Schedule of Expenditures of Federal Awards Audit

Michigan Technological University

Year Ended June 30, 2016



Schedule of Expenditures of Federal Awards Audit

Year Ended June 30, 2016

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ANDREWS HOOPER PAVLIK PLC

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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 Goopen Faulik PLC

Bay City, Michigan October 13, 2016



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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 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 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 Slooper Faulik PLC

Bay City, Michigan October 13, 2016

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

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Cooperative Forestry Research: USAGR-MS-FFC-FY15 Admin 10.202 Direct 2015-32100-6698 - 64,711 USAGR-MS-FFC-FY15 Admin 10.202 Direct 2015-32100-6698 - 128,44 USAGR-MS-FFC-FY16 Admin 10.202 Direct 2016-32100-6698 - 265,744 Institution Capacity Building Grants: ALCOR-3-D-Near Infrared Bruise Dete 10.216 Alcorn State University 2014-38821-22394 SUB#330092 - 32,237 Agricultural and Rural Economic Research Cooperative Agreements: NORTH-Contextualizing Food Decision 10.250 North Carolina State University 2014-1960-01 - 6,344 Agricultural Market and Economic Research: COLOR-National GHG Inventory 10.290 Colorado State University SUB G-01801-1/58-0111-15-011 - 24,766 Agricultural Market and Economic Research: COLOR-National GHG Inventory 10.290 Colorado State University SUB G-01801-1/58-0111-15-011 - 24,766 Agriculture and Food Research Initiative: USAGR-FFC-BFC1-Lateral Organiboundary 10.310 Direct 2012-67014-19445 - 15,94 USAGR-FFC-BFC1-Lateral Organiboundary 0.310 Direct 2012-67013-19389 - 110,99 USAGR-FFC-BFC1-Lateral Organiboundary 10.310 Direct 2012-67013-19389 - 110,99 USAGR-FFC-BFC1-Lateral Organiboundary 10.310 Direct 2012-67013-19389 - 110,99 USAGR-FFC-BFC1-Lateral Organiboundary 0.310 Direct 2012-67013-19389 - 110,99 USAGR-FFC-BFC1-Lateral Organiboundary 0.310 Direct 2012-67013-19389 - 110,99 USAGR-FFC-BFC1-Lateral Organiboundary 0.310 University of Texas at El Paso SUBAWARD NO. 226300313A-04 - 29,08 UNIVE-CWS-Sustainable Water-Desert 10.310 University of Texas at El Paso SUBAWARD NO. 226300313A-04 - 29,08 UNIVE-CWS-Sustainable Water-Desert 10.310 University of Texas at El Paso SUBAWARD NO. 226300313A-04 - 29,08 UNIVE-CWS-Sustainable Water-Desert 10.310 University of Texas at El Paso SUBAWARD NO. 226300313A-04 - 29,08 UNIVE-CWS-Sustainable Water-Desert 10.310 University of Texas at El Paso SUBAWARD NO. 226300313A-04 - 29,08 UNIVE-CWS-Sustainable Water-Desert 10.310 University of Texas at El Paso SUBAWARD NO. 226300313A-04 - 29,08 UNIVE-CWS-Sustainable Water-Desert 10.310 University o	USAGR-ESC-FFC-Eval Biochar Impacts	10.unk	Direct	16-JV-11221633-057	
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- 265,74 Institution Capacity Building Grants: ALCOR-3-D-Near Infrared Bruise Detc 10.216 Alcorn State University 2014-38821-22394 SUB#330092 - 32,37 Agricultural and Rural Economic Research Cooperative Agreements: NORTH-Contextualizing Food Decision 10.250 North Carolina State University 2014-1960-01 - 6,34 Agricultural Market and Economic Research: COLOR-National GHG Inventory 10.290 Colorado State University SUB G-01801-1/58-0111-15-011 - 24,766 Agriculture and Food Research Initiative: USAGR-FFC-Overlapping Sense/Antisen 10.310 Direct 2012-67014-19445 - 15,94 USAGR-FFC-Overlapping Sense/Antisen 10.310 Direct 2012-67013-19389 - 11,099 USAGR-BFC-Rise Callus Culture 10.310 Direct 2014-67018-19475 - 15,94 USAGR-BFC-Rise Callus Culture 10.310 Direct 2014-67018-21767 - 11,999 USAGR-BFC-Rise Callus Culture 10.310 Michigan State University 2015-67019-23007 RC104605MTU - 30,955 MICHI-ESC-FFC-Xerie Jack PineForest 10.310 University of Texas at El Paso SUBAWARD NO. 226300313A-04 - 29,088 - 106,033 Biomass Research and Development Initiative Competitive: USAGR-SFI-HRJ Fuel 10.312 Direct 59-3620-3-002 - 86,360 Wood Utilization Assistance:					
