

Single Audit Reporting Package
Michigan Technological University
Year Ended June 30, 2019

Michigan Technological University

Single Audit Reporting Package

Year Ended June 30, 2019

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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, 2019, and the related notes to the financial statements, which collectively comprise the University's basic financial statements, and have issued our report thereon dated November 26, 2019.

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 Pavlik PLC

Bay City, Michigan
November 26, 2019

Independent Auditors' Report on Compliance for Each Major Program;
Report on Internal Control Over Compliance; and Report on 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, 2019. 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, 2019.

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, 2019, and the related notes to the financial statements, which collectively comprise the University's basic financial statements. We issued our report thereon dated November 26, 2019, which contained an unmodified opinion on those financial statements. Our audit was conducted for the purpose of forming an opinion on the basic 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 basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the 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 basic financial statements as a whole.

Andrews Hooper Pavlik PLC

Bay City, Michigan
January 28, 2020

Michigan Technological University

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2019

Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Award Number	Passed Through to Subrecipients	Federal Expenditures
Student Financial Aid Cluster					
U.S. Department of Education					
Federal Supplemental Education Opportunity Grant	84.007	Direct	P007A182046	\$ -	\$ 222,623
Federal Work Study Program	84.033	Direct	P033A182046	-	269,160
Federal Perkins Loans	84.038	Direct	n/a	-	11,181,363
Federal Pell Grant Program	84.063	Direct	P063P180234	-	5,850,815
Federal Direct Student Loans	84.268	Direct	P268K190234	-	28,962,801
Total Student Financial Aid Cluster				-	46,486,762
Research and Development Cluster					
U.S. Department of Agriculture					
No CFDA Number:					
USAGR-ESC-FFC-Tropical Ecosystems	10.RD	Direct	13-JV-11242306-044	-	(47)
USAGR-FlamMap Model Complement	10.RD	Direct	13-JV-11221634-135	-	1,239
USAGR-ESC-FFC-Post-Fire Salvage Log	10.RD	Direct	14-JV-11221634-138	-	360
USAGR-ESC-FFC-Study of Harvest Gaps	10.RD	Direct	14-JV-11242307-084	-	19,263
USAGR-ESC-FFC-Black Ash Wetlands	10.RD	Direct	14-JV-11242307-153	-	6,186
USAGR-Smoke Management	10.RD	Direct	15-CR-11261987-035	-	50,599
USAGR-ESC-FFC-Web Development	10.RD	Direct	16-CR-11242306-100	-	11,523
USAGR-ESC-FFC-Radiocarbon Collabora	10.RD	Direct	16-CR-11242306-094	-	83,123
USAGR-ESC-FFC-Wood Stake Decomp	10.RD	Direct	16-JV-11242303-062	-	(367)
USAGR-ESC-FFC-Tropical Ecosystems	10.RD	Direct	17-JV-11242306-017	-	12,477
USAGR-ESC-FFC-Bonding Mixed Species	10.RD	Direct	17-JV-11111133-013	-	6,285
USAGR-ESC-FFC-Lakes State Hardwoods	10.RD	Direct	17-JV-11111133-018	-	3,234
USAGR-ESC-FFC-Coasatal Wetland	10.RD	Direct	17-PA-11091000-023	-	3,342
USAGR-ESC-FFC-KISMA Agreement	10.RD	Direct	17-PA-11090700-026	-	20,564
USAGR-ESC-FFC-Design Thinking/Lean	10.RD	Direct	17-JV-11242306-044	-	50,413
USAGR-ESC-FFC-Peat Accumulation	10.RD	Direct	17-PA-11091000-038	-	16,293
USAGR-ESC-FFC-Evaluating Changes	10.RD	Direct	17-JV-11221633-163	-	18,185
USAGR-ESC-FFC-Black Ash Wetland	10.RD	Direct	17-JV-11242307-133	-	169,097
USAGR-Estimating Upland Watersheds	10.RD	Direct	18-JV-11221634-020	-	24,665
USAGR-FFC-Genetic Improvement	10.RD	Direct	18-JV-11111133-009	-	5,029
USAGR-ESC-FFC-Satellite Detection	10.RD	Direct	18-CR-11221676-160	-	13,805
USAGR-Riparian Buffer Delineation	10.RD	Direct	18-CS-11132422-306	-	46,149
USAGR-ESC-FFC-Forest Tax Programs	10.RD	Direct	19-JV-11242309-029	-	4,256
				-	565,673
Cooperative Forestry Research:					
USAGR-MS-ESC-FFC-FY18 Admi	10.202	Direct	NI18MSCFRXXXG047	-	195,552
USAGR-MS-ESC-FFC-FY19-Admi	10.202	Direct	NI19MSCFRXXXG15-0001	-	185,638
				-	381,190
Sustainable Agriculture Research and Education:					
UNIVE-Engaging Women Farmland Owner	10.215	University of Nebraska - Lincoln	2018-38640-28416	-	6,028
Biotechnology Risk Assessment Research:					
USAGR-LSTI-FFC-STERILE APETALA(SAP)	10.219	Direct	2016-33522-25626	-	149,099
Agriculture and Food Research Initiative:					
USAGR-ESC-FFC-Novel Timber Systems	10.310	Direct	2017-67013-26261	-	58,188
MICHI-ESC-FFC-Xeric Jack PineForest	10.310	Michigan State University	2015-67019-23007 RC104605MTU	-	13,270
UNIVE-GLRC-Sustainable Water-Desert	10.310	University of Texas at El Paso	SUBAWARD NO. 226300313E	-	92,183
				-	163,641
Forestry Research:					
USAGR-ESC-FFC-Wood Decomp:FACE Wood	10.652	Direct	16-DG-11330140-086	-	73,038
Cooperative Forestry Assistance:					
USAGR-ESC-FFC-Tree Planting EAB	10.664	Direct	19-DG-11420000-032	-	2,604
Wood Utilization Assistance:					
USAGR-ESC-FFC-Beetle-Killed Tree	10.674	Direct	16-DG-11420004-166	-	60,775
UNIVE-ESC-FFC-Thermal Modification	10.674	University of Minnesota-Duluth	D004865401/15-DG-11420004-082	-	23,397
				-	84,172
Partnership Agreements:					
USAGR-ESC-FFC-Web Dev USDA Climate	10.699	Direct	17-CR-11242306-105	-	94,715
USAGR-ESC-FFC-Hardwood Cross Lamina	10.699	Direct	17-JV-11111133-034	-	16,830
USAGR-ESC-FFC-RadioCarbon Collabora	10.699	Direct	18-CR-11242306-072	-	5,003
				-	116,548
Research Joint Venture and Cost Reimbursable Agreements:					
USAGR-ESC-FFC-Application of MCAT	10.707	Direct	19-JV-11330140-017	-	21,411

See Notes to Schedule of Expenditures of Federal Awards.

