

Schedule of Expenditures of Federal  
Awards Audit

Michigan Technological University

*Year Ended June 30, 2016*

Michigan Technological University

Schedule of Expenditures of Federal Awards Audit

Year Ended June 30, 2016

**Contents**

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*..... 1

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..... 3

Schedule of Expenditures of Federal Awards..... 6

Notes to Schedule of Expenditures of Federal Awards ..... 18

Schedule of Findings and Questioned Costs..... 20

Summary Schedule of Prior Audit Findings..... 22

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, 2016, and the related notes to the financial statements, which collectively comprise the University's financial statements, and have issued our report thereon dated October 13, 2016.

### **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. 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 Paulik PLC*

Bay City, Michigan  
October 13, 2016

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, 2016. 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 Requirement, 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, 2016.

### **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 our 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, 2016, and the related notes to the financial statements, which collectively comprise the University's financial statements. We issued our report thereon dated October 13, 2016, 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  
October 13, 2016

# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Student Financial Aid Cluster</b>					
<b>U.S. Department of Education</b>					
Federal Supplemental Education Opportunity Grant	84.007	Direct	P007A152046	\$ -	\$ 223,323
Federal Work Study Program	84.033	Direct	P033A152046	-	318,342
Federal Perkins Loans Outstanding	84.038	Direct	n/a	-	13,262,863
Federal Pell Grant Program	84.063	Direct	P063P150234	-	5,701,124
Federal Direct Student Loans	84.268	Direct	P268K160234	-	28,867,005
<b>Total Student Financial Aid Cluster</b>				<b>-</b>	<b>48,372,657</b>
<b>Research and Development Cluster</b>					
<b>U.S. Department of Agriculture</b>					
<b>No CFDA Number:</b>					
USAGR-ESC-FFC-Emerald Ash Borer	10.unk	Direct	14-8130-0464-CA	-	40,472
USAGR-FFC-ESC-Climate Change Plan	10.unk	Direct	12-CR-11242306-131	-	21,931
UNIVE-ESC-FFC-Thermal Modification	10.unk	University of Minnesota-Duluth	D004865401/15-DG-11420004-082	-	1,253
USAGR-Curation Ottawa Nat Forest	10.unk	Direct	11-CS-11090700-026	-	1,740
USAGR-ESC-FFC-Black Ash Wetlands	10.unk	Direct	11-CS-11090100-006	-	219
USAGR-ESC-FFC-Native Plant Prod Res	10.unk	Direct	11-JV-11221632-130	-	67
USAGR-CWS2-Sand Acumln Lk Superior	10.unk	Direct	11-CR-11242307-107	-	1,457
USAGR-ESC-FFC-Wood Stake Decomp.	10.unk	Direct	11-JV-11242301-081	-	9,314
USAGR-GIS Interface WEPP Watershed	10.unk	Direct	12-JV-11221634-175	-	8,569
USAGR-ESC-FFC-Environmental Change	10.unk	Direct	12-JV-11242306-105	-	127,707
USAGR-ESC-FFC-Tropical Ecosystems	10.unk	Direct	13-JV-11242306-044	-	195,239
USAGR-ESC-FFC-Carbon Rsch Management	10.unk	Direct	13-CR-11242306-065	-	111,937
USAGR-FlamMap Model Complement	10.unk	Direct	13-JV-11221634-135	-	6,137
USAGR-ESC-FFC-Forest Health Threats	10.unk	Direct	13-CS-11242306-069	-	42
USAGR-ESC-FFC-Puerto Rican Forest	10.unk	Direct	13-JV-11120101-033	-	10,499
USAGR-ESC-FFC-Trapping Success Yr1	10.unk	Direct	13-PA-11020000-060	-	15,929
USAGR-ESC-FFC-Wood Decomposition	10.unk	Direct	13-JV-11330140-120	-	24,065
USAGR-Multi-Temporal Imagery	10.unk	Direct	14-CS-11090700-005	-	9,772
USAGR-ESC-FFC-Post-Fire Salvage Log	10.unk	Direct	14-JV-11221634-138	-	62,916
USAGR-ESC-FFC-Black Ash Wetlands	10.unk	Direct	14-JV-11242307-153	-	109,774
USAGR-ESC-Longitudinal Analysis	10.unk	Direct	15-JV-11221636-092	-	30,162
USAGR-FFC-Nondestructive Testing	10.unk	Direct	15-JV-11111133-076	-	22,967
USAGR-Smoke Management	10.unk	Direct	15-CR-11261987-035	-	67,754
USAGR-FFC-ESC-13C by Isotope Ratio	10.unk	Direct	MTU# 1507050	-	1,533
USAGR-GLRC-FFC-Aquatic Organism	10.unk	Direct	16-CS-11090700-005	-	3,258
USAGR-ESC-FFC-Eval Biochar Impacts	10.unk	Direct	16-JV-11221633-057	-	2,169
				<b>-</b>	<b>886,882</b>
<b>Cooperative Forestry Research:</b>					
USAGR-MS-FFC-ADMIN FY 14	10.202	Direct	2014-32100-60698	-	64,718
USAGR-MS-FFC-FY15 Admin	10.202	Direct	2015-32100-06098	-	128,947
USAGR-MS-FFC-FY16 Admin	10.202	Direct	2016-32100-06098	-	72,084
				<b>-</b>	<b>265,749</b>
<b>Institution Capacity Building Grants:</b>					
ALCOR-3-D-Near Infrared Bruise Dete	10.216	Alcorn State University	2014-38821-22394 SUB#330092	-	32,379
<b>Agricultural and Rural Economic Research</b>					
<b>Cooperative Agreements:</b>					
NORTH-Contextualizing Food Decision	10.250	North Carolina State University	2014-1960-01	-	6,345
<b>Agricultural Market and Economic Research:</b>					
COLOR-National GHG Inventory	10.290	Colorado State University	SUB G-01801-1 / 58-0111-15-011	-	24,768
<b>Agriculture and Food Research Initiative:</b>					
USAGR-FFC-Overlapping Sense/Antisen	10.310	Direct	2012-67014-19445	-	15,943
USAGR-FFC-BRC-Lateral OrganBoundary	10.310	Direct	2012-67013-19389	-	11,098
USAGR-BRC-Rice Callus Culture	10.310	Direct	2014-67018-21767	-	18,957
MICHI-ESC-FFC-Xeric Jack PineForest	10.310	Michigan State University	2015-67019-23007 RC104605MTU	-	30,958
UNIVE-CWS-Sustainable Water-Desert	10.310	University of Texas at El Paso	SUBAWARD NO. 226300313A-04	-	29,082
				<b>-</b>	<b>106,038</b>
<b>Biomass Research and Development</b>					
<b>Initiative Competitive:</b>					
USAGR-SFI-HRJ Fuel	10.312	Direct	59-3620-3-002	-	86,362
<b>Wood Utilization Assistance:</b>					
USDOW-APSRC-Low Lignin Woods	10.674	U.S. Endowment for Forestry and Communities	GRANT NUMBER: CW-4	-	190,570

See Notes to Schedule of Expenditures of Federal Awards.



# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Research and Development Cluster (continued)</b>					
<b>U.S. Department of Agriculture (continued)</b>					
<b>U.S. Endowment for Forestry and Communities:</b>					
WESTM-GLRI Stormwater Infrastructure	10.675	West Michigan Environmental Action Council	WMEAC-2015-2, 15-DG-11420004-0	\$ -	\$ 24,900
<b>Forest Health Protection:</b>					
USAGR-ESC-FFC-Wildfire Disturbance	10.680	Direct	13-DG-1142004-269	-	7,197
USAGR-ESC-FFC-Heterobasidion Root	10.680	Direct	14-DG-11420004-188	-	18,056
				-	25,253
<b>Total U.S. Department of Agriculture</b>				-	1,649,246
<b>U.S. Department of Commerce</b>					
<b>No CFDA Number:</b>					
LIMNO-GLOS DMAC 2014-2015	11.unk	LimnoTech Inc	DMAC-04 PRIME# NA11NOS0120041	-	24,338
USCOM-Under Ice Radiometer	11.unk	Direct	EE-133R-16-SE-0738	-	9,910
UTBAT-IMP-Lithium Interface	11.unk	UT-Battelle, LLC	SUBCONTRACT # 4000140845	-	99,945
USCOM-Underwater Radiometer Measure	11.unk	Direct	CONFIRMING ORDER #1503063	-	482
				-	134,675
<b>Integrated Ocean Observing System:</b>					
UNIVE-GLRC-Alliance for Coastl Tech	11.012	University of Maryland	10810 075256840/NA11NOS0120037	-	38,203
<b>Sea Grant Support:</b>					
OHIOS-GLRC-Lake Superior Coastal	11.417	Ohio State Univ Research Foundation	SUB. 60045241, NA12OAR4170113	-	20,415
<b>Climate and Atmospheric Research:</b>					
USCOM-CWS2-Mgmt Lower Colorado River	11.431	Direct	NA13OAR4310126	-	33,257
<b>National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes:</b>					
UNIVE-GLOS Observing Network	11.432	University of Michigan	3002475304 / NA120AR4320071	-	154,197
UNIVE-Great Lakes Remote Sensing	11.432	University of Michigan	3003130551	-	81,155
				-	235,352
<b>Total U.S. Department of Commerce</b>				-	461,902
<b>U.S. Department of Defense</b>					
<b>No CFDA Number:</b>					
BAESY-SECTR TA3	12.unk	BAE Systems	SUBCONTRACT #922473	-	38,031
BOEIN-Adaptive Optics for Imagery	12.unk	The Boeing Company	PURCHASE CONTRACT NO. 1247219	-	46,015
LEIDO-Cheetah	12.unk	Leidos Inc	P010168662 #FA8650-15-C-0019	-	916,549
AKELA-ICC-FNR-Multi-Static GPR	12.unk	AKELA Inc	SUBCONTRACT #AK-2016-0402-001	-	1,885
INFOS-AIM-FNR-Decentralized Control	12.unk	Infocitex Corporation	PRIME#FA8650-15-D-2516 TO 0004	-	27,396
NATIO-Electronic Fire Control Box	12.unk	National Advanced Mobility Consortium	NAMC #69-201515 TASK#T01	-	47,646
LEIDO-Oak II	12.unk	Leidos Inc	SUBCONTRACT #P010130462	-	45,894
SANDIA-AIM-FNR-Naval Electrical Sys	12.unk	Sandia National Laboratories	PO#1615622	-	96,531
LEIDO-MSDD	12.unk	Leidos Inc	P010146084	-	1,530
LEIDO-Opera T02	12.unk	Leidos Inc	P010151900-2 FA8650-13-D-1622	-	106,645
MATRI-Support Effort 8/4/15	12.unk	Matrix Research Inc	TASK ORDER:CRFR-014-02-01	-	88,000
LEIDO-Acme	12.unk	Leidos, Inc.	PRIME 12-C-8917, PO10108055	-	369,955
SYSTE-Wind Mitigation Phase II	12.unk	Systems & Technology Research LLC	SUB#2013-1023/FA8650-13-C-1597	-	(178)
THERM-Mitigate Sensor Saturationthe	12.unk	Thermoanalytics Inc	PRIME #FA8650-14-C-5014	-	245,326
TECHN-FNR-Sr Design-Design Challenge	12.unk	Technology Service Corporation	STUDENT PROJECT-TSC-1070-40066	-	12,862
UTAHS-LIFT-Geostationary Emitters	12.unk	Utah State University Research Foundation	LETTER CONTRACT DATED 12/16/15	-	1,689
UTAHS-LIFT-Communication Emitters	12.unk	Utah State University Research Foundation	PURCHASE ORDER CPOO39720	-	13,449
WYLEA-CQP-Nonreciprocal Nanophoto	12.unk	Wyle Aerospace Group	PO# WSCS00031 TAT 261	-	20,892
BATTE-IMP-Screen Fly Ashes	12.unk	Battelle	US001-000049661	-	29,853
ACADE-IMP-REAP at Michigan Tech	12.unk	Academy of Applied Science	AWARD 14-21A	-	2,395
CRAFT-AIM-JHSV Crane Review	12.unk	Craft Engineering Associates Inc	PO# AC0508	-	6,265
QUANT-AIM-RMCD Phase II SBIR	12.unk	Quantum Engineering Design Inc	MTU AGMT #1403009	-	15,555
QUANT-AIM-Support RMCD Phase II	12.unk	Quantum Engineering Design Inc	PO#1149	-	42,064
DARPA-Adaptive RADAR Countermeasure	12.unk	Direct	HR0011-13-C-0032	166,498	595,657
DARPA-Microwave Photonic Links	12.unk	Direct	HR0011-15-C-0082	-	257,446
SPAWA-MIMO Tower of Babel	12.unk	Direct	N66001-16-C-4011	-	216,527
OFFIC-Super Resolution Reconstruct	12.unk	Direct	FA8750-12-C-0119	-	46,087
USAIR-Multi Domain Intelligence II	12.unk	Direct	FA8750-15-C-0051	278,606	569,007
USAIR-Penetration Fuzing	12.unk	Direct	FA8651-15-C-0066	-	183,844
USAIR-ESCAPE	12.unk	Direct	FA8750-16-C-0072	-	13,844
USARM-Handheld Explosive Hazard	12.unk	Direct	W909MY-13-C-0029	-	523,358
USARM-Spatial Coherence Imaging	12.unk	Direct	W909MY-13-C-0013	-	129,936
USARM-Artic Awareness Sensor	12.unk	Direct	W15QKN-16-C-0018	-	705,121
TACOM-ASSUREDIII-EHP Maturation	12.unk	Direct	W56HZV-14-C-0286 WD 002	-	354,344
TACOM-ASSUREDIII-RCV Support	12.unk	Direct	W56HZV-14-C-0286 WD 003	-	628,362
TACOM-ASSUREDIII-RCM Development	12.unk	Direct	W56HZV-14-C-0286 WD 004	-	7,009

*See Notes to Schedule of Expenditures of Federal Awards.*

# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Research and Development Cluster (continued)</b>					
<b>U.S. Department of Defense (continued)</b>					
<b>No CFDA Number (continued):</b>					
TACOM-Assured III-Exploration Test	12.unk	Direct	W56HZV-14-C-0286 WD 006	\$ -	\$ 174,995
TACOM-ASSURED III-Noise & Vibration	12.unk	Direct	W56HZV-14-C-0286 WD 007	-	185,187
TACOM-ASSUREDIII-JEDDO-IED Payload	12.unk	Direct	W56HZV-14-C-0286 P006 WD 008	-	772,779
TACOM-ASSUREDIII-Adv Tech Insertion	12.unk	Direct	W56HZV-14-C-0286 MODP0006WD005	-	188,843
TACOM-ASSUREDIII-RCM Vehicle Kit	12.unk	Direct	W56HZV-14-C-0286 MOD P00008 WD	-	170,508
TACOM-Assured III Blast Mitigation	12.unk	Direct	W56HZV-14-C-0286 MOD P0009 WD	-	366,472
TACOM-Assured III CIED Payload	12.unk	Direct	W56HZV-14-C-0286 P00013 WD 011	-	92,440
TACOM-ASSURED III-APU Task 1	12.unk	Direct	W56HZV-14-C-0286 P00015 WD 013	-	1,539
				<u>445,104</u>	<u>8,359,554</u>
<b>Basic and Applied Scientific Research:</b>					
OFFICE-IMP-Hi St Low Alloy Aluminum	12.300	Direct	N00014-11-1-0876	-	55,713
OFFIC-Info Recovery Algorithm Comp	12.300	Direct	N00014-13-1-0018	-	432,307
OFFIC-GLRC-Underwater Glider Fleet	12.300	Direct	N00014-14-1-0032	-	11,877
OFFIC-Metamaterial Devices	12.300	Direct	N00014-15-1-2684	-	78,041
OFFIC-AIM-Undersea Persistence	12.300	Direct	N00014-15-1-2599	-	80,107
OFFIC-LSTI-FNR-Smart Adhesive	12.300	Direct	N00014-16-1-2463	-	13,095
SOUTH-AIM-Coastal Energy Conversion	12.300	South Dakota School of Mines & Technology	N00014-16-1-2137 MTU 16-21	-	14,390
				<u>-</u>	<u>685,530</u>
<b>Basic Scientific Research:</b>					
OFFIC-MIMC-Agile Microgrids	12.431	Direct	W911NF-13-2-0024	-	239,164
USARM-CQP-First Principles Study	12.431	Direct	W911NF-14-2-0088	-	86,323
OFFIC-ICC-Target Detection	12.431	Direct	W911NF-16-1-0017	-	159,314
				<u>-</u>	<u>484,801</u>
<b>Basic, Applied, and Advanced Research in Science and Engineering:</b>					
NATIO-Effects of Wind SAR Coherence	12.630	Direct	HM04761510009	-	220,484
AMERI-IMP-Melt 5a Development	12.630	American Lightweight Materials Manufacturing Innovation Inst	#N00014-14-2-0002 SUB 0002A-6	-	329,407
				<u>-</u>	<u>549,891</u>
<b>Air Force Defense Research Sciences Program:</b>					
OFFIC-MuSTI-Model Hybrid Composites	12.800	Direct	FA9550-13-1-0030	-	73,902
USAIR-MuSTI-Magneto Electrostatic	12.800	Direct	FA9550-14-1-0337	156,452	383,881
USAIR-FNR-Fuze Test Capability	12.800	Direct	FA8651-14-2-0009	-	16,509
USAIR-MuSTI-Nanostructured Prop	12.800	Direct	FA2386-14-1-3030	200,465	260,605
NATIO-IMP-3D Weld Printing Platform	12.800	National Center for Defense Manufacturing and Machining	FA8650-12-2-7230	-	107,067
UNIVE-ICC-Wave Optics Turbulence	12.800	University of Dayton Research Institute	RSC12034	-	88,064
MICHI-Fault Tolerant Paradigms	12.800	Michigan State University	RC102013MTU FA9550-12-1-0455	-	119,586
				<u>356,917</u>	<u>1,049,614</u>
<b>Mathematical Sciences Grants Program:</b>					
NATIO-FNR-Codes & Galois Geometries	12.901	Direct	H98230-15-1-0042	-	12,587
OFFIC-FNR-Designs, Codes & Finite	12.901	Direct	H98230-16-1-0011	-	30,478
				<u>-</u>	<u>43,065</u>
<b>Research and Technology Development:</b>					
VIRGI-IMP-FNR-Efficient Electronics	12.910	Virginia Polytechnic Institute and State University	SUBAWARD NO. 450393-19959	-	54,187
<b>Total U.S. Department of Defense</b>				<u>802,021</u>	<u>11,226,642</u>
<b>U.S. Department of Interior</b>					
<b>No CFDA Number:</b>					
WISCO-ESC-FFC-Measuring Benefits	15.unk	Wisconsin Dept of Natural Resources	PO #NMF00000075	-	29,747
WISCO-ESC-FFC-Ecological Benefits	15.unk	Wisconsin Dept of Natural Resources	PO#37000-0000000058	-	34,948
WISCO-ESC-FFC-Lakeshore Restoration	15.unk	Wisconsin Dept of Natural Resources	PO #37000-0000000981	-	7,150
GRAND-Historic Landmark Nomination	15.unk	Grand Portage Reservation Tribal Council	LETTER RECEIVED 6/3/15	-	23,379
USAGR-Fire Emissions Inventory Tool	15.unk	U.S. Department of Agriculture	13-JV-11261987-071	-	11,091
USPAR-CEBFM-Ferrous Metals in Herit	15.unk	Direct	MT-2210-12-NC-05	-	(1,114)
KEWEE-Cleanup Quincy Smelting Work	15.unk	Keweenaw NHP Advisory Commission	MTU CONFIRMING ORDER #1509091	-	2,687
USPAR-Ghyllbank Twnship Archeol-NPS	15.unk	Direct	H.2215-LETTER	-	14,573
				<u>-</u>	<u>122,461</u>
<b>Fish, Wildlife and Plant Conservation Resource Management:</b>					
USBUR-NSSI Intergovernmental Webs	15.231	Direct	L14AC00007	-	80,367