Institution Capacity Building Grants: ALCOR-3-D-Near Infrared Bruise Detc 10.216 Alcorn State University 2014-38821-22394 SUB#330092 . 32,37 Agricultural and Rural Economic Research Cooperative Agreements: .	USAGR-MS-FFC-FY16 Admin	10.202	Direct	2016-32100-06098	
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Cooperative Agreements: NORTH-Contextualizing Food Decision10.250North Carolina State University2014-1960-01-6.34Agricultural Market and Economic Research: COLOR-National GHG Inventory10.290Colorado State UniversitySUB G-01801-1 / 58-0111-15-011-24.766Agriculture and Food Research Initiative: USAGR-FFC-Overlapping Sense/Antisen10.310Direct2012-67014-19445-15.944USAGR-FFC-Overlapping Sense/Antisen10.310Direct2012-67013-19389-11.091USAGR-FFC-BRC-Lateral OrganBoundary10.310Direct2014-67018-21767-18.955MICHI-ESC-Frice Callus Culture10.310Michigan State University2015-67019-23007 RC104605MTU-30.955UNIVE-CWS-Sustainable Water-Desert10.310University of Texas at El PasoSUBAWARD NO. 226300313A-04-29.08Biomass Research and Development Initiative Competitive: USAGR-SFI-HRJ Fuel10.312Direct59-3620-3-002-86.366Wood Utilization Assistance:		10.216	Alcorn State University	2014-38821-22394 SUB#330092	- 32,37
NORTH-Contextualizing Food Decision10.250North Carolina State University2014-1960-01-6,34Agricultural Market and Economic Research: COLOR-National GHG Inventory10.290Colorado State UniversitySUB G-01801-1 / 58-0111-15-011-24,76Agriculture and Food Research Initiative: USAGR-FFC-Overlapping Sense/Antisen10.310Direct2012-67014-19445-15,94USAGR-FFC-Overlapping Sense/Antisen10.310Direct2012-67013-19389-15,94USAGR-FFC-Sercic Callus Culture10.310Direct2014-67018-21767-18,95MICHI-ESC-FFC-Xeric Jack PineForest10.310Michigan State University2015-67019-23007 RC104605MTU-29,08UNIVE-CWS-Sustainable Water-Desert10.310University of Texas at El PasoSUBAWARD NO. 226300313A-04-29,08Biomass Research and Development Initiative Competitive: USAGR-SFI-HRJ Fuel10.312Direct59-3620-3-002-86,36Wood Utilization Assistance:SubactSubactSubactSubactSubactSubactSubact	-				
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USAGR-BRC-Rice Callus Culture 10.310 Direct 2014-67018-21767 - 18,95 MICHI-ESC-FFC-Xeric Jack PineForest 10.310 Michigan State University 2015-67019-23007 RC104605MTU - 30,95: UNIVE-CWS-Sustainable Water-Desert 10.310 University of Texas at El Paso SUBAWARD NO. 226300313A-04 - 29,08: Biomass Research and Development Initiative Competitive: - 106,03: - 106,03: Wood Utilization Assistance: 10.312 Direct 59-3620-3-002 - 86,36:	USAGR-FFC-BRC-Lateral OrganBoundary	10.310	Direct	2012-67013-19389	
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Biomass Research and Development Initiative Competitive: USAGR-SFI-HRJ Fuel 10.312 Direct 59-3620-3-002 - 86,363 Wood Utilization Assistance:					- 29,08
Initiative Competitive: USAGR-SFI-HRJ Fuel 10.312 Direct 59-3620-3-002 - 86,362 Wood Utilization Assistance: Version Assistance Version Assistance Version Assistance Version Assistance	Biomass Research and Development				- 106,03
USAGR-SFI-HRJ Fuel 10.312 Direct 59-3620-3-002 - 86,362 Wood Utilization Assistance: - - - 86,362 - - 86,362	-				
Wood Utilization Assistance:		10 212	D.	50 0/00 0 000	
	USAGR-SFI-HRJ Fuel	10.312	Direct	59-3620-3-002	- 86,36
USDOW-APSRC-Low Lignin Woods 10.674 U.S. Endowment for Forestry and Communities GRANT NUMBER: CW-4 - 190,570	Wood Utilization Assistance:				
	USDOW-APSRC-Low Lignin Woods	10.674	U.S. Endowment for Forestry and Communities	GRANT NUMBER: CW-4	- 190,57

