-FNR-Nitrate Deposition	47.074	Direct	DEB-1251529	-	37,552
NSF-LSTI-Targeting microRNAs	47.074	Direct	IOS-1340001	642,257	958,213
NSF-FFC-ESC-Peatland C Fluxes	47.074	Direct	DEB-1354370	-	60,504
NSF-CCSR-IDBR Unconventional Antenn	47.074	Direct	DBI-1353664	-	84,513
NSF-ESC-FFC-LTREB Terrestrial Chain	47.074	Direct	1453041	-	83,294
NSF-ESC-FNR-Career Riverine Ecosys	47.074	Direct	1451919	-	153,339
NSF-LSTI-FFC-ABI Innovation G2P	47.074	Direct	1458130	-	115,204
NSF-FFC-ESC-EAGER:Vertebrate Food	47.074	Direct	1545611	-	24,748
COLOR-ESC-FFC-Peru's Cordillera	47.074	Colorado State University	G-96772-1	-	12,079
				<u>642,257</u>	<u>1,617,052</u>
Social, Behavioral, and Economic Sciences:					
NSF-GLRC-Toxic Iron-Mining Contam	47.075	Direct	SES-1430755	-	64,038
Education and Human Resources:					
NSF-CAREER Math Moments Instru	47.076	Direct	DRL-1052958	-	43,458
NSF-Theory of Productive Math Use	47.076	Direct	AMENDMENT NO. 002	-	60,432
NSF-ICC-Accessible Access Control	47.076	Direct	DUE-1245310	-	9,760
NSF-Revamping Robotics Education	47.076	Direct	1501335	33,208	155,623
NSF-Agile Communicator-Software	47.076	Direct	1504860	-	104,454
NSF-ICC-EDU:Collaborative:VACCS	47.076	Direct	1523017	-	59,862
REGEN-ILI-Microaggressions in Teams	47.076	Regents of the University of Michigan	SUBCONTRACT NO:3003298295	-	48,542
UNIVE-Promoting Reflective	47.076	University of Minnesota	A005354501 PTE: DUE-1540789	-	43,157
				<u>33,208</u>	<u>525,288</u>
Office of International and Integrative Activities:					
NSF-SFI-Bioenergy Development	47.079	Direct	OISE-1243444	253,212	850,055
NSF-FNR-US-China-Germany Planning	47.079	Direct	IIA-1427665	-	1,826
NSF-LSTI-FNR-IRES: Biosensors	47.079	Direct	1559445	-	48,267
				<u>253,212</u>	<u>900,148</u>
Total National Science Foundation				<u>1,127,149</u>	<u>7,355,175</u>
U.S. Environmental Protection Agency					
Great Lakes Program:					
USENV-GLRC-Eurasian Watermilfoil	66.469	Direct	GL-00E01291-0	3,913	46,103
USENV-Watermilfoil Control	66.469	Direct	GL-00E01928-0	50,279	246,007
USENV-Invasive Phragmites	66.469	Direct	GL-00E01929-0	237,051	345,572
LOYOL-Invaded Wetlands	66.469	Loyola University Chicago	516995-MTU	-	14,251
				<u>291,243</u>	<u>651,933</u>
Science To Achieve Results (STAR)					
Research Program:					
USENV-EPSSI-Extreme Event Impacts	66.509	Direct	RD-83518901-0	-	43,112
Performance Partnership Grants:					
INDEM-GLRC-PCBs Atmospheric	66.605	Indiana Department of Environmental Management	PO #0017534746	-	33,100
Total U.S. Environmental Protection Agency				<u>291,243</u>	<u>728,145</u>

See Notes to Schedule of Expenditures of Federal Awards.