Michigan Technological University

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2019

Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Award Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Agriculture (continued)					
Environmental Quality Incentives Program:					
USAGR-ESC-FFC-Forest Road Surfacing	10.912	Direct	69-5D21-17-116	\$ -	\$ 23,912
Total U.S. Department of Agriculture				-	1,587,316
U.S. Department of Commerce					
No CFDA Number:					
LIMNO-GLOS DMAC 2017	11.RD	LimnoTech Inc	LIMNOTECH AGREEMENT	-	16,370
Ocean Exploration:					
FRIEN-GLRC-Pushing the Boundaries	11.011	Friends of Thunder Bay National Marine Sanctuary	NA160AR0110194	-	711
Integrated Ocean Observing System:					
GREAT-Simulating Spill Scenarios	11.012	Great Lakes Observing System	GRANT # IOOS/HECWFS-01	-	12,844
GLOS-GLRC-High Frequency Radar	11.012	Great Lakes Observing System	NA16NOS0120025	-	299,253
GLOS-GLRC-Implementation Network	11.012	Great Lakes Observing System	PROJECT NUMBER: IOOS/NBN-01	-	34,423
				-	346,520
Sea Grant Support:					
REGEN-GLRC-Lake MI Cladophora	11.417	Regents of the University of Michigan	NA180AR4170102 SUB 3004932531	-	35,963
Coastal Zone Management Estuarine Research Reserves:					
MIDNR-GLRC-FNR-Resilient Coastal	11.419	Michigan Department of Natural Resources	PRJCT#17-RESILIENCYSTRATEGY003	-	78,532
MIDEQ-GLRC-FNR-Resilient Coastal	11.419	Michigan Dept of Environmental Quality	18-RESILIENCY STRATEGY-003	-	61,079
MIDEQ-GLRC-Great Lakes Beach Hazard	11.419	Michigan Dept of Environmental Quality	18-CHAZ-001	-	57,907
MINAT-GLRC-FNR-CMP-Resiliency Yr3	11.419	Michigan Dept of Natural Resources	#19-Resiliency Strategy-002	-	49,445
REGEN-GLRC-Mapping ZDCIs & Coastal	11.419	Regents of the University of Michigan	3004599139	-	11,744
				-	258,707
National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes:					
REGEN-Remote Sensing Products	11.432	Regents of the University of Michigan	SUBCONTRACT NO. 3005203302	-	101,010
UNIVE-Laurentian-Great Lakes	11.432	Regents of the University of Michigan	SUBK00008752/PO#3005008452	-	172,969
UNIVE-GLRC-CIGLR Cooperative	11.432	University of Michigan	SUBK00009476/PO#3005166938	-	121,898
WOODS-Dev Biocompatible Whale Tag	11.432	Woods Hole Oceanographic Institution	SUBAWARD#A101333	-	4,159
				-	400,036
Gulf Coast Ecosystem Restoration Science, Observation, Monitoring, and Technology:					
BOARD-GLRC-Approaches to Restoratio	11.451	Board of Supervisors of Louisiana State University	SUBAWARD NO. PO-000038194	-	29,783
Center for Sponsored Coastal Ocean Research_Coastal Ocean Program:					
OHIOS-GLRC-ECOHAH 2017	11.478	Ohio State University	PO#RF01495490/PROJECT#60061695	-	21,605
Measurement and Engineering Research and Standards:					
NATIO-Wildland Fire Incident Operat	11.609	Direct	70NANB17H174	174,027	292,514
Total U.S. Department of Commerce				174,027	1,402,209
U.S. Department of Defense					
No CFDA Number:					
TACOM-ASSURED III-APU Task 1	12.RD	Direct	W56HZV-14-C-0286 P00015 WD 013	-	82,766
USAIR-ESCAPE	12.RD	Direct	FA8750-16-C-0072	-	152,455
TACOM-ASSURED III-Heavy Fuel Engine	12.RD	Direct	W56HZV-14-C-0286 MOD P00022 WD	-	33,214
TACOM-Assured III S19 Advanced	12.RD	Direct	W56HZV-14-C-0286 P00025 WD018	-	1
TACOM-ASSURED III-Ice Cleat MARCOR	12.RD	Direct	W56HZV-14-C-0286 WD 019	-	377,276
TACOM-ASSURED III-BMTD	12.RD	Direct	W56HZV-14-C-0286 WD 021	-	3,770
USAIR-Electronic Support Critical	12.RD	Direct	FA8650-17-C-1058	-	791,059
TACOM-ASSURED III-Countermeas Sys	12.RD	Direct	W56HZV-14-C-0286 P00032 WD 023	-	(5,109)
TACOM-ASSURED III-NG NRRM	12.RD	Direct	W56HZV-14-C-0286 P00053 WD 025	-	200,359
TACOM-ASSURED III-HFBC ESU HullLoad	12.RD	Direct	W56HZV-14-C-0286 WD026 REV 001	-	723,237
OFFIC-GLRC-SWITCHES	12.RD	Direct	N66001-18-C-4014	32,145	112,863
TACOM-ASSURED III-MRAP PI	12.RD	Direct	W56HZV-14-C-0286 P00039 WD 28	-	1,193,678
TACOM-ASSURED III-APU Treatments	12.RD	Direct	W56HZV-14-C-0286 WD 30	-	54,640
TACOM-ASSURED III - GVSP APS	12.RD	Direct	W56HZV-14-C-0286 WD 027	-	200,195
TACOM-ASSURED III-Snow & Ice Terrai	12.RD	Direct	W56HZV-14-C-0286 WD 029	-	1,558
TACOM-ASSURED III-THAAD APU	12.RD	Direct	W56HZV-14-C-0286 P00046 WD 024	-	214,376
USAIR-Global Cropland Fire Sensing	12.RD	Direct	FA8810-18-C-0017	29,772	287,973

See Notes to Schedule of Expenditures of Federal Awards.

Michigan Technological University

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2019

Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Award Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Defense (continued)					
No CFDA Number (continued):					
TACOM-ASSURED III BCS Load Pins	12.RD	Direct	W56HZV-14-C-0286	\$ -	\$ 24,944
TACOM-ASSURED III LTCMSM	12.RD	Direct	W56HZV-14-C-0286	-	84,710
TACOM-ASSURED III-Trailer Decks	12.RD	Direct	W56HZV-14-C-0286 WD 033	-	91,108
DARPA-BARCS	12.RD	Direct	HR001118C0124	-	204,357
DARPA-Localized Urban Swarm Tech	12.RD	Direct	HR001118C0144	184,852	422,245
DARPA-Geometrically Invariant Neura	12.RD	Direct	HR00111890039	-	406,253
Tacom-ASSURED IV-Blast Hull Mitiga	12.RD	Direct	W56HZV-19-C-0053 WD001	-	75,612
Tacom-ASSURED III-BCS Blade	12.RD	Direct	W56HZV-14-C-0286 WD 034	-	57,537
TACOM-ASSURED III-MTRRS	12.RD	Direct	W56HZV-14-C-0286	-	296,304
TACOM-ASSURED III-NG NRRMM	12.RD	Direct	W56HZV-14-C-0286 WD36	-	406
TACOM-ASSURED IV-PAM	12.RD	Direct	W56HZV-19-C-0053 WD 002	-	70,963
TACOM-ASSURED IV-Ice Cleat Maturati	12.RD	Direct	W56HZV-19-C-0053, EXP. 9-3	-	36,837
AKELA-Detection and Location	12.RD	AKELA Inc	SUBCONTRACT #AK-2016-0810	-	54,432
AKELA-ICC-FNR-Multistatic Phase II	12.RD	AKELA Inc	SUBCONTRACT AK-2017-0412	-	507
ALION-PARA Board Build 2	12.RD	Alion Science and Technology Corporation	PO#PUR1146518	-	3,374
BOEIN-ASISC-FNR-Solid State Neutral	12.RD	Boeing Defense & Space Group	PC 1505958	-	46,901
BOOZA-InnoVision Future Solutions	12.RD	Booz-Allen-Hamilton	S901525BAH	-	15,005
APPLI-FNR-Physics Based Process CAS	12.RD	Applied Research in Acoustics LLC	MTU AGREEMENT 1801032	-	37,500
BOOZA-RECON-Base	12.RD	Booz-Allen-Hamilton	S902439BAH	-	48,172
BOEING-MARC-Density Filter Dev	12.RD	Boeing Defense & Space Group	Purchase Contract #1755374	-	916
DYNET-Algorithm Development Support	12.RD	Dynetics Inc	PO# CH014466	-	2,298
DYNET-Algorithm Develop Support	12.RD	Dynetics Inc	PO GC003036	-	22,733
ETEGE-AF171-090 Improving Truist	12.RD	Etegent Technologies Ltd	PRIME CONT #FA8651-18-C-0063	-	55,771
FIBER-Algorithm for UAV Mounted GPR	12.RD	Fibertek	Subcontract No. W909MY-MTU-575	-	21,823
LEIDO- Opera T02	12.RD	Leidos Inc	P010151900-2 FA8650-13-D-1622	-	51,381
LEIDO-STOP WORK-PRIDE	12.RD	Leidos Inc	P010189654 / FA8650-16-C-1732	-	4,323
LEIDO-ACME 4	12.RD	Leidos, Inc.	SUBCONTRACT NO P010192299	-	852,753
MITLI-ICC-Self-Interference Modelin	12.RD	Lincoln Labs MIT	PO#7000379788	-	7,296
LEIDO-Roadrunner	12.RD	Leidos, Inc.	SUBCONTRACT #P010197000	-	22,584
MTEQI-Airborne GPR Data Study	12.RD	MTEQ, Inc.	PURCHASE ORDER NO. 28407	-	104,269
LEIDO-CASE T03	12.RD	Leidos Inc	SUBCONTRACT NO P010201230	-	2,194
METTL-Dynamic Mass Catch	12.RD	Mettle Ops	METTLE OPS PO# 17	-	33,006
MZAAS-Atmospheric Imaging	12.RD	MZA Associates Corporation	MZA - MTU SUBCONTRACT #17358	-	9,112
LEIDO-UAS Flight Support Argon Prog	12.RD	Leidos, Inc.	SUBCONTRACT NO P010211641	-	15,570
LEIDO-Shazam	12.RD	Leidos Oak Ridge	LEIDOS PO P010217731	-	30,643
MZAAS-ICC-FNR-ATRS-Phase II	12.RD	MZA Associates Corporation	Subcontract No. S19004	-	33,835
NATIO-Tracked Vehicle Suspension	12.RD	National Advanced Mobility Consortium	NAMC AGREEMENT 69-201515 #T02	23,641	743,152
NATIO-Amored Fixtures	12.RD	National Advanced Mobility Consortium	NAMC Agrmnt 69-201805	-	15,232
LEIDO-Oak II	12.RD	Leidos Inc	P010130462 / PRIME 12-C-8928	-	13,470
SANDIA-AIM-FNR-Naval Electrical Sys	12.RD	Sandia National Laboratories	PO#1615622	-	(252)
SANDI-AIM-FNR-Pulsed Load Microgrid	12.RD	Sandia National Laboratories	PO#1746491/REVISION:13	-	59,709
SRICO-CQP-Optical Isolators Phase 2	12.RD	SRICO Inc	SUB NO. 17089MTU	-	109,644
TECHN-FNR-Sr Design-Design Challenge	12.RD	Technology Service Corporation	STUDENT PROJECT-TSC-1070-40066	-	220
STRUC-High-Precision Interferometer	12.RD	Structured Materials Industries Inc	#42086-050918-02/#N0003018C021	-	34,632
SOART-GLRC Ocean of Things TA2	12.RD	Soar Technology, Inc.	Subcontract Number: SC-18-027	-	317,643
STEVE-LIFT-Sr Design:SERC MARSOC	12.RD	Stevens Institute of Technology	Agreement#2102796-09	-	1,851
STEVE-LIFT-SERC NSW 01 Boat HUD	12.RD	Stevens Institute of Technology	SERC 2102796-10	-	910
SIGNA-ICC-Algorithms Look-Down Targ	12.RD	Signature Research Inc	NCTE AND PO 01-383-S1 R3	-	40,000
STEVE-LIFT-Senior Design SERC AFRL	12.RD	Stevens Institute of Technology	SERC 2102796-07	-	1,564
STEVE-SERC 2018 USCG 01 Mass Rescue	12.RD	Stevens Institute of Technology	SERC 2102796-13	-	490
STEVE-SERC 2018 NSW 12 Vision	12.RD	Stevens Institute of Technology	SERC 2102796-12	-	4,679
STEVEN-LIFT-SERC 2018 AFRL 04	12.RD	Stevens Institute of Technology	SERC 2102796-04	-	2,200
STEVE-LIFT-Enterprise:SERC 2018AFRL	12.RD	Stevens Institute of Technology	SERC 2102796-03	-	3,897
STEVE-LIFT-SERC 2018 Army 01	12.RD	Stevens Institute of Technology	MTU#1808024 SERC#2102796-08	-	364
TWINL-AIM-Magnetic Sensor Suite	12.RD	Twinleaf LLC	MTU AGREEMENT 1702021A	-	38,833
SCOTF-Lightweight Track Tech SBIR	12.RD	Scot Forge Company	MTU Proposal #1806019	-	23,448
UNIVE-AIM-FNR-HVDC Study	12.RD	University of Dayton Research Institute	SUBCONTRACT NO. RSC17071	-	11,998
UNIVE-GLRC-Deploy & Recov Buoy-2018	12.RD	University Of California at San Diego	UNIV CA SAN DIEGO PO#91861033	-	3,952
UTAHS-FNR-Auris Cubesat	12.RD	Utah State University Research Foundation	CP0053711	-	12,176
WARTS-GLRC-Swept Sine Vibration	12.RD	Wartsila Defense Inc	PO #P18-28867	-	30,389
				270,410	9,142,186
Basic and Applied Scientific Research:					
OFFIC-Metamaterial Devices	12.300	Direct	N00014-15-1-2684	-	76,225
OFFIC-AIM-Undersea Persistence	12.300	Direct	N00014-15-1-2599	-	109,049
OFFIC-AIM-Autonomous Microgrids	12.300	Direct	N00014-16-1-2422	-	303,597
OFFIC-LSTI-FNR-Smart Adhesive	12.300	Direct	N00014-16-1-2463	-	182,958
OFFIC-MTRI-Standoff IED Detection	12.300	Direct	N00014-16-1-2623	-	87,089