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' Ex	Federal spenditures
Research and Development Cluster (continued)					
U.S. Department of Agriculture (continued)					
U.S. Endowment for Forestry and Communities:					
WESTM-GLRI Stormwater Infrastructure	10.675	West Michigan Environmental Action Council	WMEAC-2015-2, 15-DG-11420004-0	\$ - \$	24,900
Forest Health Protection:					
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
Total U.S. Department of Agriculture				-	1,649,246
U.S. Department of Commerce					
No CFDA Number:					
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	CONFIMING ORDER #1503063		482 134,675
Integrated Ocean Observing System:				-	15 1,075
UNIVE-GLRC-Alliance for Coastl Tech	11.012	University of Maryland	10810 075256840/NA11NOS0120037		38,203
Sea Grant Support:					
OHIOS-GLRC-Lake Superior Coastal	11.417	Ohio State Univ Research Foundation	SUB. 60045241, NA12OAR4170113		20,415
Climate and Atmospheric Research:					
USCOM-CWS2-Mgmt Lower Colorado River	11.431	Direct	NA13OAR4310126		33,257
National Oceanic and Atmospheric Administration					
(NOAA) Cooperative Institutes:					
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
Total U.S. Department of Commerce					461,902
U.S. Department of Defense					
No CFDA Number:		DADA			
BAESY-SECTR TA3	12.unk	BAE Systems	SUBCONTRACT #922473	-	38,031
BOEIN-Adaptive Optics for Imagery LEIDO-Cheetah	12.unk 12.unk	The Boeing Company Leidos Inc	PURCHASE CONTRACT NO. 1247219 P010168662 #FA8650-15-C-0019	-	46,015 916,549
AKELA-ICC-FNR-Multi-Static GPR	12.unk	AKELA Inc	SUBCONTRACT #AK-2016-0402-001		1,885
INFOS-AIM-FNR-Decentralized Control	12.unk	Infoscitex 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 TO2	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 UTAHS-LIFT-Communication Emitters	12.unk 12.unk	Utah State University Research Foundation	LETTER CONTRACT DATED 12/16/15	-	1,689
		Utah State University Research Foundation	PURCHASE ORDER CPOO39720	-	13,449
			DO# WECE00021 TAT 261		20.002
WYLEA-CQP-Nonreciprocal Nanophoto	12.unk	Wyle Aerospace Group	PO# WSCS00031 TAT 261	-	20,892
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes	12.unk 12.unk	Wyle Aerospace Group Battelle	US001-000049661		29,853
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech	12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science	US001-000049661 AWARD 14-21A		29,853 2,395
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIM-JHSV Crane Review	12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc	US001-000049661 AWARD 14-21A PO# AC0508		29,853 2,395 6,265
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech	12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science	US001-000049661 AWARD 14-21A		29,853 2,395
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIN-JHSV Crane Review QUANT-AIM-RMCD Phase II SBIR	12.unk 12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc Quantum Engineering Design Inc	US001-000049661 AWARD 14-21A PO# AC0508 MTU AGMT #1403009		29,853 2,395 6,265 15,555
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIM-JHSV Crane Review QUANT-AIM-RMCD Phase II SBIR QUANT-AIM-Support RMCD Phase II DARPA-Adaptive RADAR Countermeasure DARPA-Microwave Photonic Links	12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc Quantum Engineering Design Inc Quantum Engineering Design Inc Direct Direct	US001-000049661 AWARD 14-21A PO# AC0508 MTU AGMT #1403009 PO#1149 HR0011-13-C-0032 HR0011-15-C-0082	- - - 166,498 -	29,853 2,395 6,265 15,555 42,064 595,657 257,446