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Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Pass-Through Entity Identifying Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Energy					
No CFDA Number:					
ARGON-Natural Gas Research	81.unk	Argonne National Laboratory	SUBCONTRACT NO. 6F-31282	\$ -	\$ 79,251
BATTE-APS-Paddle Fast Pyrolysis	81.unk	Battelle Energy Alliance	CONTRACT #155738	-	25,502
BONNE-PERC-Transformer Protection	81.unk	Bonneville Power Administration	GRANT 66296	-	60,361
HONEY-APS-Tailorable Plate Testing	81.unk	Honeywell Federal Manufacturing & Technologies, LLC	DE-NA0002839 / PO#N000189974	-	100,744
HONEY-Senior Design: Plate Testing	81.unk	Honeywell Federal Manufacturing & Technologies, LLC	DE-NA0002839 PO#N000189963	-	14,178
SANDI-AIM-FNR-Wave Energy Converter	81.unk	Sandia National Laboratories	PO#1514349	-	2,171
ARGON-AIM-Smart Grid Integration	81.unk	Argonne National Laboratory	7F-30037	-	23,722
BATTE-EPSSI-HOLODEC Participation	81.unk	Battelle Memorial Institute	332788	-	22,107
HONEY-APS-Fixture Design and Damage	81.unk	Honeywell Federal Manufacturing & Technologies, LLC	DE-NA0002839; PO#N000224420	-	21,566
SANDI-AIM-FNR-Wave Energy	81.unk	Sandia National Laboratories	PO#1697772	-	92,983
UTBAT-ESC-FFC-Climate Change	81.unk	UT-Battelle, LLC	SUBCONTRACT NO. 4000146950	-	61,911
				-	504,496
Office of Science Financial Assistance Program:					
USENE-ESC-FFC-Tropical C Cycling	81.049	Direct	DE-SC0012000	79,475	134,624
USENE-EPSSI-Ice Microphysical Props	81.049	Direct	DE-SC0011690	-	126,691
USENE-MuSTI-Junctions BNNTs/CNTs	81.049	Direct	DE-SC0012762	-	78,387
AEROD-EPSSI-Cloud Particle Form	81.049	Aerodyne Research	SUB #ARI 11045-1 DE-SC0011935	-	40,186
USENE-IMP-Yr1-Grain Boundary Struct	81.049	Direct	DE-SC0016314	-	91,274
				79,475	471,162
Conservation Research and Development:					
USENE-APS-FNR-Spraywall Interaction	81.086	Direct	DE-EE0007292	12,594	74,370
USENE-APS-FNR-Natural Gas Engine	81.086	Direct	DE-EE0007331	-	196,822
				12,594	271,192
Renewable Energy Research and Development:					
THREE-MuSTI-Novel Lonomers	81.087	3M Corporation	3M CONTRACT #USMMM3KR5T	-	185,371
GASTE-SFI-Hydrocarbon Fuels	81.087	Gas Technology Institute	SUBCONTRACT NO. S549	-	53,783
				-	239,154
Fossil Energy Research and Development:					
USENE-IMP-FNR-Nickle-Base Superalloy	81.089	Direct	DE-FE0027822	-	70,191
Advanced Research Projects Agency - Energy:					
LANZA-SFI-LCA Support Gas Conversio	81.135	Lanza Tech	MICHIGAN TECH AGMT #1306017	-	38,888
RELIN-IMP-Metallurgical Support	81.135	REL Inc	MTU AGMT #1412056	-	253
UNIVE-IMP-Dry Cooling of Power	81.135	University of Maryland	SUBAWARD NO. 30353-Z7214003	-	76,260
UNIVE-Packetized Energy Management	81.135	University of Vermont	30382 SUB52046 MICHIGAN	-	140,702
USENE-APS-NEXTCAR Hybrid	81.135	Direct	DE-AR0000788	-	180,641
				-	436,744
				92,069	1,992,939
Total U.S. Department of Energy					
U.S. Department of Education					
Education Research, Development and Dissemination:					
OHIOS-Enhancing Middle School Math	84.305	Ohio State University	60046917 SUB# R305A150365	-	164,287
U.S. Department of Health and Human Services					
No CFDA Number:					
CENTE-NIOSH Instrumented Drill Stri	93.unk	Direct	NIOSH CDC PO #200-2016-M-90906	-	23,011
PEDIA-IMP-Stent Studies	93.unk	PediaStent LLC	#1702015	-	14,389
PEDIA-IMP-Casting Stent Material	93.unk	PediaStent LLC	MTU# 1611046	-	14,239
				-	51,639
Oral Diseases and Disorders Research:					
NIH-LSTI-Dev Multi-epitope L2 Bacte	93.121	Direct	1 R15 DE025812-01A1	7,971	93,562
Human Genome Research:					
NIH-LSTI-Rare Variant Assoc Studies	93.172	Direct	1 R15 HG008209-01A1	-	159,316
BAYLO-LSTI-Next Gen Bioinformatics	93.172	Baylor College of Medicine	PO#5601137158	-	120,157
				-	279,473