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	Award Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Defense (continued)					
Basic and Applied Scientific Research (continued):					
OFFIC-IMP-Microalloyed Aluminum	12.300	Direct	N00014-16-1-2878	\$ -	\$ 114,016
OFFIC-AIM-Increasing Ship Power Sys	12.300	Direct	N00014-16-1-3044	71,521	238,256
OFFIC-GLRC-ONR Graduate Traineeship	12.300	Direct	N00014-18-1-2592	-	52,792
OFFIC-AIM-Real-Time Simulator	12.300	Direct	N00014-18-1-2745	-	197,095
OFFIC-ICC-NPT-03/04 On-Ice Underwat	12.300	Direct	N00174-19-1-0004	-	8,257
				<u>71,521</u>	<u>1,369,334</u>
Military Medical Research and Development:					
USARM-HRI-Biomimetic Adhesive	12.420	Direct	W81XWH1810610	-	133,588
Basic Scientific Research:					
USARM-AIM-Agent-Based Control AEN	12.431	Direct	W911NF-17-2-0130	-	99,646
USARM-CQP-First Principles Studies	12.431	Direct	W911NF-14-2-0088	-	131,039
nCASE-Senior Design:Air Cooled Inve	12.431	National Center for the Advancement of STEM Education (nC	GRANT #W15QKN-14-1-0001	-	17,250
TECHN-Senior Design:Air Force Chall	12.431	Technology Service Corporation	TSC-1188-6000; PRIME FA8650-16	-	4,745
UNIVE-CQP-Supersymmetry	12.431	University of Central Florida	SUBAWARD #65016323-01	-	27,037
				<u>-</u>	<u>279,717</u>
Basic, Applied, and Advanced Research in Science and Engineering:					
AMERI-IMP-Melt R2-5: Development	12.630	American Lightweight Materials Manufacturing Innovation Inst	SUBAWARD AGREEMENT:0002E-6	-	39,119
AMERI-IMP-Enterprise: 3D Printing	12.630	American Lightweight Materials Manufacturing Innovation Inst	Subaward Agreement:0001	-	9,114
				<u>-</u>	<u>48,233</u>
Air Force Defense Research Sciences Program:					
OFFIC-EPSSI-Lab Cloud Chamber	12.800	Direct	FA9453-16-1-0083	-	31,120
USAIR-MuSTI-Magneto-Electrostatic	12.800	Direct	FA9550-17-1-0212	8,891	14,581
USAIR-ICC-FNR-Induced Anisoplanatis	12.800	Direct	FA9550-17-1-0201	-	74,065
				<u>8,891</u>	<u>119,766</u>
CyberSecurity Core Curriculum:					
NATIO-ICC-MTU CyberSecurity	12.905	Direct	H98230-17-1-0414	-	164,658
Research and Technology Development:					
USINT-GLRC-Bilge Water Microbiomes	12.910	Direct	D16AP00146	-	184,992
FLORI-ICC-DARPA XAI	12.910	Florida Institute for Human and Machine Cognition	FA8650-17-2-7711-1	-	131,984
REGEN-MTTI-Next Generation NATO	12.910	Regents of the University of Michigan	W56HZV1420001 / 3004877392	-	96,051
REGEN-ICC-Robust Terrain ID/Path PL	12.910	Regents of the University of Michigan	SUB 3004831295/W56HZV1420001	-	96,548
REGEN-ICC-Robust Terrain	12.910	Regents of the University of Michigan	SUBK00011121 PO#3005466601	-	1,143
REGEN-MTTI-Next Gen NATO Mobility	12.910	Regents of the University of Michigan	SUBK00011314	-	33,634
VIRGI-IMP-FNR-Efficient Electronics	12.910	Virginia Polytechnic Institute and State University	SUBAWARD NO. 450393-19959	-	58,449
				<u>-</u>	<u>602,801</u>
				<u>350,822</u>	<u>11,860,283</u>
Total U.S. Department of Defense					
U.S. Department of Housing and Urban Development					
No CFDA Number:					
ALGER-MTTI-Log Movement Super Regio	14.RD	Alger County	AGREEMENT DATED 2/27/18	-	54,055
Healthy Homes Technical Studies Grants:					
USHOU-Cleanup Lead Based Paint Soil	14.906	Direct	MILTS0007-17 AMEND NO. 1	70,082	144,494
				<u>70,082</u>	<u>198,549</u>
Total U.S. Department of Housing and Urban Development					
U.S. Department of Interior					
No CFDA Number:					
CHARL-ICC-FOCUS	15.RD	Charles River Analytics	SUBCONTRACT# SC1809502	-	23,296
SOART-Urban Reconnaissance	15.RD	Soar Technology, Inc.	SubContract # SC-19-02	-	127,867
				<u>-</u>	<u>151,163</u>
Tribal Climate Resilience:					
BUREA-GLRC-Keweenaw Bay Sand Point	15.156	Direct	A19AC00030	-	12,369
Multistate Conservation Grant:					
NORTH-FFC-R3 Efforts Targeting Stud	15.628	North Carolina State University	2018-0319-08	-	4,707
Migratory Bird Monitoring, Assessment and Conservation:					
USFIS-ESC-FFC-Woodcock Habitat	15.655	Direct	F15AP00518	42,879	47,521