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIM-JHSV Crane Review QUANT-AIM-RMCD Phase II SBIR QUANT-AIM-Support RMCD Phase II DARPA-Adaptive RADAR Countermeasure DARPA-Microwave Photonic Links SPAWA-MIMO Tower of Babel	12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc Quantum Engineering Design Inc Quantum Engineering Design Inc Direct Direct Direct	US001-000049661 AWARD 14-21A PO# AC0508 MTU AGMT #1403009 PO#1149 HR0011-13-C-0032 HR0011-15-C-0082 N66001-16-C-4011	-	29,853 2,395 6,265 15,555 42,064 595,657 257,446 216,527
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIM-JHSV Crane Review QUANT-AIM-RMCD Phase II SBIR QUANT-AIM-Support RMCD Phase II DARPA-Adaptive RADAR Countermeasure DARPA-Microwave Photonic Links SPAWA-MIMO Tower of Babel OFFIC-Super Resolution Reconstruct	12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc Quantum Engineering Design Inc Quantum Engineering Design Inc Direct Direct Direct Direct	US001-000049661 AWARD 14-21A PO# AC0508 MTU AGMT #1403009 PO#1149 HR0011-13-C-0032 HR0011-15-C-0032 N66001-16-C-4011 FA8750-12-C-0119	- - - - - - -	29,853 2,395 6,265 15,555 42,064 595,657 257,446 216,527 46,087
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIM-JHSV Crane Review QUANT-AIM-RMCD Phase II SBIR QUANT-AIM-Support RMCD Phase II DARPA-Adaptive RADAR Countermeasure DARPA-Microwave Photonic Links SPAWA-MIMO Tower of Babel OFFIC-Super Resolution Reconstruct USAIR-Multi Domain Intelligence II	12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc Quantum Engineering Design Inc Quantum Engineering Design Inc Direct Direct Direct Direct Direct Direct	US001-000049661 AWARD 14-21A PO# AC0508 MTU AGMT #1403009 PO#1149 HR0011-13-C-0032 HR0011-15-C-0082 N66001-16-C-4011 FA8750-12-C-0119 FA8750-15-C-0051	- - - 166,498 -	29,853 2,395 6,265 15,555 42,064 595,657 257,446 216,527 46,087 569,007
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIM-JHSV Crane Review QUANT-AIM-RMCD Phase II SBIR QUANT-AIM-Support RMCD Phase II DARPA-Adaptive RADAR Countermeasure DARPA-Microwave Photonic Links SPAWA-MIMO Tower of Babel OFFIC-Super Resolution Reconstruct USAIR-Multi Domain Intelligence II USAIR-Penetration Fuzing	12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc Quantum Engineering Design Inc Quantum Engineering Design Inc Direct Direct Direct Direct Direct Direct Direct Direct	US001-000049661 AWARD 14-21A PO# AC0508 MTU AGMT #1403009 PO#1149 HR0011-13-C-0032 HR0011-15-C-0082 N66001-16-C-4011 FA8750-15-C-0051 FA8750-15-C-0051 FA8651-15-C-0066	166,498 	29,853 2,395 6,265 15,555 42,064 595,657 257,446 216,527 46,087 569,007 183,844
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIM-JHSV Crane Review QUANT-AIM-RMCD Phase II SBIR QUANT-AIM-Support RMCD Phase II DARPA-Adaptive RADAR Countermeasure DARPA-Microwave Photonic Links SPAWA-MIMO Tower of Babel OFFIC-Super Resolution Reconstruct USAIR-Multi Domain Intelligence II USAIR-Penetration Fuzing USAIR-ESCAPE	12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc Quantum Engineering Design Inc Quantum Engineering Design Inc Direct Direct Direct Direct Direct Direct Direct Direct	US001-000049661 AWARD 14-21A PO# AC0508 MTU AGMT #1403009 PO#1149 HR0011-13-C-0032 HR0011-15-C-0082 N66001-16-C-4011 FA8750-15-C-0051 FA8750-15-C-0051 FA8651-15-C-0066 FA8750-16-C-0072	166,498 - - 278,606	29,853 2,395 6,265 15,555 42,064 595,657 257,446 216,527 46,087 569,007 183,844 13,844