See Notes to Schedule of Expenditures of Federal Awards.

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Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Pass-Through Entity Identifying Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Health and Human Services (continued)					
National Center on Sleep Disorders Research:					
UNIVE-Sleep Disordered Breathing	93.233	University of Michigan	SUB#3002300214 1-R01-HL105991	\$ -	\$ 15,151
Discovery and Applied Research for Technological Innovations to Improve Human Health:					
NIH-IMP-Zn-Based Stent Materials	93.286	Direct	1R21EB019118-01A1	277	92,129
NIH-LSTI-Magnetoelastic System	93.286	Direct	1R15EB023648-01	-	31,411
				<u>277</u>	<u>123,540</u>
Cancer Detection and Diagnosis Research:					
NIH-BRC-Virtual Breast Project	93.394	Direct	1 R15 CA179409-01A1	-	72,996
UNIVE-LSTI-Ultrasonic Ablation	93.394	University of Wisconsin-Madison	SUB #494K686 PRIME R01CA112192	-	11,232
				<u>-</u>	<u>84,228</u>
Cancer Treatment Research:					
NIH-LSTI-Vessel Regeneration	93.395	Direct	1R15CA202656-01	-	158,298
Cardiovascular Diseases Research:					
NIH-LSTI-Rats with High Salt Intake	93.837	Direct	1R15HL122952-01A1	-	115,715
NIH-IMP-Stent Materials	93.837	Direct	1R15HL129199-01	11,398	154,090
NIH-LSTI-Brain (Pro)renin	93.837	Direct	1R15HL129213-01A1	-	67,480
				<u>11,398</u>	<u>337,285</u>
Lung Diseases Research:					
NIH-BRC-Sleep Deprivation in Women	93.838	Direct	1R15HL122919-01	-	132,660
Diabetes, Digestive, and Kidney Diseases Extramural Research:					
NIH-LSTI-miR-483 in Pancreatic Cell	93.847	Direct	1R15DK103197-01A1	-	52,373
Biomedical Research and Research Training:					
NIH-LSTI-Oligodeoxynucleotide	93.859	Direct	1R15GM109288-01	-	85,430
NIH-BRC-Lysosomal pH in Living Cell	93.859	Direct	1 R15 GM114751-01	-	75,099
NIH-LSTI-Adhesive PEG-fibrinogen	93.859	Direct	1R15GM112082-01	-	57,987
NIH-LSTI-Role of Toolkit Genes	93.859	Direct	1 R15 GM107801-01A1	-	111,907
NIH-LSTI-Biomimetic Tissue Adhesive	93.859	Direct	2 R15 GM104846-02	-	75,601
				<u>-</u>	<u>406,024</u>
Child Health and Human Development Extramural Research:					
GEORG-ICC-Music Based Robotic	93.865	George Washington University	SUB #16-S12 / 7R01HD082914-03	-	122,676
REGEN-Impact ICU Acoustic Environ	93.865	Regents of the University of Michigan	PO#3004302090	-	11,851
				<u>-</u>	<u>134,527</u>
Total U.S. Department of Health and Human Services				<u>19,646</u>	<u>1,868,760</u>
Total Research and Development Cluster				<u>1,858,071</u>	<u>28,483,280</u>
Other Programs					
U.S. Department of Agriculture					
No CFDA Number:					
USAGR-ESC-FFC-Climate Change	10.unk	Direct	15-CR-11242306-043	-	23,807
USAGR-ESC-FFC-Fire Preparedness	10.unk	Direct	15-CS-11242306-044	-	11,653
USAGR-ESC-FFC-Climate Change	10.unk	Direct	15-CR-11242306-059	-	101,032
USAGR-ESC-FFC-Ed/Outrch Climate Chg	10.unk	Direct	11-CR-11242306-124	-	1,598
USAGR-ESC-FFC-Belowground Ecosystem	10.unk	Direct	13-JV-11242306-039	-	84,945
USFOR-Completion of TRACS Surveys	10.unk	Direct	15-CS-11090100-016	-	84,090
USAGR-ESC-FFC-Instruct Climate	10.unk	Direct	12-JV-11242306-130	40,499	40,499
USAGR-Ottawa & Hiawatha Nat'l Fores	10.unk	Direct	16-CS-11091000-014	-	8,289
USAGR-ESC-FFC-Support Forest Climat	10.unk	Direct	16-CR-11242306-095	-	48,883
USAGR-FFC-Ottawa NF Earthworms	10.unk	Direct	16-CS-11242306-135	-	13,363
USAGR-ESC-FFC-Climate Change Center	10.unk	Direct	16-CS-11242306-147	-	63,849
USAGR-ESC-FFC-Belowground Ecosystem	10.unk	Direct	17-JV-11242306-011	-	2,520
				<u>40,499</u>	<u>484,528</u>
Child and Adult Care Food Program:					
Child Care Food Program	10.558	Michigan Dept of Education		-	15,695