*See Notes to Schedule of Expenditures of Federal Awards.*

# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Research and Development Cluster (continued)</b>					
<b>U.S. Department of Interior (continued)</b>					
<b>Keweenaw National Historical Park (NHP)</b>					
<b>Enhancement Grants:</b>					
KEWEE-Quincy Milling History	15.407	Keweenaw NHP Advisory Commission	C2015-015	\$ -	\$ 10,203
<b>Coastal Program:</b>					
USFIS-Abiotic & Biotic Constraints	15.630	Direct	F12AC01384	-	21,945
<b>Research Grants (Generic):</b>					
USFIS-Selawik Refuge Alaska	15.650	Direct	F12AC01268	-	12,626
USFIS-Carbon & Nutrient Flux	15.650	Direct	F16AC00321	-	12,853
<b>Migratory Bird Monitoring, Assessment and Conservation:</b>					
USFIS-ESC-FFC-Woodcock Habitat	15.655	Direct	F15AP00518	5,632	7,097
<b>U.S. Geological Survey Research and Data Collection:</b>					
USGEO-ESC-FFC-Dating Fecal Pellets	15.808	Direct	G16AC00154	-	633
<b>National Land Remote Sensing-Education Outreach and Research:</b>					
AMERI-StateView Program Develop YR2	15.815	AmericaView Inc	AV13-MI01 GY14	-	(452)
AMERI-StateView Program YR3	15.815	AmericaView Inc	MODIFICATION #005	-	23,500
AMERI-StateView YR3 Supplement	15.815	AmericaView Inc	AV13-MI01 MOD. 006	-	20,813
<b>National Resource Stewardship:</b>					
USPAR-ESC-FFC-Wolf Moose 2011-15	15.944	Direct	AGRMT# P11AC90808	-	1,777
USPAR-ESC-FFC-Wolf-Moose monitoring	15.944	Direct	TASK AGREEMENT #P16AC00004	-	24,690
<b>Total U.S. Department of Interior</b>					
				5,632	338,513
<b>U.S. Department of Labor</b>					
<b>Trade Adjustment Assistance Community College and Career Training (TAACCCT):</b>					
BAYDE-PLC Education Simulation Game	17.282	Bay de Noc Community College	AGREEMENT DATED 4/2/14	-	70,428
<b>U.S. Department of Transportation</b>					
<b>No CFDA Number:</b>					
OKLAH-IMP-Resist Frost Damage	20.unk	Oklahoma State University	PO # P0029297	-	2,828
TRANS-Measurements for Auto Safety	20.unk	Transportation Research Center, Inc.	TRANSPORT RSCH CTR PO 091728	-	51,854
CAMBR-MTTI-Road Practitioners	20.unk	Cambridge Systematics, Inc.	SUBCONTRACT #8738-001	-	987
NATIO-MTTI-Joint Deterioration Stud	20.unk	National Concrete Pavement Technology Center	ISU #474-17-40	-	15,231
MITRA-MTTI-Bridge Decks	20.unk	Michigan Dept of Transportation	2010-0295 AUTH Z7 JOB#128039	66,132	156,222
MITRA-Wireless Data Collection	20.unk	Michigan Dept of Transportation	2013-0067 AUTH 2 JOB#121389	-	193,841
MITRA-MTTI-Improve Climatic Files	20.unk	Michigan Dept of Transportation	2013-0067 AUTH 3, JOB #121388	-	523
MITRA-MTTI-NURail Tier 1	20.unk	Michigan Dept of Transportation	2013-0067, AUTH Z11 JOB#126721	-	56,419
MITRA-MTTI-Unmanned Aerial Vehicles	20.unk	Michigan Dept of Transportation	2016-0067 AUTHORIZATION 1	-	21,413
NATIO-Mapping Fire Danger	20.unk	National Center for Atmospheric Research	UCAR SUBCONTRACT NO. S15-13655	-	3,642
USTRA-Unpaved Road Conditions RS	20.unk	Direct	RITARS-11-H-MTU1	30,303	113,272
				96,435	616,232
<b>Public Transportation Research, Technical Assistance, and Training:</b>					
UNIVE-MTTI-Transit Response Plan	20.514	University of Chicago	SUB AWARD #FP062899-B	-	3,736
<b>University Transportation Centers Program:</b>					
OHIOS-Border Crossing Facilities	20.701	Ohio State University	SUB 60052149, DTRT12-G-UTC05	-	37,947
UNIVE-MTTI-NURail Tier 1	20.701	University of Illinois at Urbana-Champaign	2013-05178-02	-	42,262
UNIVE-MTTI-FNR-Rail Corridors	20.701	University of Wisconsin-Madison	AGREEMENT 557K524	-	21,910
UNIVE-MTTI-NURail Education Center	20.701	University of Illinois at Urbana-Champaign	2012-02061-05-00 CODE:A0694	-	164,487
				-	266,606
<b>Transportation Planning, Research and Education:</b>					
USTRA-MTTI-Auto Scour Detect Arrays	20.931	Direct	RITARS-12-H-MTU	1,280	2,098
USTRA-MTTI-Sust Geotech Asset Mgmt	20.931	Direct	RITARS-14-H-MTU	-	147,002
UNIVE-MTTI-Risk Infrastructure	20.931	University of Arkansas	SA1509067	-	49,744
				1,280	198,844
<b>Total U.S. Department of Transportation</b>					
				97,715	1,085,418

See Notes to Schedule of Expenditures of Federal Awards.

# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Research and Development Cluster (continued)</b>					
<b>National Aeronautics and Space Administration</b>					
<b>No CFDA Number:</b>					
UNIVE-EPSSI-FNR-NPP Ozone Mapping	43.unk	University of Maryland College Park	Z664401 PRIME NNX11AK95G	\$ -	\$ 5,177
UNIVE-MSGC-MTTI-FNR-Frozen Porous	43.unk	University of Michigan	CHECK 3328610	-	248
UNIVE-MTTI-MSGC-Seismic Activity	43.unk	University of Michigan	CHECK #3516896 PO#3003524633	-	5,000
UNIVE-HICO Iden of Harmful Algal	43.unk	University of Toledo	SUB #F2015-78, #GA-2014-144	4,118	26,935
USNAS-Harmful Algal Blooms	43.unk	Direct	NNC15VA51P	-	93,270
				<u>4,118</u>	<u>130,630</u>
<b>Science:</b>					
USNAS-Remote Sensing Models	43.001	Direct	NNX11AC72G	15,558	14,631
USNAS-FNR-EPPSI- A-Train Volcano	43.001	Direct	NNX11AF42G	-	24,428
USNAS-Linking Remote Sensing	43.001	Direct	NNX12AQ89G	-	143,574
USNAS-Anthropogenic Fires	43.001	Direct	NNX13AC66G	59,436	102,685
USNAS - EPSSI-FNR-Climatology	43.001	Direct	NNX13AF50G	-	86,119
USNAS-EPSSI-FNR-Solar Activity	43.001	Direct	NNX113AF90G	-	100,395
USNAS-Linking Remote Sensing Data	43.001	Direct	NNX14AD63G	-	67,633
USNAS-GLRC-FNR-Spectral Character	43.001	Direct	NNX14AB80G	95,152	161,639
USNAS-GLRC-FNR-Changing Sea-Ice	43.001	Direct	NNX14AN78G	37,652	57,587
USNAS-Assessing Wetland Hydroperiod	43.001	Direct	NNX14AT45G	-	12,845
USNAS-Data on Boreal Wildfires	43.001	Direct	NNX15AD58G	-	30,027
USNAS-EPSSI-FNR-EIC Observations	43.001	Direct	NNX15AC61G	-	10,725
USNAS-EPSSI-FNR-Basaltic Volcanic	43.001	Direct	NNX15AR97G	-	33,912
USNAS-Boreal-Taiga Ecosystems	43.001	Direct	NNX15AT83A	-	113,858
CARNE-CO2 Monitoring Network	43.001	Carnegie Institute of Washington	SUBCONTRACT NO 9-10330-01	-	(540)
MASSA-GLRC-FNR-EcologicalVariabilit	43.001	Massachusetts Institute of Technology	5710003376 PRIME 3NNX13AC34G	-	56,370
REGEN-Northern Peatland Ecosystems	43.001	Regents of the University of Minnesota	H004191701	-	100,521
UNIVE-MultSensor Record of Fire	43.001	University of Maryland	Z681801	-	74,865
UNIVE-EPSSI-FNR-Satellite Data	43.001	University of Maryland College Park	SUBAWARD NO. 19311-Z6929001	-	26,285
UNIVE-Repeated Wildfire Burning	43.001	University of Maryland	Z6981001 / NNX15AT79A /PO31017	-	43,474
				<u>207,798</u>	<u>1,261,033</u>
<b>Cross Agency Support:</b>					
USNAS-FNR-MuSTI Noise Reduction App	43.002	Direct	NNX11AI72A	-	10,191
USNAS-MUSTI-FNR-Cryogenic	43.009	Direct	NNX14AB05G	10,215	118,786
				<u>10,215</u>	<u>128,977</u>
<b>Total National Aeronautics and Space Administration</b>					
				<u>222,131</u>	<u>1,520,640</u>
<b>National Endowment for the Humanities</b>					
<b>Promotion of the Humanities - Division of Preservation and Access:</b>					
NATIO-GLRC-CC Historical Spatial	45.149	Direct	PW-234885-16	-	16,061
<b>National Science Foundation</b>					
<b>No CFDA Number:</b>					
JFDRA-Digital Technology Education	47.unk	J F Drake State Technical College	DPO-1201002 DUE-1205169	-	29,941
MICRO-Rapid Blood Typing	47.unk	Microdevice Engineering LLC	MTU AGMT #1312006	-	22,681
NITRA-IMP-Open Source Photometer	47.unk	Nitrate Elimination Co Inc	MICHIGAN TECH AGREEMENT #13110	-	6,384
STABI-CQP-Brightness Fluorophores	47.unk	Stabilux Biosciences Inc.	MTU AGMT #1411031	-	57,090
TREAM-APS-Mineral Removal	47.unk	Treamin Energy Inc.	MTU AGMT #1412015	-	35,045
				<u>-</u>	<u>151,141</u>
<b>Engineering Grants:</b>					
NSF-APSRC-CAREER Fluid Structure	47.041	Direct	CBET-0952218	-	87,353
NSF-Meeting NAE Grand Challenge	47.041	Direct	EEC-1024628	-	33,925
NSF-CWS1-IDR:SustianableWater	47.041	Direct	CBET-1014818	-	29,047
NSF-SFI-RET-W2W Transp Shonnard	47.041	Direct	EEC-1009617	-	6,226
NSF-SFI Mainshock/Aftershock Seq	47.041	Direct	CMMI-1100423	597	597
NSF-CISSIC-Near Ground Wireless	47.041	Direct	ECCS-1101843	-	34,552
NSF-Making Optics from Scratch	47.041	Direct	ECCS-1202443	-	45,951
NSF-Integrated Wind Turbine Blade	47.041	Direct	CMMI-1200061	-	3,440
NSF-IMP-Metal Matrix Composites	47.041	Direct	CMMI-1200038	-	87,284
NSF-PERC-Physical Power Systems	47.041	Direct	ECCS-1128512	-	32,653
NSF-IMP-Solar Energy Conversion	47.041	Direct	CBET-1235750	-	170,571
NSF-SFI-Dust Mitigation	47.041	Direct	CMMI-1234126	-	42,874
NSF-BRC Preferential Hydration	47.041	Direct	CBET-1159425	-	63,305
NSF-MUSTI-Intercalation in Cathodes	47.041	Direct	CMMI-1200383	-	18,197
NSF-SFI-Aerodynamic Vibration	47.041	Direct	CMMI-1300970	-	66,935
NSF-EPSSI-FNR-Damage Assessment	47.041	Direct	CMMI-1300720	56,059	99,725
NSF-MTTI-SusChEM/Collaborative Rese	47.041	Direct	CMMI-1300286	-	10,486
NSF-APSRC-Combustion Engines	47.041	Direct	CBET-1258720	32,762	144,528
NSF-MuSTI-High Voltage Temperature	47.041	Direct	IIP-1362040	-	55,927
NSF-MuSTI-CAREER-Mobility Amputees	47.041	Direct	CBET-1350154	2,874	35,226