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Research and Development Cluster (continued)					
U.S. Department of Interior (continued)					
Cooperative Ecosystem Studies Units:					
USFIS-Coastal Wetlands YR2	15.678	Direct	F18AC00039	\$ -	\$ 89,773
U.S. Geological Survey Research and Data Collection:					
USGEO-GLRC-Robot -Assisted Computer	15.808	Direct	G18AC00108	-	214,426
USGEO-Benthic Organism Detection	15.808	Direct	G18AC00365	-	131,989
				-	346,415
National Cooperative Geologic Mapping:					
USGEO-GLRC-Keweenaw Fault Geometry	15.810	Direct	G17AC00115	-	1,237
USGEO-EPSSI-Keweenaw Fault	15.810	Direct	G19AC00140	-	10,766
USGEO-Invasive Phragmites CoastalGL	15.810	Direct	G17AC00351	-	149,143
				-	161,146
National Land Remote Sensing-Education Outreach and Research:					
AMERI-State View Prog Development	15.815	AmericaView	AV18-MI-01	-	9,438
National Resource Stewardship:					
USPAR-ESC-FFC-Wolf-Moose monitoring	15.944	Direct	TASK AGREEMENT #P16AC00004	-	18,905
Cooperative Research and Training Programs - Resources of the National Park System:					
USPAR-ESC-FFC-Beech Reintroduction	15.945	Direct	P16AC01398	-	87,812
USPAR-Pullman National Monument	15.945	Direct	TASK AGRM # P17AC00005	-	78,998
USPAR-ESC-FFC-Park Ecosystem-Climat	15.945	Direct	P17AC01063	-	49,915
USINT-Keweenaw NPS & Isle Royale NP	15.945	Direct	P18AC00178	-	47,751
				-	264,476
				42,879	1,105,913
Total U.S. Department of Interior					
U.S. Department of State					
Public Diplomacy Programs:					
USSTA-EPSSI-Disaster Mngmt in India	19.040	Direct	SIN65019GR0023	-	1,982
				-	1,982
Total U.S. Department of State					
U.S. Department of Transportation					
No CFDA Number:					
USTRA-MTTI-Driver Behavior	20.RD	Direct	DTFR5316C00022	-	29,151
USTRA-MTTI-IN-Vehicle Auditory Aler	20.RD	Direct	693J618C00027	-	18,487
USTRA-MTTI-RAILS	20.RD	Direct	693J619C00001	-	38,495
ENGIN-MTTI-Pavement Life Cycle	20.RD	Engineering & Software Consultants, Inc	ESCINC SUBCONTRACT#: 18-49	-	33,667
MITRA-MTTI-Bridge Decks	20.RD	Michigan Dept of Transportation	2010-0295 AUTH Z7 JOB#132975	2,317	8,172
MITRA-MTTI-Unmanned Aerial Vehicles	20.RD	Michigan Dept of Transportation	2016-0067 AUTHORIZATION 1	-	3,480
MITRA-Deploy 3D BRIDGE App	20.RD	Michigan Dept of Transportation	2018-0283	-	126,180
UNIVE-Radar Congestion Task 1	20.RD	University of Michigan	SUBK00010081 PO#3005266707	-	248,059
				2,317	505,691
Highway Research and Development Program:					
UNIVE-MTTI-Sustainable Hwy Practice	20.200	University of Washington	SUB# UWSC9460 BPO#20732	-	57,811
Metropolitan Transportation Planning and State and Non-Metropolitan Planning and Research:					
MITRA-MTTI-Freeze Thaw Model	20.505	Michigan Dept of Transportation	2016-0067 Z5 JOB #132228	-	101,838
MITRA-MTTI-Calc of Scour Potential	20.505	Michigan Dept of Transportation	2016-0067.exp. 6/30/20 Auth#Z8	-	21,702
MITRA-MTTI-Integration of Aerial	20.505	Michigan Dept of Transportation	Contract No. 2019-0311, Aut Z1	-	2,997
				-	126,537
Public Transportation Research, Technical Assistance, and Training:					
UNIVE-MTTI-Transit Response Plan	20.514	University of Chicago	SUB AWARD #FP062899-B	-	39,631
University Transportation Centers Program:					
UNIVE-MTTI-NURail Tier 1	20.701	University of Illinois at Urbana-Champaign	072614-14811	-	43,390
				2,317	773,060
Total U.S. Department of Transportation					

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Research and Development Cluster (continued)					
National Aeronautics and Space Administration					
No CFDA Number:					
USNAS-Harmful Algal Blooms	43.RD	Direct	NNC15VA51P	\$ -	\$ 56,601
Science:					
USNAS-Linking Remote Sensing	43.001	Direct	NNX12AQ89G	-	26,993
USNAS - EPSSI - FNR - Climatology	43.001	Direct	NNX13AF50G	-	69,106
USNAS-EPSSI-FNR-EIC Observations	43.001	Direct	NNX15AC61G	-	11,506
USNAS-EPSSI-FNR-Basaltic Volcanic	43.001	Direct	NNX15AR97G	-	15,093
USNAS-Boreal-Taiga Ecosystems	43.001	Direct	NNX15AT83A	-	104,934
USNAS-SMAP-Data Soil Fuel Moisture	43.001	Direct	NNX16AN09G	53,751	185,354
USNAS-EPSSI-FNR-Snowfall in GPM Era	43.001	Direct	80NSSC17K0058	-	54,157
USNAS-GLRC-FNR-Laurentian Basin	43.001	Direct	80NSSC17K0287	-	14,864
USNAS-Great Lake Basin	43.001	Direct	80NSSC17K0262	406,271	687,773
USNAS-FNR-Next Generation AVIRIS-NG	43.001	Direct	80NSSC17K0543	-	63,403
USNAS-New Carbon Monitoring	43.001	Direct	80NSSC17K0712	-	219,337
USNAS-EPSSI-FNR-Snowfall Measuremnt	43.001	Direct	80NSSC18K0331	-	6,451
USNAS-EPSSI-FNR-Exploiting High-Cad	43.001	Direct	80NSSC19K0771	-	12,489
USNAS-FNR-Waterfowl Habitat ABOVE	43.001	Direct	80NSSC19M0108	-	22,056
USNAS-Wildfire & Boreal-Taiga	43.001	Direct	80NSSC19M0107	-	2,046
MIAMI-Southern Vietnam Land-cover	43.001	Miami University	MCCARTY-NASA-MICHTTECH-G03016	-	9,079
UNIVE-EPSSI-FNR-Satellite Data	43.001	University of Maryland College Park	SUBAWARD NO. 19311-Z6929001	-	15,850
UNIVE-Repeated Wildfire Burning	43.001	University of Maryland	Z6981001 / NNX15AT79A /PO31017	-	68,098
UNIVE-EPSSI-FNR-NASA OMI SO2 Produc	43.001	University of Maryland	53894-Z6044201	-	13,564
UNIVE-EPSSI-FNR-Extending NASA EOS	43.001	University of Maryland College Park	60783-Z6098201	-	24,926
				<u>460,022</u>	<u>1,627,079</u>
Space Operations:					
USNAS-MuSTI-FNR-Vapor Bubble Data	43.007	Direct	80NSSC19K0160	-	40,732
Education:					
USNAS-FNR-LIFT-Stratus: A CubeSat	43.008	Direct	NNX16AI74A	-	26,941
UNIVE-FNR-MSGC-Rsch Seed Proposal	43.008	University of Michigan	SUBK00009427/PO#3005005436	-	5,000
				<u>-</u>	<u>31,941</u>
Space Technology:					
USNAS-MARC-FNR-Ultra-Strong Composi	43.012	Direct	NNX17AJ32G	2,497,323	3,091,031
USNAS-MUSTI-FNR-Excavation Gypsum	43.012	Direct	80NSSC18K0252	22,823	179,904
				<u>2,520,146</u>	<u>3,270,935</u>
Total National Aeronautics and Space Administration					
				<u>2,980,168</u>	<u>5,027,288</u>
National Science Foundation					
No CFDA Number:					
MICRO-CSERI-Blood Typing Determinat	47.RD	Microdevice Engineering Inc	MICHIGAN TECH AGREEMENT1601065	-	41,263
MICRO-Microfabrication Fac Services	47.RD	Microdevice Engineering Inc	MTU CO#1703052;PO#13	-	14,641
RESEA-Phase 1/11 - WIDER Evaluation	47.RD	Research Foundation for SUNY/Buffalo State	Partnership Agmt dated 7/9/18	-	4,627
				<u>-</u>	<u>60,531</u>
Engineering Grants:					
NSF-CWS1-Mdl-Analyz Water-Grt Lks	47.041	Direct	CMMI-0725636	(261)	(261)
NSF-CAREER: Operation Distr Grids	47.041	Direct	1751460	-	90,207
NSF-SFI-Aerodynamic Vibration	47.041	Direct	1300970	-	47,868
NSF-EPSSI-FNR-Damage Assessment	47.041	Direct	CMMI-1300720	-	189
NSF-MTTI-SusChEM/Collaborative Rese	47.041	Direct	CMMI-1300286	-	25,280
NSF-MuSTI-High Voltage Temperature	47.041	Direct	1362040	-	57,565
NSF-MuSTI-CAREER-Mobility Amputees	47.041	Direct	1350154	50,519	84,491
NSF-CWS-Molecular Level Investigati	47.041	Direct	CBET-1435926	-	1,850
NSF-HRI-CAREER:Improved Virus Remo	47.041	Direct	1451959	-	109,762
NSF-ILI-I-Corps Site Program	47.041	Direct	1450364	-	39,442
NSF-IMP-3D Integrated Circuit Pkg	47.041	Direct	1462204	-	63,390
NSF-HRI-GOALI:Graphen PaperSensor	47.041	Direct	1510006	-	142,604
NSF-MTTI-Active Mobile Sensor Net	47.041	Direct	1538105	-	18,911
NSF-Workshop on Solar Power	47.041	Direct	1543702	-	3,496
NSF-CWS-RET Site:Promoting Learning	47.041	Direct	1542383	-	168,612
NSF-SFI-SusChEM:Efficient Hydrolysi	47.041	Direct	1605105	-	33,843
NSF-SFI-INFWEWS/T3 Conservation	47.041	Direct	1639342	423,644	731,502
NSF-GLRC-The Role of Citizen Scienc	47.041	Direct	1644860	-	8,607
NSF-GLRC-CAREER:Underwater Acoustic	47.041	Direct	1651135	-	119,806
NSF-IMP-Nanofabrication Three-Dimen	47.041	Direct	1661699	-	100,822
NSF-ICC-Wearable Electronics	47.041	Direct	1710862	-	80,371