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Other Programs (continued)					
U.S. Department of Agriculture (continued)					
Wood Utilization Assistance:					
RENEW-FFC-Wood Innovation Team	10.674	Renewable Resource Solutions LLC	CONTRACTOR AGMNT DATED 10/4/16	\$ -	\$ 12,164
Total U.S. Department of Agriculture				<u>40,499</u>	<u>512,387</u>
U.S. Department of Commerce					
No CFDA Number:					
MICHI-GLRC-Great Lakes Literacy YR2	11.unk	Michigan State University	PO298933	-	4,197
Sea Grant Support:					
UNIVE-GLRC-Angela Yu Fellowship	11.417	University of Michigan	3003997385	-	40,532
Total U.S. Department of Commerce				<u>-</u>	<u>44,729</u>
U.S. Department of Defense					
No CFDA Number:					
TECHN-PIOI-MTU-Summer Youth	12.unk	Technology Student Association	AWARD LETTER 1/28/16	-	16,907
OFFIC-APS-Propulsion Systems PDC	12.unk	Direct	EMAIL DATED 4/6/17	-	96,775
TECHN-PIOI-MTU-UNITE/Summer Youth	12.unk	Technology Student Association	MTU AGREEMENT #1611025	-	2,910
				<u>-</u>	<u>116,592</u>
Basic and Applied Scientific Research:					
OFFIC-GLRC-Talent Pipeline	12.300	Direct	N00014-15-1-2796	-	237,127
Total U.S. Department of Defense				<u>-</u>	<u>353,719</u>
U.S. Department of Interior					
No CFDA Number:					
John Payne - Intergovernmental Pers	15.unk	Direct	IPA EXTENSION DATE 3/20/15	-	288,520
Keweenaw National Historical Park (NHP) and Keweenaw NHP Advisory Commission Partner Enhancement Grants:					
KEWEE-Heritage Preservation	15.407	Keweenaw NHP Advisory Commission	C2015-014	-	3,192
Cooperative Research and Training Programs - Resources of the National Park System:					
USPAR-ESC-FFC-Isle Royale Membership	15.945	Direct	TASK AGREEMENT NO P15AC00157	-	34,829
Total U.S. Department of Interior				<u>-</u>	<u>326,541</u>
U.S. Department of Labor					
Mine Health and Safety Grants:					
USLAB-FY15 Mine Safety	17.600	Direct	MS-27472-15-55-R-26	-	2,661
USLAB-FY16 Mine Safety	17.600	Direct	MS-28718-16-55-R-26	-	194,717
				<u>-</u>	<u>197,378</u>
U.S. Department of Transportation					
No CFDA Number:					
MITRA-MTTI-Bridge Design Analysis	20.unk	Michigan Dept of Transportation	CONTRACT NO. 2013-0506	-	38,355
MITRA-MTTI-2016 LTAP	20.unk	Michigan Dept of Transportation	2015-0027 AUTH Z4, Z5, & Z6	-	98,091
MITRA-MTTI-MERL 2016	20.unk	Michigan Dept of Transportation	2014-0952 AUTH Z8 #129136	-	71,601
MITRA-MTTI-Roadsoft 2016	20.unk	Michigan Dept of Transportation	2014-0952 AUTH Z7 #128942	-	355,146
MITRA-MTTI-Roadsoft/MDOT Safety Uni	20.unk	Michigan Dept of Transportation	2014-0952 Z1, JOB #109731	-	51,276
SNYDE-IMP-Pavement Technology YR3	20.unk	Snyder & Associates	PRIME DTFH61-12-H-00010	-	3,952
SNYDE-IMP-Concrete Technology YR4&5	20.unk	Snyder & Associates	PRIME #DTFH61-12-H-00010	-	3,352
ENGIN-MTTI-Workshop DATA Needs	20.unk	Engineering & Software Consultants, Inc	ESC INC SUBCONTRACT #16-36	-	37,645
MITRA-MTTI-2017 LTAP	20.unk	Michigan Dept of Transportation	2015-0027 AUTH Z7, Z8, & Z9	-	372,462
MITRA-MTTI-MIRE Upgrades Roadsoft	20.unk	Michigan Dept of Transportation	AUTHORIZATION NO. Z11	-	33,027
MITRA-MTTI-Roadsoft 2017	20.unk	Michigan Dept of Transportation	AUTHORIZATION Z12	-	353,442
MITRA-MTTI-MERL 2017	20.unk	Michigan Dept of Transportation	FEDERAL GRANT #STP-1784(026)	-	86,585
MITRA-PIOI-NSTI 2017	20.unk	Michigan Dept of Transportation	#2017-0473	-	17,746
MITRA-MTTI-Bridge Design Phase II	20.unk	Michigan Dept of Transportation	CONTRACT NO. 2013-0506, AMEND	-	72,707
				<u>-</u>	<u>1,595,387</u>
Highway Research and Development Program:					
USTRA-MTTI-Eastern Region TTAP Cntr	20.200	Direct	DTFH6114H00006	-	259,541