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIM-JHSV Crane Review QUANT-AIM-RMCD Phase II SBIR QUANT-AIM-Support RMCD Phase II DARPA-Adaptive RADAR Countermeasure DARPA-Microwave Photonic Links SPAWA-MIMO Tower of Babel OFFIC-Super Resolution Reconstruct USAIR-Multi Domain Intelligence II USAIR-Penetration Fuzing USAIR-Penetration Fuzing USAIR-ESCAPE USARM-Handheld Explosive Hazard	12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc Quantum Engineering Design Inc Quantum Engineering Design Inc Direct Direct Direct Direct Direct Direct Direct Direct Direct	US001-000049661 AWARD 14-21A PO# AC0508 MTU AGMT #1403009 PO#1149 HR0011-13-C-0032 HR0011-15-C-0082 N66001-16-C-4011 FA8750-15-C-0051 FA8510-15-C-0051 FA8551-15-C-0066 FA8750-16-C-0072 W909MY-13-C-0029	166,498 - - 278,606 - -	29,853 2,395 6,265 15,555 42,064 595,657 257,446 216,527 46,087 569,007 183,844 13,844 523,358
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIM-JHSV Crane Review QUANT-AIM-RMCD Phase II SBIR QUANT-AIM-Support RMCD Phase II DARPA-Adaptive RADAR Countermeasure DARPA-Microwave Photonic Links SPAWA-MIMO Tower of Babel OFFIC-Super Resolution Reconstruct USAIR-Penetration Fuzing USAIR-Penetration Fuzing USAIR-ESCAPE USARM-Handheld Explosive Hazard USARM-Spatial Coherence Imaging	12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc Quantum Engineering Design Inc Quantum Engineering Design Inc Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct	US001-000049661 AWARD 14-21A PO# AC0508 MTU AGMT #1403009 PO#1149 HR0011-13-C-0032 HR0011-15-C-0082 N66001-16-C-4011 FA8750-12-C-0119 FA8750-12-C-0119 FA8750-15-C-0066 FA8550-15-C-0066 FA8550-15-C-0072 W909MY-13-C-0029 W909MY-13-C-0013	166,498 - - 278,606	29,853 2,395 6,265 15,555 42,064 595,657 257,446 216,527 46,087 569,007 183,844 13,844 523,358 129,936
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIM-JHSV Crane Review QUANT-AIM-RMCD Phase II SBIR QUANT-AIM-Support RMCD Phase II DARPA-Adaptive RADAR Countermeasure DARPA-Microwave Photonic Links SPAWA-MIMO Tower of Babel OFFIC-Super Resolution Reconstruct USAIR-Multi Domain Intelligence II USAIR-Penetration Fuzing USAIR-ESCAPE USARM-Handheld Explosive Hazard USARM-Spatial Coherence Imaging USARM-Artic Awareness Sensor	12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc Quantum Engineering Design Inc Quantum Engineering Design Inc Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct	US001-000049661 AWARD 14-21A PO# AC0508 MTU AGMT #1403009 PO#1149 HR0011-13-C-0032 HR0011-15-C-0032 N66001-16-C-4011 FA8750-12-C-0119 FA8750-12-C-0119 FA8750-15-C-0066 FA8750-16-C-0013 W909MY-13-C-0013 W15QKN-16-C-0018	166,498 - - 278,606 - -	29,853 2,395 6,265 15,555 42,064 595,657 257,446 216,527 46,087 569,007 183,844 13,844 13,844 523,358 129,936 705,121
WYLEA-CQP-Nonreciprocal Nanophoto BATTE-IMP-Screen Fly Ashes ACADE-IMP-REAP at Michigan Tech CRAFT-AIM-JHSV Crane Review QUANT-AIM-RMCD Phase II SBIR QUANT-AIM-Support RMCD Phase II DARPA-Adaptive RADAR Countermeasure DARPA-Microwave Photonic Links SPAWA-MIMO Tower of Babel OFFIC-Super Resolution Reconstruct USAIR-Penetration Fuzing USAIR-Penetration Fuzing USAIR-ESCAPE USARM-Handheld Explosive Hazard USARM-Spatial Coherence Imaging	12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk 12.unk	Wyle Aerospace Group Battelle Academy of Applied Science Craft Engineering Associates Inc Quantum Engineering Design Inc Quantum Engineering Design Inc Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct	US001-000049661 AWARD 14-21A PO# AC0508 MTU AGMT #1403009 PO#1149 HR0011-13-C-0032 HR0011-15-C-0082 N66001-16-C-4011 FA8750-12-C-0119 FA8750-12-C-0119 FA8750-15-C-0066 FA8550-15-C-0066 FA8550-15-C-0072 W909MY-13-C-0029 W909MY-13-C-0013	166,498 - - 278,606 - -	29,853 2,395 6,265 15,555 42,064 595,657 257,446 216,527 46,087 569,007 183,844 13,844 523,358 129,936