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Research and Development Cluster (continued)					
National Science Foundation (continued)					
Engineering Grants (continued):					
NATIO-MTTI-Image-Data-Driven Learn	47.041	Direct	1742656	\$ -	\$ 84,391
NSF-ICC-Transformation Optics	47.041	Direct	1709991	-	86,493
NSF-MuSTI-Collab Rsch:Surface Tensi	47.041	Direct	1749634	-	45,071
NSF-ICC-Cyber Risk Management	47.041	Direct	1739422	-	149,873
NSF-HRI-Vaccine Development	47.041	Direct	1818906	63,481	98,864
NSF-ICC-CAREER: System-on-Cloth	47.041	Direct	1751454	-	42,888
NSF-GLRC-PTI-TT: Noise-Cancelling	47.041	Direct	1827486	-	81,145
NSF-GLRC-Impacts of Biocides Associ	47.041	Direct	1804685	-	6,866
NSF-APS-Control-Oriented Modeling	47.041	Direct	1762520	-	54,479
NSF-CQP-Collaborative Rsh:Wave Mix	47.041	Direct	1807552	-	69,393
NSF-APS-Organic Wastes Streams	47.041	Direct	1827364	1,746	96,760
NSF-AIM-CAREER: Battery Lifetime	47.041	Direct	1651256	-	101,348
CGENE-LSTI-Non-Chromatographic Tech	47.041	CGeneTech	SUBAWARD #1720774-MTU	-	26,603
GEORG-HRI-Engineering Center CMaT	47.041	Georgia Institute of Technology	SUBAWARD RJ375-G6	-	10,336
NSF-HRI-Stem Cell Patch-Vasculatur	47.041	Direct	1703555	-	55,243
re:3D-IMP-Increasing Maker Manufact	47.041	re:3D Inc	MICHIGAN TECH AGRMNT #1705068	-	17,468
STABI-CQP-High Brightness Fluoropho	47.041	Stabilux Biosciences Inc.	MICHIGAN TECH AGMT #1702043	-	53,158
				<u>539,129</u>	<u>3,008,736</u>
Mathematical and Physical Sciences:					
NSF-BRC-Tunable Nitric Oxide	47.049	Direct	DMR-1410192	-	(934)
NSF-MuSTI-MRI Electron Microscope	47.049	Direct	DMR-1429232	-	7,502
NSF-IMP-Domain Mechanisms	47.049	Direct	DMR-1409317	-	5,857
NSF-IMP-Collab Research-Martensites	47.049	Direct	1506936	-	91,523
NSF-High Order Eigenvalue Problems	47.049	Direct	1521555	-	25,113
NSF-EPSSI-Galactic Plane Morphology	47.049	Direct	1607415	-	165,599
NSF-HRI-New Identity of Galectin-3	47.049	Direct	1608537	-	58,896
NSF-High-Order Numerical Methods	47.049	Direct	1818467	-	52,103
NSF-GLRC-Photochemical Fate Amino	47.049	Direct	1808052	-	48,621
				<u>-</u>	<u>454,280</u>
Geosciences:					
NSF-EPSSI-CAREER-Magnet Fingerprint	47.050	Direct	1149434	-	5,837
NSF-CWS2-South Florida Water	47.050	Direct	1204474	-	27,770
NSF-EPSSI-Single Silicate Crystals	47.050	Direct	1519967	-	113,459
NSF-EPSSI-Heterogeneous Ice Nucleat	47.050	Direct	1541998	-	85,432
NSF-EPSSI-EAGER: Aerosol Effects	47.050	Direct	1623429	-	(4,682)
NSF-AIM-Making Wave Energy	47.050	Direct	1635362	-	7,678
NSF-EPSSI-MRI-Develop Mapping Syste	47.050	Direct	1625598	-	27,321
NSF-EPSSI-Magma Storage	47.050	Direct	1654128	-	111,751
NSF-EPSSI-Aerosol-Cloud Interaction	47.050	Direct	1754244	-	221,480
NSF-GLRC-Collaborative Rsch:Groundw	47.050	Direct	1743370	-	86,112
NSF-EPSSI-RAPID: Fuego Volcano	47.050	Direct	1841852	-	62,288
NATIO-NSF-EPSSI-Collaborative:Therm	47.050	Direct	1806287	-	10,360
NSF-EPSSI-Collab Rsch:Geomagnetic	47.050	Direct	1828866	-	11,577
NSF-EPSSI-Correlated Random Process	47.050	Direct	1639868	-	116,464
PENNS-Convergence NNA	47.050	Pennsylvania State University	5697-MTU-NSF-5369	-	16,533
UNIVE-CWS-Experimental Frameworks	47.050	University of New Hampshire	SUB 14-066, PRIME ICER-1313804	-	30,407
				<u>-</u>	<u>929,787</u>
Computer and Information Science and Engineering:					
CAREER-ICC-Heterogeneous Manycore	47.070	Direct	1350206	-	71,429
NSF-AIM-CAREER:Autonomous System	47.070	Direct	1453886	-	4,584
NSF-ICC-XPS Collaborative Sphinx	47.070	Direct	1533828	-	86,132
NSF-AIM-Collab Research:CRISP Type2	47.070	Direct	1541000	-	122,063
NSF-ICC-Scalable Spectral Sparsifica	47.070	Direct	1618364	-	123,133
NSF-ICC-CSR:Small:Miss Ratio Curves	47.070	Direct	1618384	-	80,942
NSF-ICC-SHF:SMALL:Collaborative Rsh	47.070	Direct	1745748	-	32,819
NSF-ICC-FNR-Algorithm CORES	47.070	Direct	1708299	-	82,503
NSF-ICC-CAREER: Technology Assisted	47.070	Direct	1750193	-	32,561
NSF-ICC-FoMR:Collaborative Rsch	47.070	Direct	1823398	-	48,411
NSF-LIFT-I-Corps Site Program	47.070	Direct	1829222	-	2,534
ARIZO-ICC-SCC Urban Flooding	47.070	Arizona State University	ASUB00000217	-	13,900
				<u>-</u>	<u>701,011</u>
Biological Sciences:					
NSF-ESC-FFC-FNR-Nitrate Deposition	47.074	Direct	DEB-1251529	-	3,579
NSF-LSTI-Targeting microRNAs	47.074	Direct	1340001	(767)	(24)
NSF-FFC-ESC-Peatland C Fluxes	47.074	Direct	1354370	-	75,373

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Research and Development Cluster (continued)					
National Science Foundation (continued)					
Biological Sciences (continued):					
NSF-ESC-FFC-LTREB Terrestrial Chain	47.074	Direct	1453041	\$ -	\$ 113,839
NSF-ESC-FNR-Career Riverine Ecosys	47.074	Direct	1451919	-	180,041
NSF-LSTI-FFC-ABI Innovation G2P	47.074	Direct	1458130	-	60,100
NSF-HRI-Dimensions: Collaborative	47.074	Direct	1737877	-	104,251
NSF-ESC-FFC-Impact of Microbial Ter	47.074	Direct	1754603	-	94,742
COLOR-ESC-FFC-Peru's Cordillera	47.074	Colorado State University	SUBAWARD #G-96772-1	-	19,980
KANSA-LSTI-EPA-PGR: Under The Hood	47.074	Kansas State University	S19023	-	7,964
NORTH-ICC-Collaborative-Rsch: MSB	47.074	Northern Arizona University	1003744-01	-	10,482
				(767)	670,327
Social, Behavioral, and Economic Sciences:					
NATIO-New Frontiers STEM Policy	47.075	Direct	1911453	-	742
Education and Human Resources:					
NSF-Revamping Robotics Education	47.076	Direct	1501335	27,776	67,661
NSF-ICC-EDU:Collaborative:VACCS	47.076	Direct	1523017	-	36,964
NSF-RISE-Building on MOSTs	47.076	Direct	1720566	-	73,235
NSF-ADVANCE Adaptation AMP-UP	47.076	Direct	1760585	-	65,736
FLORI-D&D K-12 STEM Observation	47.076	Florida International University	800010570-01UG	-	20,463
REGEN-LIFT-Microaggressions in Team	47.076	Regents of the University of Michigan	SUBCONTRACT NO:3003298295	-	5,545
				27,776	269,604
Office of International Science and Engineering:					
NSF-SFI-Bioenergy Development	47.079	Direct	1243444	136,812	216,319
NSF-HRI-FNR-IREs: Biosensors	47.079	Direct	1559445	-	77,740
				136,812	294,059
Total National Science Foundation				702,950	6,389,077
U.S. Environmental Protection Agency					
No CFDA Number:					
USAGR-Post-Fire Response Fire Mgmt	66.RD	US Dept of Agriculture	18-JV-11272139-003	-	7,403
Great Lakes Program:					
USENV-Watermilfoil Control	66.469	Direct	GL-00E01928-0	29,959	49,408
USENV-Invasive Phragmites	66.469	Direct	GL-00E01929-0	104,049	130,062
MINAT-GLRC-Torch Lake AOC Benthos	66.469	Michigan Dept of Natural Resources	18-AOC-008	-	39,885
				134,008	219,355
P3 Award: National Student Design Competition for Sustainability:					
USENV-ASISC-End of Life Lithium-ion	66.516	Direct	SU-83929901	-	1,677
USENV-Direct-Recycle-Reuse (DR2)	66.516	Direct	SV-83948501-0	-	12,725
				-	14,402
Total U.S. Environmental Protection Agency				134,008	241,160
U.S. Department of Energy					
No CFDA Number:					
BATTE-EPSSI-HOLODEC Participation	81.RD	Battelle Memorial Institute	332788	-	8,223
ARGON-AIM-Smart Grid Integration	81.RD	Argonne National Laboratory	7F-30037	-	48,482
BATTE-APS-Torrefaction MSW	81.RD	Battelle Energy Alliance, LLC	Contract No. 209856	-	88,374
ARGON-APSRC-Alt Fuels Research	81.RD	Argonne National Laboratory	9F-60098	-	48,932
ARGON-GLRC-Chemistry Using Froth	81.RD	Argonne National Laboratory	Subcontract No. 9F-60080	-	38,181
HONEY-APS-Multi-Axis Resonant Fixtu	81.RD	Honeywell Federal Manufacturing & Technologies, LLC	PO N000254454	-	52,231
HONEY-APS-Fixture Design & Damage	81.RD	Honeywell Federal Manufacturing & Technologies, LLC	PO N000258189	-	20,681
HONEY-APS-Frequency Response Inspec	81.RD	Honeywell Federal Manufacturing & Technologies, LLC	PO# N000254420	-	34,170
HONEY-APSRC-Freq Response AM Parts	81.RD	Honeywell Federal Manufacturing & Technologies, LLC	PO N000293572	-	51,662
HONEY-APS-Tailor Reson Plate Shoe	81.RD	Honeywell Federal Manufacturing & Technologies, LLC	PO N000293460	-	93,864
PACCA-Fuel Surrogate & Chemical Kin	81.RD	PACCAR Technical Center	PACCAR PO #PO0155658	-	36,898
OHIOS-IMP-Steel Alloy Casting	81.RD	Ohio State University	MTU CO#1904013 OSU PO#RF155680	-	6,194
RUTGE-IMP-STEM Analysis Ni-Rich Pos	81.RD	Rutgers The State University of New Jersey	CONFIRMING ORDER 1802030	-	23,961
SANDI-IMP-FNR-Snow Characteristics	81.RD	Sandia National Laboratories	PO# 1980526	-	17,660
UTBAT-IMP-Lithium Interface	81.RD	UT-Battelle, LLC	SUBCONTRACT # 4000140845	-	101,337
UTBAT-ESC-FFC-Climate Change	81.RD	UT-Battelle, LLC	SUBCONTRACT NO. 4000146950	-	6,297
				-	677,147