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Other Programs (continued)					
U.S. Department of Transportation (continued)					
Highway Planning and Construction:					
MITRA-MTTI-TRAC Program	20.205	Michigan Dept of Transportation	CONTRACT NO 2016-0059 #1196730	\$ -	38,892
MINNE-MTTI 2015 Tribes Conference	20.205	Minnesota Dept of Transportation	CONTRACT 1001571	-	12
MITRA-MTTI-Traffic Safety Engineer	20.205	Michigan Dept of Transportation	CONTRACT NO. 2016-0332	-	15,927
				<u>-</u>	<u>54,831</u>
Highway Training and Education:					
MITRA-PIOI-NSTI 2016	20.215	Michigan Department of Transportation	CONTRACT NO. 2016-0295	-	31,569
University Transportation Centers Program:					
UNIVE-21st Century Education	20.701	University of Wisconsin-Madison	AGREEMENT #394K026	-	7,038
Total U.S. Department of Transportation				<u>-</u>	<u>1,948,366</u>
Federal Mediation and Conciliation Service					
Labor Management Cooperation:					
FEDER-Labor-Mgmt Staff Mentoring	34.002	Direct	15-MI/PS-005	-	7,745
National Aeronautics and Space Administration					
No CFDA Number:					
UNIVE-MSGC-Bouali Fellowship	43.unk	University of Michigan	CHECK #3516896 PO# 3003524633	-	(395)
UNIVE-MSGC-Discovering Geoheritage	43.unk	University of Michigan	CHECK#3516896 PO#3003524633	-	(20)
UNIVE-MSGC-GLRC-Sustainable Future	43.unk	University of Michigan	CHECK#3516896 PO#3003524633	<u>-</u>	<u>2,360</u>
				<u>-</u>	<u>1,945</u>
Science:					
USNAS-FNR-LSchaefer-fellowship	43.001	Direct	NNX13AO50H	-	2,000
USNAS-EPSSI-FNR-Astronomy Picture	43.001	Direct	NNX14AP36G	-	65,896
USNAS-FNR-EPPSI-MBregre Fellowship	43.001	Direct	NNX15AN57H	-	29,016
USNAS-GLRC-FNR-BGrunert Fellowship	43.001	Direct	NNX15AN59H	-	28,181
USNAS-EPSSI-FNR-Fellowship-Bouali	43.001	Direct	NNX16AO51H	-	27,300
USNAS-FFC-FNR-Fellowship-K Meingast	43.001	Direct	NNX16AN96H	<u>-</u>	<u>26,322</u>
				<u>-</u>	<u>178,715</u>
Education:					
USNAS-FNR-MuSTI-KTerhune fellowship	43.008	Direct	NNX13AM73H	-	49,203