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' H	Federal Expenditures
Research and Development Cluster (continued)					
U.S. Department of Defense (continued)					
No CFDA Number (continued):					
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-JIEDDO-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-Adv Tech Insertion 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	445,104	1,539 8,359,554
Basic and Applied Scientific Research:					
OFFICE-IMP-Hi St Low Alloy Aluminum	12.300	Direct	N00014-11-1-0876		55,713
OFFIC-Info Recovery Algorithm Comp	12.300	Direct	N00014-11-1-0870	-	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
				-	685,530
Basic Scientific Research:					
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
C C				-	484,801
Basic, Applied, and Advanced Research in					
Science and Engineering:					
NATIO-Effects of Wind SAR Coherence	12.630	Direct	HM04761510009	-	220,484
AMERI-IMP-Melt 5a Development	12.630	American Lightweight Materials Manufacturing	#N00014-14-2-0002 SUB 0002A-6	-	329,407
		Innovation Inst			549,891
					010,001
Air Force Defense Research Sciences Program:					
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 Ways Option Turkulance	12.800	2	BSC12024		88,064
UNIVE-ICC-Wave Optics Turbulence		University of Dayton Research Institute	RSC12034	-	
MICHI-Fault Tolerant Paradigms	12.800	Michigan State University	RC102013MTU FA9550-12-1-0455		119,586
				356,917	1,049,614
Mathematical Sciences Grants Program: NATIO-FNR-Codes & Galois Geometries	12.901	Direct	H98230-15-1-0042	-	12 597
				-	12,587
OFFIC-FNR-Designs, Codes & Finite	12.901	Direct	H98230-16-1-0011		30,478 43,065
Research and Technology Development:					
VIRGI-IMP-FNR-Efficient Electronics Total U.S. Department of Defense	12.910	Virginia Polytechnic Institute and State University	SUBAWARD NO. 450393-19959	802,021	54,187 11,226,642
U.S. Department of Interior					
No CFDA Number:					
	15 1	WZ D CN D	DO 1010 1500000055		20 7 47
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#37000-000000058	-	34,948
WISCO-ESC-FFC-Lakeshore Restoration	15.unk	Wisconsin Dept of Natural Resources	PO #37000-000000981	-	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
	15.000	2100	MEET DETTER		122,461
Fish, Wildlife and Plant Conservation					
Resource Management:					
USBUR-NSSI Intergovernmental Webs	15.231	Direct	L14AC00007	-	80,367