*See Notes to Schedule of Expenditures of Federal Awards.*

# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Research and Development Cluster (continued)</b>					
<b>National Science Foundation (continued)</b>					
<b>Engineering Grants (continued):</b>					
NSF-BRC-PFI: AIR-TT Blood Typing	47.041	Direct	IIP-1414331	\$ -	\$ 53,428
NSF-I-Corps High Brightness Reagent	47.041	Direct	IIP-1445106	-	7,411
NSF-MuSTI-FNR-Millimeter Scale Flow	47.041	Direct	CBET-1402702	-	122,465
NSF-APS-GOALI: Easily Verifiable	47.041	Direct	CMMI-1435257	-	85,098
NSF-CWS-Molecular Level Investigation	47.041	Direct	CBET-1435926	-	80,702
NSF-LSTI-CAREER: Improved Virus Remo	47.041	Direct	1451959	-	62,804
NSF-ICC-Cognitive Radio Networks	47.041	Direct	1523965	-	109,856
NSF-ILI-I-Corps Site Program	47.041	Direct	1450364	-	37,078
NSF-IMP-3D Integrated Circuit Pkg	47.041	Direct	1462204	-	41,364
NSF-LSTI-GOALI:Graphen PaperSensor	47.041	Direct	1510006	-	19,837
NSF-CQP-EAGER: Dynamic Characteristic	47.041	Direct	1545804	-	27,466
NSF-MTTI-Active Mobile Sensor Net	47.041	Direct	1538105	-	53,369
NSF-Workshop on Solar Power	47.041	Direct	1543702	-	13,203
NSF-CWS-Coupled Production-Consump	47.041	Direct	1541816	-	36,255
NSF-LSTI-EAGER:Therapeutic Protein	47.041	Direct	1548107	-	40,614
NSF-CWS-RET Site:Promoting Learning	47.041	Direct	1542383	-	44,101
NSF-MTTI-Water Flow In Soils	47.041	Direct	1562522	-	16,698
				92,292	1,920,551
<b>Mathematical and Physical Sciences:</b>					
NSF-BRC-Purification Synth Peptide	47.049	Direct	CHE-1111192	-	607
NSF-MuSTI-Cellulose Nanocrystals	47.049	Direct	DMR-1100806	-	21,897
NSF-SFI-Hydrocarbon Transportation	47.049	Direct	CHE-1230803	-	357,909
NSF-Numerical Methods Transmission	47.049	Direct	DMS-1321391	-	4,272
NSF-MuSTI Functional Boron Nitride	47.049	Direct	DMR-1261910	-	120,196
NSF-EPSSI-Cosmic Ray Acceleration	47.049	Direct	PHY-1307289 AMEND NO 1	-	141,589
NSF-Hyperbolic Conservation Laws	47.049	Direct	DMS-1316662	-	90,306
NSF-MUSTI-CAREER-Biominalization	47.049	Direct	DMR-1350734	-	22,442
NSF-BRC-Tunable Nitric Oxide	47.049	Direct	DMR-1410192	-	254,542
NSF-MuSTI-MRI Electron Microscope	47.049	Direct	DMR-1429232	-	1,080,000
NSF-MuSTI-Metal Oxides	47.049	Direct	DMR-1410560	-	7,398
NSF-IMP-Domain Mechanisms	47.049	Direct	DMR-1409317	-	60,320
NSF-Part Supp-Algebraic Conference	47.049	Direct	1539650	-	14,886
NSF-IMP-Collab Research-Martensites	47.049	Direct	1506936	-	31,457
NSF-High Order Eigenvalue Problems	47.049	Direct	1521555	-	29,996
				-	2,237,817
<b>Geosciences:</b>					
NSF-EPSSI-Cloud Turbulence	47.050	Direct	AGS-1026123	-	34,510
NSF-EPSSI-MRI Dev Multiphase Turb	47.050	Direct	AGS-1039742	-	53,121
NSF-RSI-CAREER-Volcano-Seismic	47.050	Direct	EAR-1053794	-	56,400
NSF-CAREER-Flood Risk Projections	47.050	Direct	EAR-1053655	-	13,604
NSF-Geomagnetic Mafic Dikes India	47.050	Direct	EAR-1112952	-	(340)
NSF-EPSSI-FREE Tropospheric Aerosol	47.050	Direct	AGS-1110059	-	55,007
NSF-EPSSI-Physical/Radar Meteor	47.050	Direct	AGS-1119164	-	74,061
NSF-EPSSI-CAREER-Magnet Fingerprint	47.050	Direct	EAR-1149434	-	130,474
NSF-Mid-Continent Rift System	47.050	Direct	EAR-1148321	-	9,632
NSF-CWS2-South Florida Water	47.050	Direct	EAR-1204474	-	70,097
NSF-CWS2-Impacts of Global Transport	47.050	Direct	ICER-1313755	96,743	291,870
NATIO-GLRC-Continuation of MPOWIR	47.050	Direct	OCE-1356212	-	30,046
NSF-EPSSI-Single Silicate Crystals	47.050	Direct	1519967	-	7,471
NSF-LSTI-MRI:Ultrahigh Res Spectrom	47.050	Direct	1531454	-	540,111
NSF-EPSSI-Heterogeneous Ice Nucleat	47.050	Direct	1541998	-	8,479
NSF-EPSSI-EAGER: Aerosol Effects	47.050	Direct	1623429	-	49,622
NSF-AIM-Making Wave Energy	47.050	Direct	1635362	-	8,174
INTER-Bioenergy Development	47.050	InterAmerican Institute for Global Change Research	GRANT AGREEMENT FOR CRNIII	39,912	55,151
UNIVE-GLRC-Detect Microcystis Bloom	47.050	University of New Hampshire	SUB NO. 13-061, #OCE-1313783	-	31,681
UNIVE-CWS-Experimental Frameworks	47.050	University of New Hampshire	SUB 14-066, PRIME ICER-1313804	-	122,683
UNIVE-RUI: Probing Caldera-Forming	47.050	University of Wisconsin-Oshkosh	13309302013-1NSF	-	19,125
				136,655	1,660,979
<b>Computer and Information Science and Engineering:</b>					
NSF-Framework for Algorithmic	47.070	Direct	CCF-1116546	-	36,080
NSF-ICC-Graph Sparsification	47.070	Direct	CCF-1318694	-	86,373
NSF-ICC-CAREER-Integrated Research	47.070	Direct	CCF-1349984	-	81,287
CAREER-ICC-Heterogeneous Manycore	47.070	Direct	CCF-1350206	-	41,085
NSF-EAGER Imperative Programs	47.070	Direct	CCF-1450062	-	30,327
NSF-ICC-Collaborative Research	47.070	Direct	CNS-1422342	-	113,204
NSF-AIM- Architecture Optimization	47.070	Direct	CNS-1446622	-	87,728

*See Notes to Schedule of Expenditures of Federal Awards.*

# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Research and Development Cluster (continued)</b>					
<b>National Science Foundation (continued)</b>					
<b>Computer and Information Science and Engineering (continued):</b>					
NSF-GLRC-CAREER-Autonomous System	47.070	Direct	1453886	\$ -	\$ 59,227
NSF-ICC-XPS Collaborative Sphinx	47.070	Direct	1533828	-	120,176
NSF-ICC-EAGER:NeTS Under-Ice Mobile	47.070	Direct	1551067	-	72,975
NSF-ICC-Spatio-Temporal Correlation	47.070	Direct	1526152	-	32,144
NSF-AIM-Collab Research:CRISP Type2	47.070	Direct	1541000	-	124,513
UNIVE-CGV:Big Scientific Data	47.070	University of Notre Dame	202405MTU PRIME: IIS-1456763	-	14,028
				<u>-</u>	<u>899,147</u>
<b>Biological Sciences:</b>					
NSF-ESC-FFC-Predation Eco System	47.074	Direct	DEB-1019928	-	16,235
NSF-ESC-FFC-PEATLAND ECOSYSTEMS	47.074	Direct	DEB-1146149	42,530	53,019
NSF-ESC-FFC-Yellowston Wolves LTREB	47.074	Direct	DEB-1245335	-	65,319
NSF-ESC-FFC-FNR-Nitrate Deposition	47.074	Direct	DEB-1251529	-	31,062
NSF-BRC-Targeting microRNAs	47.074	Direct	IOS-1340001	403,859	659,961
NSF-FFC-ESC-Peatland C Fluxes	47.074	Direct	DEB-1354370	-	56,072
NSF-CCSR-IDBR Unconventional Antenn	47.074	Direct	DBI-1353664	-	82,641
NSF-ESC-FFC-LTREB Terrestrial Chain	47.074	Direct	1453041	-	91,447
NSF-ESC-FNR-Career Riverine Ecosys	47.074	Direct	1451919	-	183,725
NSF-LSTI-FFC-ABI Innovation G2P	47.074	Direct	1458130	-	122,186
NSF-FFC-ESC-EAGER:Vertebrate Food	47.074	Direct	1545611	-	30,781
				<u>446,389</u>	<u>1,392,448</u>
<b>Social, Behavioral, and Economic Sciences:</b>					
NSF-IMP-Ceramic Rehydroxylation	47.075	Direct	BCS-1219540	-	2,873
NSF-CAREER-Numeracy & Risk Literacy	47.075	Direct	SES-1253263	-	5,370
NSF-GLRC-Toxic Iron-Mining Contam	47.075	Direct	SES-1430755	-	90,361
				<u>-</u>	<u>98,604</u>
<b>Education and Human Resources:</b>					
NSF-EPSSI-Cyber Volcano Hazards Mod	47.076	Direct	DRL-0940883	-	2,926
NSF-CAREER-Math Moments Instru	47.076	Direct	DRL-1052958	-	68,065
NSF-ILI-Ethical Reasoning & Climate	47.076	Direct	DUE-1122390	-	3,600
NSF-Teaching IT Security	47.076	Direct	DUE-1140308	-	15,501
NSF-Modern Cryptography	47.076	Direct	DUE-1140512	-	13,929
NSF-Theory of Productive Math Use	47.076	Direct	AMENDMENT NO. 002	-	59,275
NSF-ICC-Accessible Access Control	47.076	Direct	DUE-1245310	-	8,136
NSF-Revamping Robotics Education	47.076	Direct	1501335	157,155	329,322
NSF-Agile Communicator-Software	47.076	Direct	1504860	-	104,852
NSF-ESC-FFC-E. Beller Fellowship	47.076	Direct	1051031 AMEND. 9	-	11,500
NSF-ICC-EDU:Collaborative:VACCS	47.076	Direct	1523017	-	23,377
REGEN-ILI-Microaggressions in Teams	47.076	Regents of the University of Michigan	SUBCONTRACT NO:3003298295	-	44,695
UNIVE-Promoting Reflective	47.076	University of Minnesota	A005354501 PTE: DUE-1540789	-	28,765
				<u>157,155</u>	<u>713,943</u>
<b>Polar Program:</b>					
NSF-Measuring Nitrogen Oxide GEO	47.078	Direct	ARC-1107398	-	(3,267)
<b>Office of International and Integrative Activities:</b>					
NSF-SFI-Bioenergy Development	47.079	Direct	OISE-1243444	338,751	842,256
NSF-FNR-US-China-Germany Planning	47.079	Direct	IIA-1427665	-	11,892
				<u>338,751</u>	<u>854,148</u>
<b>Office of Cyberinfrastructure:</b>					
NSF-CWS2-Environmental CyberCitizen	47.080	Direct	OCI-1135523	-	45,603
<b>Total National Science Foundation</b>				<u>1,171,242</u>	<u>9,971,114</u>
<b>U.S. Environmental Protection Agency</b>					
<b>No CFDA Number:</b>					
BATTE-GLRC-Erie Phosphorus Model	66.unk	Battelle	LETTER SUBCONTRACT 431347	-	6,363
ICFIN-Rangeland Fires Prototype	66.unk	ICF International	EP-BPA-12-H-002-BO#14KJBO0014	-	(5,013)
				<u>-</u>	<u>1,350</u>
<b>Great Lakes Program:</b>					
USENV-GLRC-Eurasian Watermilfoil	66.469	Direct	GL-00E01291-0	-	148,038
USENV-Watermilfoil Control	66.469	Direct	GL-00E01928-0	-	25,195
USENV-Invasive Phragmites	66.469	Direct	GL-00E01929-0	-	9,515
				<u>-</u>	<u>182,748</u>

See Notes to Schedule of Expenditures of Federal Awards.

# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Research and Development Cluster (continued)</b>					
<b>U.S. Environmental Protection Agency (continued)</b>					
<b>Science To Achieve Results (STAR)</b>					
<b>Research Program:</b>					
USENV-EPSSI-Extreme Event Impacts	66.509	Direct	RD-83518901-0	\$ -	\$ 90,105
<b>National Student Design Competition for Sustainability:</b>					
USENV-GLRC-Geothermal Energy Harnes	66.516	Direct	SU-83569201	-	5,266
<b>Total U.S. Environmental Protection Agency</b>				-	279,469
<b>U.S. Department of Energy</b>					
<b>No CFDA Number:</b>					
ARGON-Natural Gas Research	81.unk	Argonne National Laboratory	SUBCONTRACT NO. 6F-31282	-	29,541
BATTE-SFI-Pyrolysis of Waste	81.unk	Battelle Energy Alliance, LLC	CONTRACT #154519	-	13,027
BATTE-APS-Paddle Fast Pyrolysis	81.unk	Battelle Energy Alliance	CONTRACT #155738	-	76,770
BONNE-PERC-Transformer Protection	81.unk	Bonneville Power Administration	GRANT 66296	-	70,393
HONEY-APS-Tailorable Plate Testing	81.unk	Honeywell Federal Manufacturing & Technologies, LLC	DE-NA0002839 / PO#N000189974	-	53,530
HONEY-Senior Design: Plate Testing	81.unk	Honeywell Federal Manufacturing & Technologies, LLC	DE-NA0002839 PO#N000189963	-	3,949
LANZA-SFI-Life Cycle Assess	81.unk	LanzaTech Inc	DOE DE-FOA-0000467	-	17,419
PACIF-MuSTI-Situ Liquid Microscopy	81.unk	Pacific Northwest National Lab	241405	-	39,857
SANDI-AIM-Advanced Control Micro	81.unk	Sandia National Laboratories	PO#1416260	-	44,651
SANDI-AIM-FNR-Wave Energy Converter	81.unk	Sandia National Laboratories	PO#1514349	-	32,116
				-	381,253
<b>Office of Science Financial Assistance Program:</b>					
USENE-BRC-Genes Affect Wood Biomass	81.049	Direct	DE-SC0008462	-	143,100
USENE-EPSSI-Atmospheric Transport	81.049	Direct	DE-SC0010019	-	8,701
USENE-ESC-PFC-Tropical C Cycling	81.049	Direct	DE-SC0012000	105,228	205,266
USENE-EPSSI-Particle Astrophysics	81.049	Direct	DE-SC0011689	-	96,727
USENE-EPSSI-Ice Microphysical Props	81.049	Direct	DE-SC0011690	-	108,187
USENE-MuSTI-Junctions BNNTs/CNTs	81.049	Direct	DE-SC0012762	-	120,699
AEROD-EPSSI-Cloud Particle Form	81.049	Aerodyne Research	SUB #ARI 11045-1 DE-SC0011935	-	14,769
				105,228	697,449
<b>Conservation Research and Development:</b>					
USENE-APS-FNR-Spraywall Interaction	81.086	Direct	DE-EE0007292	-	16,117
USENE-APS-FNR-Natural Gas Engine	81.086	Direct	DE-EE0007331	-	5,220
				-	21,337
<b>Renewable Energy Research and Development:</b>					
THREE-APSRC-Low Cost Membrane	81.087	3M Company	SUBAWARD #USMMMYG79G	-	7,801
GASTE-SFI-Hydrocarbon Fuels	81.087	Gas Technology Institute	SUBCONTRACT NO. S549	-	62,639
				-	70,440
<b>Advanced Research Projects Agency - Energy:</b>					
LANZA-SFI-LCA Support Gas Conversion	81.135	Lanza Tech	MICHIGAN TECH AGMT #1306017	-	31,644
RELIN-IMP-Metallurgical Support	81.135	REL Inc	MTU AGMT #1412056	-	28,037
UNIVE-IMP-Additive Manufacturing	81.135	University of Maryland	13630-Z7180004, DEAR0000507	-	(613)
UNIVE-IMP-Dry Cooling of Power	81.135	University of Maryland	SUBAWARD NO. 30353-Z7214003	-	55,855
				-	114,923
<b>Total U.S. Department of Energy</b>				105,228	1,285,402
<b>U.S. Department of Education</b>					
<b>Fund for the Improvement of Postsecondary Education:</b>					
USEDU-EPSSI-Yr 1-INVOGE Program	84.116J	Direct	P116J090031-ACTION NO. 01	22,406	22,406
<b>Education Research, Development and Dissemination:</b>					
OHIOS-Enhancing Middle School Math	84.305	The Ohio State University	60046917 SUB R305A150365	-	89,340
<b>Total U.S. Department of Education</b>				22,406	111,746
<b>U.S. Department of Health and Human Services</b>					
<b>No CFDA Number:</b>					
RADIO-BRC-Properties Human Liver	93.unk	Radiological Society of North America	HHSN268201300071C(Z-3)	-	7,657
REGEN-Quantitative Analysis	93.unk	Regents of the University of Michigan	MTU#1402036	-	12,715
REGEN-FPP-Biophysical Data	93.unk	Regents of the University of Michigan	PO# 3003903607 & 3003921692	-	11,000
				-	31,372

*See Notes to Schedule of Expenditures of Federal Awards.*

# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Research and Development Cluster (continued)</b>					
<b>U.S. Department of Health and Human Services (continued)</b>					
<b>Environmental Health:</b>					
UNIVE-GLRC-Microcystis Blooms	93.113	University of New Hampshire	SUB NO. 13-060: #1R01ES021929	\$ -	\$ 1,938
<b>Human Genome Research:</b>					
NIH-LSTI-Rare Variant Assoc Studies	93.172	Direct	1 R15 HG008209-01A1	-	36,552
BAYLO-LSTI-Next Gen Bioinformatics	93.172	Baylor College of Medicine	PO#102140111, 5R01HG008115-02	-	94,793
				-	131,345
<b>National Center on Sleep Disorders Research:</b>					
UNIVE-Sleep Disordered Breathing	93.233	University of Michigan	SUB#3002300214 1-R01-HL1059991	-	29,505
<b>Discovery and Applied Research for Technological Innovations to Improve Human Health:</b>					
NIH-ILI-Cardiac Annunciator	93.286	Direct	1 R03 EB014844-01	-	25,024
NIH-IMP-Zn-Based Stent Materials	93.286	Direct	1R21EB019118-01A1	13,473	193,951
				13,473	218,975
<b>Cancer Detection and Diagnosis Research:</b>					
NIH-BRC-Virtual Breast Project	93.394	Direct	1 R15 CA179409-01A1	-	112,189
UNIVE-LSTI-Ultrasonic Ablation	93.394	University of Wisconsin-Madison	SUB #494K686 PRIME R01CA112192	-	22,329
				-	134,518
<b>Cardiovascular Diseases Research:</b>					
NIH-BRC-Small Diameter Blood Vessel	93.837	Direct	1R15HL115521-01A1	-	128,665
NIH-BRC-Rats with High Salt Intake	93.837	Direct	1R15HL122952-01A1	-	214,961
NIH-IMP-Stent Materials	93.837	Direct	1R15HL129199-01	-	111,858
				-	455,484
<b>Lung Diseases Research:</b>					
NIH-BRC-Sleep Deprivation in Women	93.838	Direct	1R15HL122919-01	-	109,013
<b>Diabetes, Digestive, and Kidney Diseases Extramural Research:</b>					
NIH-LSTI-miR-483 in Pancreatic Cell	93.847	Direct	1R15DK103197-01A1	-	71,798
<b>Biomedical Research and Research Training:</b>					
NIH-BRC-Biomimetic Tissue Adhesive	93.859	Direct	1 R15 GM104846-01	-	24,135
NIH-BRC-Oligodeoxynucleotide	93.859	Direct	1R15GM109288-01	-	138,272
NIH-BRC-Lysosomal pH in Living Cell	93.859	Direct	1 R15 GM114751-01	-	93,441
NIH-LSTI-Adhesive PEG-fibrinogen	93.859	Direct	1R15GM112082-01	-	164,869
NIH-LSTI-Role of Toolkit Genes	93.859	Direct	1 R15 GM107801-01A1	-	30,321
NIH-LSTI-Biomimetic Tissue Adhesive	93.859	Direct	2 R15 GM104846-02	-	49,386
				-	500,424
<b>Child Health and Human Development Extramural Research:</b>					
GEORG-ICC-Music Based Robotic	93.865	George Washington University	SUB #16-S12 / 7R01HD082914-03	-	60,532
MAYOM-MuSTI-Intramuscular Pressure	93.865	Mayo Clinic Rochester	5R01HD031476-14 PO#63695169	-	1,901
NEWYO-NRI Robotic Orchestration ASD	93.865	New York Institute of Technology	SUB #1 PRIME 1R01HD082914-01	-	10,871
				-	73,304
<b>Total U.S. Department of Health and Human Services</b>				13,473	1,757,676
<b>Total Research and Development Cluster</b>				2,439,848	29,774,257
<b>Other Programs</b>					
<b>U.S. Department of Agriculture</b>					
<b>No CFDA Number:</b>					
USAGR-ESC-FFC-Climate Change	10.unk	Direct	15-CR-11242306-043	-	8,704
USAGR-ESC-FFC-Fire Preparedness	10.unk	Direct	15-CS-11242306-044	-	15,618
USAGR-ESC-FFC-Climate Change	10.unk	Direct	15-CR-11242306-059	-	1,224
USAGR-ESC-FFC-Ed/Outrch Climate Chg	10.unk	Direct	11-CR-11242306-124	-	288,715
USAGR-ESC-FFC-Belowground Ecosystem	10.unk	Direct	13-JV-11242306-039	-	58,010
USFOR-Completion of TRACS Surveys	10.unk	Direct	15-CS-11090100-016	-	51,681
Wood Energy for Ford Center	10.unk	Michigan Institute for Timber Resources and Education Excell	GRANT DATED 10/2/14	-	73,000
				-	496,952
Child Care Food Program	10.558	Michigan Dept of Education		-	20,821