UNIVE-FNR-MSGC-Optical Communicatio	43.008	University of Michigan	PO 3003978288	-	2,500
UNIVE-FNR-MSGC-Soil Gas Emissions	43.008	University of Michigan	PO3003978288	-	2,500
UNIVE-FNR-MSGC-Remote Sensing	43.008	University of Michigan	PO3003978288	-	5,000
UNIVE-FNR-MSGC-Bone Healing	43.008	University of Michigan	PO3003978288	-	2,500
UNIVE-FNR-MSGC-NASA Cubesat	43.008	University of Michigan	PO3003978288	-	2,500
UNIVE-FFC-FNR-MSGC-Dissolved Carbon	43.008	University of Michigan	PO3003987288	-	5,000
UNIVE-FNR-PIOI-MSGC-Participant	43.008	University of Michigan	PO3003978288	-	5,000
UNIVE-FNR-MSGC-Ligating Clips	43.008	University of Michigan	PO3003978288	-	2,461
UNIVE-FNR-MSGC-Lamina Zinc	43.008	University of Michigan	PO3003978288	-	1,576
UNIVE-FNR-MSGC-Black Carbon Aerosol	43.008	University of Michigan	PO3003978288	-	1,140
UNIVE-FNR-GLRC-MSGC-ASRST Institute	43.008	University of Michigan	PO3003978288	-	7,470
UNIVE-FNR-MSGC-Landslide Hazard	43.008	University of Michigan	PO3003978288	-	5,000
UNIVE-CWS-FNR-MSGC-Methyl Mercury	43.008	University of Michigan	PO3003978288	-	3,125
UNIVE-LSTI-FNR-T. Bye Fellowship	43.008	University of Michigan	PO3004471507	-	32
UNIVE-FNR-PIOI-MSGC-Aviation	43.008	University of Michigan	PO3004471507	-	1,800
UNIVE-MSGC-LIFT-FNR-FY16 Admin.	43.008	University of Michigan	PO3003978288	-	1,672
UNIVE-FNR-MSGC-Thermal Remote	43.008	University of Michigan	PO3003978288	-	5,000
UNIVE-FNR-MSGC-Geotechnical	43.008	University of Michigan	PO3003978288	<u>-</u>	<u>5,000</u>
				<u>-</u>	<u>108,479</u>
Total National Aeronautics and Space Administration				<u>-</u>	<u>289,139</u>
National Endowment for the Humanities					
Promotion of the Arts Grants to Organizations and Individuals:					
Listening to the Parks	45.024	Direct	16-5400-7207	-	15,603
Promotion of the Arts Partnership Agreements:					
Cirque Mechanics Pedal Punk	45.025	Arts Midwest Touring Fund	ID NUMBER 00018420	-	4,000