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' E	Federal xpenditures
esearch and Development Cluster (continued)					- F
U.S. Department of Interior (continued) Keweenaw National Historical Park (NHP)					
Enhancement Grants:					
KEWEE-Quincy Milling History	15.407	Keweenaw NHP Advisory Commission	C2015-015	\$ - \$	10,203
Coastal Program:			FIA (G 04004		
USFIS-Abiotic & Biotic Constraints	15.630	Direct	F12AC01384		21,945
Research Grants (Generic):	15 (50)		F12 + C012 C0		10 (0)
USFIS-Selawik Refuge Alaska	15.650	Direct	F12AC01268	-	12,626
USFIS-Carbon & Nutrient Flux	15.650	Direct	F16AC00321		12,853
Migratory Bird Monitoring, Assessment and					
Conservation:					
USFIS-ESC-FFC-Woodcock Habitat	15.655	Direct	F15AP00518	5,632	7,097
U.S. Geological Survey Research and Data Collection:					
USGEO-ESC-FFC-Dating Fecal Pellets	15.808	Direct	G16AC00154		633
National Land Remote Sensing-Education Outreach and Research:					
	15.815	AmericaView Inc	AV13-MI01 GY14		(452
AMERI-StateView Program Develop YR2 AMERI-StateView Program YR3	15.815	America View Inc	MODIFICATION #005	-	23,500
AMERI-State View YR3 Supplement	15.815	America View Inc	AV13-MI01 MOD. 006		20,813
AMERI-State view TRS Supplement	15.615		AVIS MICH MOD. 000	-	43,861
National Resource Stewardship:					
USPAR-ESC-FFC-Wolf Moose 2011-15	15.944	Direct	AGRMT# P11AC90808	-	1,777
USPAR-ESC-FFC-Wolf-Moose monitoring	15.944	Direct	TASK AGREMENT #P16AC00004		24,690
Total U.S. Department of Interior				5,632	26,467 338,513
U.S. Department of Labor Trade Adjustment Assistance Community College and Career Training (TAACCCT): BAYDE-PLC Education Simulation Game	17.282	Bay de Noc Community College	AGREEMENT DATED 4/2/14		70,428
U.S. Department of Transportation					
No CFDA Number:					
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 MITRA-MTTI-Improve Climatic Files	20.unk	Michigan Dept of Transportation	2013-0067 AUTH 2 JOB#121389	-	193,841
MITRA-MITI-Improve Climatic Files	20.unk 20.unk	Michigan Dept of Transportation Michigan Dept of Transportation	2013-0067 AUTH 3, JOB #121388 2013-0067, AUTH Z11 JOB#126721	-	523 56,419
MITRA-MITI-INORali Hei I MITRA-MITI-Unmanned Aerial Vehicles	20.unk 20.unk	Michigan Dept of Transportation	2015-0007, 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
Dublis Transmission Designed State				96,435	616,232
Public Transportation Research, Technical Assistance, and Training:					
UNIVE-MTTI-Transit Response Plan	20.514	University of Chicago	SUB AWARD #FP062899-B		3,736
University Transportation Centers Program:					
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
Transportation Planning, Research and Education:					
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
Total U.S. Department of Transportation				97,715	1,085,418