See Notes to Schedule of Expenditures of Federal Awards.



# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Other Programs (continued)</b>					
<b>U.S. Department of Agriculture (continued)</b>					
<b>Forestry Research:</b>					
USAGR-ESC-FFC-Climate Change Silvi	10.652	Direct	11-CA-11330124-051	\$ 87,412	\$ 89,912
<b>Total U.S. Department of Agriculture</b>				<u>87,412</u>	<u>607,685</u>
<b>U.S. Department of Commerce</b>					
<b>No CDFA Number:</b>					
MICHI-GLRC-Great Lakes Literacy	11.unk	Michigan State University	PO234120	-	5,000
<b>Economic Development Technical Assistance:</b>					
USCOM-Economic Dev in Central UP	11.303	Direct	EDA AWARD #06-06-05950	-	20,494
<b>Sea Grant Support:</b>					
UNIVE-GLRC-Angela Yu Fellowship	11.417	University of Michigan	PO# 3003997385	-	4,000
<b>Total U.S. Department of Commerce</b>				<u>-</u>	<u>29,494</u>
<b>U.S. Department of Defense</b>					
<b>No CDFA Number:</b>					
TECHN-PIOI-MTU-Summer Youth	12.unk	Technology Student Association	AWARD LETTER 1/28/16	-	13,893
<b>Basic and Applied Scientific Research:</b>					
OFFIC-GLRC-Talent Pipeline	12.300	Direct	N00014-15-1-2796	-	155,540
<b>Total U.S. Department of Defense</b>				<u>-</u>	<u>169,433</u>
<b>U.S. Department of Interior</b>					
<b>No CDFA Number:</b>					
John Payne - Intergovernmental Pers	15.unk	Direct	IPA EXTENSION DATE 3/20/15	-	269,630
<b>Keweenaw National Historical Park (NHP) and Keweenaw NHP Advisory Commission Partner Enhancement Grants:</b>					
KEWEE-Heritage Preservation	15.407	Keweenaw NHP Advisory Commission	C2015-014	-	4,158
<b>Cooperative Research and Training Programs - Resources of the National Park System:</b>					
USPAR-ESC-FFC-Isle Royale Membership	15.945	Direct	TASK AGREEMENT NO P15AC00157	-	32,397
<b>Total U.S. Department of Interior</b>				<u>-</u>	<u>306,185</u>
<b>U.S. Department of Labor</b>					
<b>Mine Health and Safety Grants:</b>					
USLAB-FY15 Mine Safety	17.600	Direct	MS-27472-15-55-R-26	-	193,932
<b>U.S. Department of Transportation</b>					
<b>No CDFA Number:</b>					
MITRA-MTTI-TDG-Roadsoft 2015	20.unk	Michigan Dept of Transportation	2014-0952 AUTH Z5 JOB#126501	-	304,993
MITRA-PIOI-NST Institute 2015	20.unk	Michigan Dept of Transportation	CONTRACT NO. 2015-0238	-	53,176
MITRA-MTTI-Bridge Design Analysis	20.unk	Michigan Dept of Transportation	CONTRACT NO. 2013-0506	5,611	131,093
MITRA-MTTI-TDG-2015 LTAP	20.unk	Michigan Dept of Transportation	2015-0027 AUTH Z1, Z2 & Z3	-	89,553
MITRA-MTTI-MERL 2015	20.unk	Michigan Dept of Transportation	2011-0063 Z5 JOB#126532	-	63,765
MITRA-MTTI-2016 LTAP	20.unk	Michigan Dept of Transportation	2015-0027 AUTH Z4, Z5, & Z6	-	348,594
MITRA-MTTI-MERL 2016	20.unk	Michigan Dept of Transportation	2014-0952 AUTH Z8 #129136	-	28,265
MITRA-MTTI-Roadsoft 2016	20.unk	Michigan Dept of Transportation	2014-0952 AUTH Z7 #128942	-	404,246
MITRA-MTTI-Roadsoft/MDOT Safety Uni	20.unk	Michigan Dept of Transportation	2014-0952 Z1, JOB #109731	-	164,524
				<u>5,611</u>	<u>1,588,209</u>
<b>Highway Research and Development Program:</b>					
USTRA-MTTI-Eastern Region TTAP Cntr	20.200	Direct	DTFH6114H00006	-	323,094
<b>Highway Planning and Construction:</b>					
MITRA-MTTI-TRAC Program	20.205	Michigan Dept of Transportation	CONTRACT NO 2016-0059 #1196730	-	17,654
MINNE-MTTI 2015 Tribes Conference	20.205	Minnesota Dept of Transportation	CONTRACT 1001571	-	17,954
				<u>-</u>	<u>35,608</u>
<b>Highway Training and Education:</b>					
MITRA-PIOI-NSTI 2016	20.215	Michigan Department of Transportation	CONTRACT NO. 2016-0295	-	17,931
<b>University Transportation Centers Program:</b>					
UNIVE-21st Century Education	20.701	University of Wisconsin-Madison	AGREEMENT #394K026	-	42,362
<b>Total U.S. Department of Transportation</b>				<u>5,611</u>	<u>2,007,204</u>