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Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Pass-Through Entity Identifying Number	Passed Through to Subrecipients	Federal Expenditures
Other Programs (continued)					
National Endowment for the Humanities (continued)					
Promotion of the Humanities - Division of Preservation and Access:					
NATIO-GLRC-CC Historical Spatial	45.149	Direct	PW-234885-16	\$ -	\$ 151,604
Total National Endowment for the Humanities				-	171,207
National Science Foundation					
Engineering Grants:					
NSF-SFI-Biofuels and Bioenergy	47.041	Direct	CBET-1140152	-	100,382
NSF-MuSTI-Corps: Software Aircraft	47.041	Direct	1740374	-	33,466
				-	133,848
Mathematical and Physical Sciences:					
NSF-Participant Support Conference	47.049	Direct	1632364	-	24,700
Computer and Information Science and Engineering:					
NSF-AIM-NRI:Co-Robots to Engage	47.070	Direct	IIS-1426989	-	81,095
Education and Human Resources:					
NSF-EPSSI MITEP: Improving Earth	47.076	Direct	DUE-0831948	-	425
NSF-FNR-MTU SSEED Support4EngDegree	47.076	Direct	DUE-0965996	-	2,831
NSF-Professoriate Progression	47.076	Direct	HRD-1305678	-	28,815
NSF-FNR-ADV ACCT-Winter Fellowship	47.076	Direct	DGE-1051031	-	24,742
NSF-C. Meingast Fellowship	47.076	Direct	AMENTMENT NO.007	-	12,003
STEVE-NCWIT Extension Services	47.076	Stevens Institute of Technology	STI AGMT NSF GRNT #1203174	-	8,000
WAYNE-GLRC-FACTs & Careers STEM	47.076	Wayne State University	SUBAWARD# WSU17042	-	8,712
NSF-IMP-FNR-Morgan GRFP	47.076	Direct	1546592, AMEND NO. 1	-	44,286
NSF-SFI-GRFP	47.076	Direct	1546592, AMEND NO. 3	-	16,075
EASTE-GLRC-GRACE Project	47.076	Eastern Michigan University	PO#0043920 GRANT #R71047	-	16,772
NSF-FNR-Cummings GRFP	47.076	Direct	1546592, AMEND. NO. 001	-	43,167
EASTE-GLRC-Participant-GRACE	47.076	Eastern Michigan University	P0044865	-	25
NSF-FNR-Tymrak GRFP	47.076	Direct	1546592	-	2,833
NSF-FNR-Winter GRFP	47.076	Direct	1546592	-	11,422
NSF-FNR-Meingast GRFP	47.076	Direct	1546592	-	33,997
NSF-ESC-FFC-FNR-Beller GRFP	47.076	Direct	1546592	-	46,000
NSF-ADV ACCT-Guillory GRFP	47.076	Direct	ADVANCE ACCOUNT	-	9,526
				-	309,631
Total National Science Foundation				-	549,274
Small Business Administration					
Small Business Development Centers:					
SIXCO-Small Business Tech Dev	59.037	Six County Employment Alliance	CONTRACT AGREEMENT	9,028	10,686
Environmental Protection Agency					
No CFDA Number:					
COPPE-GLRC-EPA Exemplary Projects	66.unk	Copper Country Intermediate School District	MTU CONFIRMING ORDER #1509081	-	(20)
Environmental Finance Center Grants:					
USENV-MTTI-EPA Region 5	66.203	Direct	00E01979	-	109,233
Total Environmental Protection Agency				-	109,213
U.S. Department of Education					
Gaining Early Awareness and Readiness for Undergraduate Programs:					
MILAB-PIOI-GEAR UP 2016	84.334	Michigan Dept of Labor & Economic Growth	GRANT NUMBER: 15-00-07	-	57,176
MILAB-PIOI-Gear Up 2017	84.334	Michigan Dept of Labor & Economic Growth	GRANT #16-00-07	-	37,896
				-	95,072
Improving Teacher Quality State Grants:					
MIEDU-RISE-Physical Science	84.367B	Michigan Department of Education	160290-023	-	72,074
Total U.S. Department of Education				-	167,146
Total Other Programs				49,527	4,687,530
Total Expenditures of Federal Awards				\$ 1,907,598	\$ 81,777,463