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Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Award Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Energy (continued)					
Office of Science Financial Assistance Program:					
USENE-ESC-FFC-Tropical C Cycling	81.049	Direct	DE-SC0012000	\$ 62,960	\$ 82,781
USENE-EPSSI-Ice Microphysical Props	81.049	Direct	DE-SC0011690	-	(756)
USENE-IMP-Yr1-Grain Boundary Struct	81.049	Direct	DE-SC0016314	-	139,414
USENE-ESC-FFC-Hurricane Disturb YR1	81.049	Direct	DE-SC0018942	-	22,217
USENE-EPSSI-Cloud Scavenging	81.049	Direct	DE-SC0018931	-	119,894
AEROD-EPSSI-BC5 Black Carbon	81.049	Aerodyne Research	SUB NO. ARI 11326-1	-	2,229
BRECH-EPSSI-Aerosol Light Asorb Dev	81.049	Brechtel Manufacturing Inc.	Prime DE-SC0019638	-	13,157
UNIVE-SFI-Great Lakes Bioenergy	81.049	University of Wisconsin-Madison	AGREEMENT NUMBER 812K943	-	296,812
				<u>62,960</u>	<u>675,748</u>
Conservation Research and Development:					
USENE-APS-FNR-Spraywall Interaction	81.086	Direct	DE-EE0007292	93,349	187,064
USENE-APS-FNR-Natural Gas Engine	81.086	Direct	DE-EE0007331	-	148,613
				<u>93,349</u>	<u>335,677</u>
Renewable Energy Research and Development:					
LANZA-SFI-LCA Support for PD2B3 Pro	81.087	Lanza Tech	#1607041 SUB DE-EE0007966/0001	-	59,847
THREE-MuSTI-Novel Lonomers	81.087	3M Corporation	3M PO #USMMM3KR5T C.O.3	-	141,549
				<u>-</u>	<u>201,396</u>
Fossil Energy Research and Development:					
USENE-IMP-FNR-Nickle-Base Superallo	81.089	Direct	DE-FE0027822	-	125,071
Advanced Research Projects Agency - Energy:					
USENE-APS-NEXTCAR Hybrid	81.135	Direct	DE-AR0000788	-	737,192
LANZA-SFI-LCA Support Gas Conversio	81.135	Lanza Tech	MICHIGAN TECH AGMT #1306017	-	66,443
UNIVE-IMP-Dry Cooling of Power	81.135	University of Maryland	SUBAWARD NO. 30353-Z7214003	-	4,071
UNIVE-ICC-Packetized Energy Manage	81.135	University of Vermont	30382 SUB52046 MICHIGAN	-	103,801
				<u>-</u>	<u>911,507</u>
Total U.S. Department of Energy				<u>156,309</u>	<u>2,926,546</u>
U.S. Department of Education					
Education Research, Development and Dissemination:					
UNIVE-Enhancing Middle School Math	84.305	University of Cincinnati	011275-007	-	85,839
Total U.S. Department of Education				<u>-</u>	<u>85,839</u>
U.S. Department of Health and Human Services					
No CFDA Number:					
PEDIA-IMP-Novel Zinc Materials	93.RD	PediaStent LLC	#1802057	-	136,023
				<u>-</u>	<u>136,023</u>
Oral Diseases and Disorders Research:					
NIH-LSTI-Dev Multi-epitope L2 Bacte	93.121	Direct	1 R15 DE025812-01A1	2,271	148,133
Human Genome Research:					
NIH-HRI-Rare Variant Assoc Studies	93.172	Direct	1 R15 HG008209-01A1	-	60,377
BAYLO-LSTI-Next Gen Bioinformatics	93.172	Baylor College of Medicine	PO#5601137158/R501HG008115-03	-	1,024
				<u>-</u>	<u>61,401</u>
National Center on Sleep Disorders Research:					
UNIVE-Sleep Disordered Breathing	93.233	University of Michigan	SUB#3002300214 1-R01-HL1059991	-	80,676
Alcohol Research Programs:					
NIH-HRI-Alcohol and Neurovascular	93.273	Direct	1R01AA024892-01A1	39,708	448,168
Discovery and Applied Research for Technological Innovations to Improve Human Health:					
NIH-HRI-Magnetoelastic System	93.286	Direct	1R15EB023648-01	13,291	184,847
NIH-IMP-Suppress Intimal Hyperplasi	93.286	Direct	1R21EB024034-01A1	-	127,485
NIH-HRI-Elastography-Based Analyti	93.286	Direct	1R15EB026197-01	-	93,292
				<u>13,291</u>	<u>405,624</u>
Cancer Detection and Diagnosis Research:					
NIH-BRC-Virtual Breast Project	93.394	Direct	1 R15 CA179409-01A1	-	3,803
UNIVE-HRI-Ultrasonic Ablation	93.394	University of Wisconsin-Madison	SUB #494K686 PRIME R01CA112192	-	8,271
				<u>-</u>	<u>12,074</u>
Cancer Treatment Research:					
NIH-HRI-Vessel Regeneration	93.395	Direct	1R15CA202656-01	-	124,790