*See Notes to Schedule of Expenditures of Federal Awards.*

# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Other Programs (continued)</b>					
<b>Federal Mediation and Conciliation Service</b>					
<b>Labor Management Cooperation</b>					
FEDER-Labor-Mgmt Staff Mentoring	34.002	Direct	15-MI/PS-005	\$ -	\$ 769
<b>National Aeronautics and Space Administration</b>					
<b>No CDEA Number:</b>					
UNIVE-MSGC-Zinc-Magnesium Alloys	43.unk	University of Michigan	CHECK#3238610	-	(269)
UNIVE-MSGC-Native American InvolvP2	43.unk	University of Michigan	CHECK #3238610	-	2,396
UNIVE-MSGC-GLRC-FNR-Teacher Develop	43.unk	University of Michigan	CHECK# 3238610	-	977
UNIVE-MSGC-ILI-FY15-Administrative	43.unk	University of Michigan	CHECK #3238610	-	554
UNIVE-MSGC-GLRC-Yu Fellowship	43.unk	University of Michigan	CHECK #3516896 PO#3003524633	-	2,500
UNIVE-MSGC-Bean Fellowship	43.unk	University of Michigan	CHECK #3516896 PO#3003524633	-	2,222
UNIVE-MSGC-LSTI-Pacella Fellowship	43.unk	University of Michigan	CHECK #3516896 PO# 3003524633	-	2,500
UNIVE-MSGC-Bouali Fellowship	43.unk	University of Michigan	CHECK #3516896 PO# 3003524633	-	5,395
UNIVE-MSGC-PIOI-Mind Trekkers	43.unk	University of Michigan	CHECK#3516896 PO#3003524633	-	5,000
UNIVE-MSGC-Zwissler Fellowship	43.unk	University of Michigan	CHECK#3516896 PO#3003524633	-	4,342
UNIVE-MSGC-MTTI-Smart Flap Aculator	43.unk	University of Michigan	CHECK#3516896PO#3003524633	-	2,500
UNIVE-MSGC-GLRC-Sustainable Future	43.unk	University of Michigan	CHECK#3516896 PO#3003524633	-	2,640
UNIVE-MSGC-Gochis Fellowship	43.unk	University of Michigan	CHECK #3516896 PO #3003524633	-	5,000
UNIVE-MSGC-Discovering Geoheritage	43.unk	University of Michigan	CHECK#3516896 PO#3003524633	-	5,000
				-	40,757
<b>Science:</b>					
USNAS-FNR-Wright Fellowship	43.001	Direct	NNX13AN68H	-	2,000
USNAS-FNR-LSchaefer-fellowship	43.001	Direct	NNX13AO50H	-	30,229
USNAS-FNR-V. Flower Fellowship	43.001	Direct	NNX14AK94H	-	4,500
USNAS-EPSSI-FNR-Astronomy Picture	43.001	Direct	NNX14AP36G	-	45,432
USNAS-GLRC-FNR-BGrunert Fellowship	43.001	Direct	NNX15AN59H	-	27,259
USNAS-FNR-EPPSI-MBregé Fellowship	43.001	Direct	NNX15AN57H	-	26,357
				-	135,777
<b>Education:</b>					
USNAS-FNR-MuSTI-KTerhune fellowship	43.008	Direct	NNX13AM73H	-	70,481
UNIVE-FNR-MSGC-Lamina Zinc	43.008	University of Michigan	PO3003978288	-	924
UNIVE-FNR-MSGC-Black Carbon Aerosol	43.008	University of Michigan	PO3003978288	-	1,360
UNIVE-FNR-GLRC-MSGC-ASRST Institute	43.008	University of Michigan	PO3003978288	-	122
UNIVE-CWS-FNR-MSGC-Methyl Mercury	43.008	University of Michigan	PO3003978288	-	1,873
				-	74,760
				-	251,294
<b>Total National Aeronautics and Space Administration</b>					
<b>National Endowment for the Humanities</b>					
<b>Promotion of the Humanities - Division of Preservation and Access:</b>					
NATIO-GLRC-CC Historical Spatial	45.149	Direct	PW-234885-16	-	476
<b>National Science Foundation</b>					
<b>No CDEA Number:</b>					
NSF-IPA Assignment P Murthy	47.unk	Direct	DGE-1261336	-	(5,789)
<b>Engineering Grants:</b>					
NSF-SFI-Biofuels and Bioenergy	47.041	Direct	CBET-1140152	-	63,473
NSF-Part Supp-Laser Ignition Confer	47.041	Direct	1541597	-	4,978
				-	68,451
<b>Computer and Information Science and Engineering:</b>					
NSF-GLRC-NRI-Co-Robots to Engage	47.070	Direct	IIS-1426989	-	100,064
NSF-ICC-Participant-IEEE Intl Conf	47.070	Direct	1623968	-	25,000
				-	125,064
<b>Biological Sciences:</b>					
NSF-ESC-FFC-Ford Center Improvement	47.074	Direct	DBI-1226627	-	18,175
<b>Education and Human Resources:</b>					
NSF-EPSSI MITEP: Improving Earth	47.076	Direct	DUE-0831948	-	168,788
NSF-FNR-MTU SSEED Support4EngDegree	47.076	Direct	DUE-0965996	-	54,576
NSF-M. Hopkins Fellowship	47.076	Direct	DGE-1051031	-	4,500
NSF-J Fuller Fellowship	47.076	Direct	DGE-1051031 AMEND NO 004	-	4,667
NSF-D Cerminaro Fellowship	47.076	Direct	DGE-1051031 AMEND. NO. 005	-	1,334
NSF-Professoriate Progression	47.076	Direct	HRD-1305678	-	61,112
NSF-B Winter Fellowship	47.076	Direct	DGE-1051031	-	15,729

*See Notes to Schedule of Expenditures of Federal Awards.*

# Michigan Technological University

## Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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
<b>Other Programs (continued)</b>					
<b>National Science Foundation (continued)</b>					
<b>Education and Human Resources (continued):</b>					
NSF-C. Meingast Fellowship	47.076	Direct	AMENDMENT NO.007	\$ -	\$ 16,167
NSF-B Tymrax Fellowship P4	47.076	Direct	1051031	-	11,500
NSF-FNR-Meingast GRFP	47.076	Direct	1546592	-	31,667
NSF-FNR-Tymrak GRFP	47.076	Direct	1546592	-	26,702
NSF-FNR-Winter GRFP	47.076	Direct	1546592	-	32,836
NSF-ESC-FFC-FNR-Beller GRFP	47.076	Direct	1546592	-	31,667
NSF-IMP-FNR-Morgan GRFP	47.076	Direct	1546592, AMEND NO. 1	-	6,670
				<u>-</u>	<u>467,915</u>
<b>ARRA - Trans-NSF Recovery Act Research Support:</b>					
NSF-ARRA-FNR-CWS1-GK12-Huckins	47.082	Direct	DGE-0841073	10,823	38,786
<b>Total National Science Foundation</b>				<u>10,823</u>	<u>712,602</u>
<b>Small Business Administration</b>					
<b>Small Business Development Centers:</b>					
SIXCO-Small Business Tech Dev	59.037	Six County Employment Alliance	CONTRACT AGREEMENT	7,337	9,052
<b>Environmental Protection Agency</b>					
<b>No CDEFA Number:</b>					
COPPE-GLRC-EPA Exemplary Projects	66.unk	Copper Country Intermediate School District	MTU CONFIRMING ORDER #1509081	-	8,953
USENV-MTTI-ADV ACCT-EPA Region 5	66.unk	Direct	ADVANCE ACCOUNT	-	7,812
				<u>-</u>	<u>16,765</u>
<b>U.S. Department of Education</b>					
<b>Gaining Early Awareness and Readiness for Undergraduate Programs:</b>					
MILAB-PIOI-GEAR UP 2015	84.334	Michigan Dept of Labor & Economic Growth	GRANT NUMBER: 14-00-07	-	16,598
<b>Improving Teacher Quality State Grants:</b>					
MIEDU-EPDIS-Mathematical Practice	84.367E	Michigan Department of Education	140290-016	-	28,690
MIEDU-RISE-Physical Science	84.367E	Michigan Department of Education	160290-023	-	29,802
				<u>-</u>	<u>58,492</u>
<b>Total U.S. Department of Education</b>				<u>-</u>	<u>75,090</u>
<b>Total Other Programs</b>				<u>111,183</u>	<u>4,379,981</u>
<b>Total Expenditures of Federal Awards</b>				<u>\$ 2,551,031</u>	<u>\$ 82,526,895</u>

*See Notes to Schedule of Expenditures of Federal Awards.*

# Michigan Technological University

## Notes to Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

### **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, 2016. 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 and Research and Development Clusters have been defined as major programs.

# Michigan Technological University

## Notes to Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

### **5. William D. Ford Federal Direct Loan Program**

During the 2015/2016 award year, the University participated in the U.S. Department of Education Federal Direct Loan Program. Under this program, Direct Subsidized Loans, Direct Unsubsidized Loans, and Direct PLUS Loans are made from the Department of Education to the students. The University is responsible for completing portions of the loan applications, verifying student eligibility, and handling the disbursement of the proceeds to these students. For the year ended June 30, 2016, Direct Student Loans totaled \$21,535,618 (\$10,460,292 subsidized and \$11,075,326 unsubsidized), Direct Parent Loans for Undergraduate Students (PLUS) totaled \$7,191,860, and Direct PLUS Graduate Loans totaled \$118,399.

### **6. 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 2015/2016 fiscal year, Perkins Loans were issued which included no current year federal contribution. There was \$11,205,186 of Federal Perkins Loans (CFDA Number 84.038) outstanding as of June 30, 2016. Total program disbursements under the Federal Perkins Loans program for the year ended June 30, 2016 were \$1,835,751.

### **7. Federal Pell Grant Program**

The Federal Pell Grant Program authorization is based on the most recent ED255-6; Federal Pell Grant Program Statement of Account dated June 29, 2016. Expenditures are the actual amounts incurred through June 30, 2016. The University will process amendments at year end to finalize the 2015/2016 award year.

Michigan Technological University

Schedule of Findings and Questioned Costs

Year Ended June 30, 2016

**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 (continued)

Year Ended June 30, 2016

**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
Various	Research and Development Cluster

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

\$ 2,475,807

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, 2016

None.