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Year Ended June 30, 2017

1. Basis of Presentation

The accompanying schedule of expenditures of federal awards (Schedule) includes the federal grant activity of Michigan Technological University (University) under programs of the federal government for the year ended June 30, 2017. Expenditures reported on the Schedule are reported on the same basis of accounting as the financial statements, although the basis for determining when federal awards are expended is presented in accordance with the requirements of the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement. Therefore, some amounts presented in this Schedule may differ from amounts presented in, or used, in the preparation of the financial statements.

Because the Schedule presents only a selected portion of the operations of the University, it is not intended to, and does not present the financial position, changes in net position, or cash flows of Michigan Technological University.

2. Summary of Significant Accounting Policies

Expenditures reported on the Schedule are reported on the accrual basis of accounting, which is described in Note 1 to the University's financial statements. Such expenditures are recognized following the cost principles contained in Uniform Guidance, 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.

3. Indirect Cost Rate

The University has not elected to use the 10% de minimis indirect cost rate allowed under the Uniform Guidance.

4. Major Programs and Clusters

As defined in the Uniform Guidance, Student Financial Aid programs and Research and Development programs are considered to be clusters of programs and, accordingly, have been classified as one program for testing purposes. The Student Financial Aid Cluster has been defined as a major program.

Michigan Technological University

Notes to Schedule of Expenditures of Federal Awards

Year Ended June 30, 2017

5. Federal Perkins Loan Program

The University utilizes the services of Heartland ECSI (ECSI) to administer the repayment of Perkins Loans and perform certain due diligence procedures. During the 2016/2017 fiscal year, total program disbursements under the Federal Perkins Loan Program were \$2,010,029, which included no current year federal contribution. There was \$11,396,995 of Federal Perkins Loans (CFDA Number 84.038) outstanding as of June 30, 2017.

Michigan Technological 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 identified? _____ Yes X No

Significant deficiency identified not considered to be material weakness? _____ Yes X None reported

Noncompliance material to financial statements noted? _____ Yes X No

Federal Awards

Internal control over major programs:

Material weakness identified? _____ Yes X No

Significant deficiency identified not considered to be material weakness? _____ Yes 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 2 CFR section 200.516(a)? _____ Yes X No

Michigan Technological University

Schedule of Findings and Questioned Costs

Year Ended June 30, 2017

Section I – Summary of Auditor’s Results (continued)

Federal Awards (continued)

Identification of Major Programs:

<u>Federal CFDA Number</u>	<u>Name of Federal Program or Cluster</u>
84.007, 84.033, 84.038, 84.063, 84.268	Student Financial Aid Cluster

Dollar threshold used to distinguish between
Type A and Type B programs:

\$ 2,453,324

Auditee qualified as low-risk auditee? X Yes _____ No

Section II – Financial Statements Findings

None.

Section III – Federal Award Findings and Questioned Costs

None.

Michigan Technological University

Summary Schedule of Prior Audit Findings

Year Ended June 30, 2017

None.