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Year Ended June 30, 2019

Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Award Number	Passed Through to Subrecipients	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Health and Human Services (continued)					
Cardiovascular Diseases Research:					
NIH-LSTI-Rats with High Salt Intake	93.837	Direct	1R15HL122952-01A1	\$ -	\$ 3,197
NIH-IMP-Stent Materials	93.837	Direct	1R15HL129199-01	-	591
NIH-HRI-Brain (Pro)renin	93.837	Direct	1R15HL129213-01A1	-	140,141
NIH-HRI-Mindfulness & Neural Cardi	93.837	Direct	1R15HL140596-01	13,786	152,713
NIH-HRI-Sm Diameter Blood Vessel	93.837	Direct	1R15HL145654-01	-	262
NIH-IMP-Arterial Devices	93.837	Direct	1R15HL147299-01	-	113,454
NIH-IMP-Bioabsorbable Stents	93.837	Direct	1R01HL144739-01A1	-	4,797
				<u>13,786</u>	<u>415,155</u>
Lung Diseases Research:					
NIH-BRC-Sleep Deprivation in Women	93.838	Direct	1R15HL122919-01	-	16,229
Arthritis, Musculoskeletal and Skin Diseases Research:					
GEORG-LSTI-Rats w/ Segemened Bone	93.846	Georgia Institute of Technology	RG760-G3 - AMENDMENT 2	-	9,809
UNIVE-HRI-Rats w/ Segmented Bone	93.846	University of Oregon	217180B	-	6,256
				<u>-</u>	<u>16,065</u>
Diabetes, Digestive, and Kidney Diseases					
Extramural Research:					
NIH-HRI-miR-483 in Pancreatic Cell	93.847	Direct	1R15DK103197-01A1	-	179,551
Extramural Research Programs in the Neurosciences and					
Neurological Disorders:					
USFED-Dissection of Pallidal Circui	93.853	Direct	7R03NS108097-02	-	39,040
Biomedical Research and Research Training:					
NIH-BRC-Lysosomal pH in Living Cell	93.859	Direct	1 R15 GM114751-01	-	54,223
NIH-HRI-Adhesive PEG-fibrinogen	93.859	Direct	1R15GM112082-01	-	55,799
NIH-HRI-Role of Toolkit Genes	93.859	Direct	1 R15 GM107801-01A1	-	110,925
NIH-HRI-Biomimetic Tissue Adhesive	93.859	Direct	2 R15 GM104846-02	-	162,522
NIH-HRI-Oligodeoxy Nucleotide	93.859	Direct	2R15GM109288-02	-	126,921
NIH-HRI-Lysosomal pH in Living Cell	93.859	Direct	1 R15 GM114751-02	-	21,403
				<u>-</u>	<u>531,793</u>
Aging Research:					
NIH-ICC-Motor Learning-Alzheimer	93.866	Direct	1 R15 AG059095-01	-	88,725
				<u>-</u>	<u>88,725</u>
Total U.S. Department of Health and Human Services				<u>69,056</u>	<u>2,703,447</u>
Central Intelligence Agency					
No CFDA Number:					
APPLI-FNR-The Amon Hen Project	99.RD	Applied Technology Associates	MTU SUBCONTRACT #180637	-	235,239
VISIO-CORE3D	99.RD	Vision Systems Inc	VSI SUBCONTRACT #2017-0288	-	171,199
				<u>-</u>	<u>406,438</u>
Total Central Intelligence Agency				<u>-</u>	<u>406,438</u>
Total Research and Development Cluster				<u>4,682,618</u>	<u>34,709,107</u>
Other Programs					
U.S. Department of Agriculture					
No CFDA Number:					
USAGR-ESC-FFC-Climate Change	10.U01	Direct	15-CR-11242306-043	-	167,950
USAGR-ESC-FFC-Fire Preparedness	10.U01	Direct	15-CS-11242306-044	-	20,909
USAGR-ESC-FFC-Climate Change	10.U01	Direct	15-CR-11242306-059	-	43,839
USFOR-Completion of TRACS Surveys	10.U01	Direct	15-CS-11090100-016	-	27,679
USAGR-ESC-FFC-Support Forest Climat	10.U01	Direct	16-CR-11242306-095	-	5,396
USAGR-ESC-FFC-Belowground Ecosystem	10.U01	Direct	17-JV-11242306-011	-	103,506
USAGR-ESC-FFC-Climate Change Risks	10.U01	Direct	17-CR-11242306-049	-	3,050
USAGR-Archaeological Collection-ONF	10.U01	Direct	18-CS-11090700-004	-	855
USAGR-Archaeological Collection-HNF	10.U01	Direct	18-CS-11091000-002	-	8,095
USAGR-ESC-FFC-Forested Watersheds	10.U01	Direct	18-CR-11242306-018	-	159,013
USFOR-ESC-FFC Land & Climate Progra	10.U01	Direct	19-CR-11242306-004	-	12,710
USAGR-Hiawatha Archae Collection	10.U01	Direct	19-CS-11091000-001	-	3,555
				<u>-</u>	<u>556,557</u>
Child and Adult Care Food Program:					
Child Care Food Program	10.558	Michigan Dept of Education		-	11,376
Wood Utilization Assistance:					
RENEW-FFC-Wood Innovation Team	10.674	Renewable Resource Solutions LLC	CONTRACTOR AGMNT DATED 10/4/16	-	27,521

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Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Award Number	Passed Through to Subrecipients	Federal Expenditures
Other Programs (continued)					
U.S. Department of Agriculture (continued)					
Partnership Agreements:					
USAGR-ESC-FFC-Climate Change	10.699	Direct	17-CR-11242306-031	\$ -	\$ 21,767
Evolving Forestry Education and Pro	10.699	Direct	18-CR-11242315-054	-	4,000
				-	25,767
Total U.S. Department of Agriculture				-	621,221
U.S. Department of Commerce					
Sea Grant Support:					
UNIVE-GLRC-Angela Yu Fellowship	11.417	University of Michigan	3003997385	-	14,164
REGEN-GLRC-Great Lakes Anglers	11.417	Regents of the University of Michigan	NA180AR4170102 / 3004932532	-	35,355
				-	49,519
Marine Sanctuary Program:					
USCOM-GLRC-Lake Superior Stewardship	11.429	Direct	NA19NOS4290020	-	3,506
Total U.S. Department of Commerce				-	53,025
U.S. Department of Defense					
No CFDA Number:					
OFFIC-APS-Hands-On Prof Development	12.U02	Direct	EMAIL DATED 2/26/18	-	1,137
USARM-APS-Professional Dev Modules	12.U02	Direct	EMAIL DATED 11/20/18	-	44,513
				-	45,650
Basic and Applied Scientific Research:					
OFFIC-GLRC-Talent Pipeline	12.300	Direct	N00014-15-1-2796	-	1,457
Basic, Applied, and Advanced Research in Science and Engineering:					
TECHN-PIOI-UNITE Program	12.630	Technology Student Association	MTU #1712017	15,800	33,980
TECHN-PIOI-2019-20 UNITE Program	12.630	Technology Student Association	MTU #1904008	-	9,280
				15,800	43,260
GenCyber Grants Program:					
OFFIC-ICC-GenCyber Learning K-12	12.903	Direct	H98230-19-1-0143	-	12,772
NATIO-ICC-FNR-Innovative GenCyber	12.903	Direct	H98230-19-1-0074	-	34,059
				-	46,831
Total U.S. Department of Defense				15,800	137,198
U.S. Department of Interior					
Keweenaw National Historical Park (NHP) Preservation Grants:					
KEWEE-Processing and Preservation	15.407	Keweenaw NHP Advisory Commission	C2018-014	-	1,037
Wildlife Restoration and Basic Hunter Education:					
SDC Shooting Range Remediation	15.611	Michigan Department of Natural Resources	Memorandum of Agreement dated 1/31/18	-	393,422
Cooperative Research and Training Programs - Resources of the National Park System:					
USPAR-ESC-FFC-Isle Royale Membership	15.945	Direct	TASK AGREEMENT NO P15AC00157	-	37,557
USPAR-ESC-FFC-Wolf Moose Study	15.945	Direct	P18AC00331	-	67,170
				-	104,727
Total U.S. Department of Interior				-	499,186
U.S. Department of Labor					
Mine Health and Safety Grants:					
USLAB-FY18 Mine Safety	17.600	Direct	MS-05046-18-55-26	-	200,327
Total U.S. Department of Labor				-	200,327
U.S. Department of Transportation					
No CFDA Number:					
USTR-A-MTTI-Rail Learning System	20.U03	Direct	DTFR5317P00053	-	7,642
MITRA-MTTI-Roadsoft/MDOT Safety Uni	20.U03	Michigan Department of Transportation	2014-0952 Z1, JOB #109731	-	(1,550)
MITRA-CTT-Bridge Design Phase II	20.U03	Michigan Department of Transportation	CONTRACT NO 2013-0506 AMEND A2	-	393,114
MITRA-CTT-Roadsoft 2019	20.U03	Michigan Department of Transportation	AUTHORIZATION Z2	-	364,438
				-	763,644
Highway Planning and Construction:					
MITRA-CTT-Roadsoft 2018	20.205	Michigan Dept of Transportation	2017-0299 AUTH Z1 JOB 202141NI	-	350,533
MITRA-CTT-MERL 2018	20.205	Michigan Dept of Transportation	2018-0057 AUTH Z2 JOB 202139	-	68,332
MITRA-CTT-MERL 2019	20.205	Michigan Dept of Transportation	MDOT-Research 2018-0057 AuthZ5	-	119,200
MITRA-CTT-Local Agency Pavemnt-STIC	20.205	Michigan Dept of Transportation	2018-0057 Authorization Z6	-	23,884
				-	561,949

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Other Programs (continued)					
U.S. Department of Transportation (continued)					
Highway Training and Education:					
MITRA-CTT-2018 LTAP	20.215	Michigan Dept of Transportation	LTAP 2015-0027 Z10 Z11 Z12	\$ -	\$ 87,704
MITRA-PIOI--2018 FHWA NSTI	20.215	Michigan Dept of Transportation	CONTRACT NO. 2018-0637	-	39,969
MITRA-CTT-LTAP 2019	20.215	Michigan Dept of Transportation	AUTHORIZATION Z1,Z2,Z3	-	393,983
MITRA-PIOI-FHWA-NSTI 2019	20.215	Michigan Dept of Transportation	Contract No. 2019-0595	-	60
				-	521,716
				-	1,847,309
Total U.S. Department of Transportation					
National Aeronautics and Space Administration					
Science:					
USNAS-GLRC-FNR-BGrunert Fellowship	43.001	Direct	NNX15AN59H	-	2,917
USNAS-FNR-EPPSI-MBrege Fellowship	43.001	Direct	NNX15AN57H	-	3,376
USNAS-EPSSI-FNR-Fellowship-Bouali	43.001	Direct	NNX16A051H	-	4,770
USNAS-FFC-FNR-Fellowship-K Meingast	43.001	Direct	NNX16AN96H	-	41,181
USNAS-FNR-Chandrakar-Fellowship	43.001	Direct	80NSSC17K0449/P00001	-	48,235
USNAS-EPSSI-FNR-Astronomy Picture	43.001	Direct	80NSSC17M0076	-	108,469
				-	208,948
Education:					
UNIVE-FNR-K. Nevorski Fellowship	43.008	University of Michigan	PO3004471507	-	2,183
UNIVE-MSGC-LIFT-FNR-Admin 18	43.008	University of Michigan	SUBK00009427	-	6,663
UNIVE-FNR-K Bristol-Fellowship-MSGC	43.008	University of Michigan	SUBK00009427/PO#3005005436	-	2,500
UNIVE-FNR-GLRC-MSGC-STEM Detroit HS	43.008	University of Michigan	SUBK00009427	-	3,656
UNIVE-FNR-MSGC-Teacher Training	43.008	University of Michigan	SUBK00009427	-	5,000
UNIVE-HRI-FNR-MSGC-Space Medicin	43.008	University of Michigan	SUBK00009427	-	5,000
UNIVE-FNR-KPhillips-Fellowship-MSGC	43.008	University of Michigan	SUBK00009427	-	5,000
UNIVE-FNR-MSGC-A Oliver Fellowship	43.008	University of Michigan	SUBK00009427/PO#3005005436	-	3,500
UNIVE-FNR-MSGC-E Coscarelli Fellows	43.008	University of Michigan	SUBK00009427/PO#3005005436	-	5,000
UNIVE-FNR-MSGC-Ian Greenlund Fellow	43.008	University of Michigan	SUBK00009427	-	4,991
UNIVE-GLRC-FNR-MSGC-Shaw Fellowship	43.008	University of Michigan	SUBAWARD NO. SUBK00009427	-	5,000
UNIVE-GLRC-FNR-MSGC-Danhoff	43.008	University of Michigan	SUBAWARD NO. SUBK00009427	-	5,000
UNIVE-EPSSI-FNR-MSGC-Petryk	43.008	University of Michigan	SUBK00009427/PO#3005005436	-	5,000
UNIVE-EPSSI-FNR-MSGC-Maiert	43.008	University of Michigan	SUBAWARD NO. K00009427	-	5,000
UNIVE-MSGC-GLRC-FNR-Tech & Outdoor	43.008	University of Michigan	SUBK00009427/PO#3005005436	-	5,000
UNIVE-FNR-GLRC-MSGC D. Trepoli Fell	43.008	University of Michigan	SUBK00011239	-	6,000
UNIVE-FNR-MSGC-Ian Nichols Fellow	43.008	University of Michigan	SUBK0001239	-	5,000
UNIVE-GLRC-FNR-MSGC-Families in UP	43.008	University of Michigan	SUBK00011239	-	4,242
				-	83,735
				-	292,683
Total National Aeronautics and Space Administration					
National Endowment for the Humanities					
Promotion of the Arts Partnership Agreements:					
Minnesota Ballet	45.025	Arts Midwest	ID Number 00022210	-	3,800
MICHI-Performing Arts Presenting	45.025	Michigan Council for Arts and Cultural Affairs	19PS4882AC	-	15,000
				-	18,800
Promotion of the Humanities-Federal/State Partnership:					
MICHI-World War I Remembered	45.129	Michigan Humanities Council	HU019-18	-	12,560
Promotion of the Humanities - Division of Preservation and Access:					
NATIO-GLRC-CC Historical Spatial	45.149	Direct	PW-234885-16	-	23,519
Promotion of the Humanities - Teaching and Learning Resources and Curriculum Development					
NATIO-Centered Engr Initia	45.162	Direct	AWARD AKA-265701-19	-	4,579
				-	59,458
Total National Endowment for the Humanities					
National Science Foundation					
Engineering Grants:					
NSF-MuSTI-I-Corps: Carbon Nanotube	47.041	Direct	1756908	-	761
NSF-HRI-I-Corps: Synthesis Tech	47.041	Direct	1754235	-	14,271
NSF-I-Corps:Non-Destructive Li-ion	47.041	Direct	1855197	-	49,848
				-	64,880
Mathematical and Physical Sciences:					
NSF-Graph Decomp Conference	47.049	Direct	1822277	-	11,999

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Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Award Number	Passed Through to Subrecipients	Federal Expenditures
Other Programs (continued)					
National Science Foundation (continued)					
Computer and Information Science and Engineering:					
NSF-AIM-NRI:Co-Robots to Engage	47.070	Direct	IIS-1426989	\$ -	\$ 13,311
NSF-ICC-Participant-Workshop:Think	47.070	Direct	1833219	-	19,043
				-	32,354
Education and Human Resources:					
NSF-Professoriate Progression	47.076	Direct	1305678	-	18,192
NSF-IMP-FNR-Morgan GRFP	47.076	Direct	1546592	-	32,286
NSF-FNR-Cummings GRFP	47.076	Direct	1546592	-	46,000
NSF-SFI-GRFP	47.076	Direct	1546592	-	6,000
NNSF-FNR-ADV ACCT-Guillory GRFP	47.076	Direct	1546592	-	37,623
NSF-FNR-Rebekka Guyon Fellowship	47.076	Direct	1546592	-	24,846
NSF-LIFT-FNR-ETS-IMPRESS	47.076	Direct	1742286	-	69,929
NSF-FNR-RISE-NOYCE Fellows Program	47.076	Direct	1758392	-	85,934
DAPCEP Preparing African American M	47.076	DAPCEP	2018 SUM-002	-	139,239
EASTE-GLRC-Participant-GRACE	47.076	Eastern Michigan University	PO# P0044865	-	14,831
WAYNE-GLRC-FACTs & Careers STEM	47.076	Wayne State University	SUBAWARD# WSU17042	-	35,890
				-	510,770
				-	620,003
Total National Science Foundation					
Small Business Administration					
Small Business Development Centers:					
GRAND-Region 1 SBDC Host	59.037	Grand Valley State University	MISBDC-2018-01	-	248,046
GRAND-2019 Region 1 MI-SBDC Host	59.037	Grand Valley State University	Subaward No. MISBDC-2019-01	-	91,421
				-	339,467
Total Small Business Administration					
Environmental Protection Agency					
Environmental Finance Center Grants:					
USENV-CTT-EPA Region 5	66.203	Direct	00E01979	-	99,110
Surveys, Studies, Investigations, Demonstrations, and Training Grants - Section 1442 of the Safe Drinking Water Act:					
UNIVE-CTT-Environmental Finance	66.424	University of North Carolina at Chapel Hill	5108709	-	17,188
UNIVE-CTT-Smart Water Systems	66.424	University of North Carolina at Chapel Hill	5111291	-	9,739
				-	26,927
Environmental Education Grants:					
USENV-GLRC-Great Lakes Stewards	66.951	Direct	NE-00E02260-0	11,885	52,389
				-	178,426
Total Environmental Protection Agency					
U.S. Department of Education					
Twenty-First Century Community Learning Centers:					
BHKCH-GLRC-Great Explorations STEM	84.287	BHK Child Development Board	MTU CONFIRMING ORDER#1809035	-	6,220
Gaining Early Awareness and Readiness for Undergraduate Programs:					
MILAB-PIOI-Gear Up 2018	84.334	Michigan Dept of Labor & Economic Growth	GRANT NUMBER 16-00-07	-	19,554
MILAB-PIOI-Gear Up Year 7 Extension	84.334	Michigan Dept of Labor & Economic Growth	Grant Number 18-00-07	-	9,451
				-	29,005
				-	35,225
Total U.S. Department of Education					
U.S. Department of Health and Human Services					
Injury Prevention and Control Research and State and Community Based Programs:					
MICHI-DELTA Impact	93.136	Michigan Coalition to End Domestic & Sexual Violence MCEDSV	Proposal #1812086	-	28,451
Total U.S. Department of Health and Human Services					
U.S. Department of Homeland Security					
Disaster Grants - Public Assistance (Presidentially Declared Disasters):					
FEMA-4381-DR-MI, Public Assistance Grant Program	97.036	Michigan State Police	FEMA-4381-DR-MI	-	3,868
FEMA-4381-DR-MI, Public Assistance Grant Program	97.036	Michigan State Police	FEMA-4381-DR-MI	-	45
FEMA-4381-DR-MI, Public Assistance Grant Program	97.036	Michigan State Police	FEMA-4381-DR-MI	-	14,850
FEMA-4381-DR-MI, Public Assistance Grant Program	97.036	Michigan State Police	FEMA-4381-DR-MI	-	1,531
				-	20,294
Total U.S. Department of Homeland Security					
Total Other Programs					
				27,685	4,932,273
Total Expenditures of Federal Awards					
				\$ 4,710,303	\$ 86,128,142

See Notes to Schedule of Expenditures of Federal Awards.

Michigan Technological University

Notes to Schedule of Expenditures of Federal Awards

Year Ended June 30, 2019

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, 2019. 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 the 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, the Student Financial Assistance 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 Research and Development Cluster has been defined as a major program.

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 2018/2019 fiscal year, there were no program disbursements under the Federal Perkins Loan Program, and no current year federal contribution. There was \$9,249,713 of Federal Perkins Loans (CFDA Number 84.038) outstanding as of June 30, 2019.

Michigan Technological University

Schedule of Findings and Questioned Costs

Year Ended June 30, 2019

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, 2019

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>
Various	Research and Development Cluster

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

\$ 2,583,844

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, 2019

None.