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' E	Federal xpenditures
earch and Development Cluster (continued)	1 (unitser	Tubbed Through	Tuenting Tumber	Subrecipients	
National Aeronautics and Space Administration					
No CFDA Number:					
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
				4,118	130,630
Science:					
USNAS-Remote Sensing Models	43.001	Direct	NNX11AC72G	15,558	14,631
USNAS-FNR-EPPSI- A-Train Volcano	43.001	Direct	NNX11AF42G	-	24,42
USNAS-Linking Remote Sensing	43.001	Direct	NNX12AQ89G	-	143,574
USNAS-Anthropogenic Fires	43.001	Direct	NNX13AC66G	59,436	102,68
USNAS - EPSSI-FNR-Climatology	43.001	Direct	NNX13AF50G	-	86,11
USNAS-EPSSI-FNR-Solar Activity	43.001	Direct	NNX113AF90G	-	100,39
USNAS-Linking Remote Sensing Data	43.001	Direct	NNX14AD63G	-	67,63
USNAS-GLRC-FNR-Spectral Character	43.001	Direct	NNX14AB80G	95,152	161,63
USNAS-GLRC-FNR-Changing Sea-Ice	43.001	Direct	NNX14AN78G	37,652	57,58
USNAS-Assessing Wetland Hydroperiod	43.001	Direct	NNX14AT45G	-	12,84
USNAS-Data on Boreal Wildfires	43.001	Direct	NNX15AD58G	-	30,02
USNAS-EPSSI-FNR-EIC Observations	43.001	Direct	NNX15AC61G	-	10,72
USNAS-EPSSI-FNR-Basaltic Volcanic	43.001	Direct	NNX15AR97G	-	33,91
USNAS-Boreal-Taiga Ecosystems	43.001	Direct	NNX15AT83A	-	113,85
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	-	56,37
REGEN-Northern Peatland Ecosystems	43.001	Regents of the University of Minnesota	H004191701	-	100,52
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
1 5				207,798	1,261,033
Cross Agency Support:					
Cross Agency Support: USNAS-FNR-MuSTI Noise Reduction App	43.002	Direct	NNX11AI72A		10,191
	43.002 43.009	Direct Direct	NNX11AI72A NNX14AB05G	10,215	118,786
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic				10,215	118,786 128,977
USNAS-FNR-MuSTI Noise Reduction App					118,786 128,977
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration				10,215	118,786 128,977
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic				10,215	118,786 128,977
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities				10,215	118,786 128,977
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of				10,215	118,786 128,977 1,520,640
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial	43.009	Direct	NNX14AB05G	10,215 222,131	118,786 128,977 1,520,640
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation	43.009	Direct	NNX14AB05G	10,215 222,131	118,786 128,977 1,520,640
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number:	43.009	Direct	NNX14AB05G PW-234885-16	10,215 222,131	118,786 128,977 1,520,640 16,061
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education	43.009 45.149 47.unk	Direct Direct J F Drake State Technical College	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169	10,215 222,131	118,786 128,977 1,520,640 16,061
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing	43.009 45.149 47.unk 47.unk	Direct Direct J F Drake State Technical College Microdevice Engineering LLC	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006	10,215 222,131	118,786 128,977 1,520,640 16,061 29,941 22,681
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer	43.009 45.149 47.unk 47.unk 47.unk	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110	10,215 222,131	118,786 128,97 1,520,640 16,06 29,94 22,68 6,384
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores	43.009 45.149 47.unk 47.unk 47.unk 47.unk	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc.	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031	10,215 222,131	118,786 128,977 1,520,640 16,061 29,941 22,681 6,384 57,090
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Fotal National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer	43.009 45.149 47.unk 47.unk 47.unk	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110	10,215 222,131	118,78 128,97 1,520,64 16,06 29,94 22,68 6,38 57,099 35,04;
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal	43.009 45.149 47.unk 47.unk 47.unk 47.unk	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc.	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031	10,215 222,131	118,78(128,97 1,520,64(16,06 29,94 22,68 6,38 57,09(35,04;
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc.	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015	10,215 222,131	118,78(128,97 1,520,64(16,06 29,94 22,68 6,38 57,09(35,04; 151,14
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc.	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218	10,215 222,131	118,786 128,977 1,520,640 16,061 29,941 22,681 6,384 57,090 35,043 151,141 87,353
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc.	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1411031 CBET-0952218 EEC-1024628	10,215 222,131	118,786 128,977 1,520,640 16,061 29,941 22,681 6,384 57,099 35,042 151,141 87,355 33,922
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWSI-IDR:SustianableWater	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct Direct Direct Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818	10,215 222,131	118,786 128,97 1,520,640 16,06 29,94 22,68 6,38 6,38 6,38 57,090 35,042 151,14 87,353 33,922 29,047
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWS1-IDR-SustianableWater NSF-SFI-RET-W2W Transp Shonnard	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct Direct Direct Direct Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1009617	10,215 222,131	118,78 128,97 1,520,64 16,06 29,94 22,68 6,38 57,09 35,04 151,14 87,35 33,92 29,04 6,22
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWS1-IDR:SustianableWater NSF-SFI-RET-W2W Transp Shonnard NSF-SFI AET-W2W Transp Shonnard	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct Direct Direct Direct Direct Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1009617 CMMI-1100423	10,215 222,131	118,786 128,97 1,520,644 16,06 29,94 22,68 6,384 57,099 35,043 151,14 87,353 33,922 29,044 6,222 59'
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWS1-IDR-SustianableWater NSF-SFI Mainshock/Aftershock Seq NSF-CISSIC-Near Ground Wireless	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct Direct Direct Direct Direct Direct Direct Direct Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-100617 CMMI-1100423 ECCS-1101843	10,215 222,131	118,78 128,97 1,520,64 16,06 29,94 22,68 6,38 57,09 35,04 151,14 87,35 33,92 29,04 6,22 597 34,555
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWS1-IDR:SustianableWater NSF-SFI Mainshock/Aftershock Seq NSF-CISSIC-Near Ground Wireless NSF-Making Optics from Scratch	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1024623 ECCS-1101843 ECCS-1102443	10,215 222,131	118,78 128,97 1,520,64 16,06 29,94 22,68 6,38 57,09 35,04 151,14 87,35 33,92 29,04 6,22 59 34,55 45,95
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWS1-IDR-SustianableWater NSF-SFI-RET-W2W Transp Shonnard NSF-SISIC-Near Ground Wireless NSF-CISSIC-Near Ground Wireless NSF-Making Optics from Scratch NSF-Integrated Wind Turbine Blade	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1009617 CMMI-1100423 ECCS-1101843 ECCS-1102443 CMMI-1200061	10,215 222,131	118,78 128,97 1,520,64 16,06 29,94 22,68 6,38 57,09 35,04; 151,14 87,35; 33,92; 29,04 (6,22) 59' 34,55; 45,95 3,444
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-CWS1-IDR:SustianableWater NSF-SFI-RET-W2W Transp Shonnard NSF-SFI Mainshock/Aftershock Seq NSF-SFI Mainshock/Aftershock Seq NSF-Making Optics from Scratch NSF-Meet Wind Turbine Blade NSF-IMP-Metal Matrix Composites	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1009617 CMMI-1100423 ECCS-1101843 ECCS-1202443 CCMI-1200051	10,215 222,131	118,78 128,97 1,520,64 16,06 29,94 22,68 6,38 57,099 35,043 151,14 87,35 33,922 29,04 6,29 34,55 3,444 87,28
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWS1-IDR-SustianableWater NSF-SFI Mainshock/AfterShock Seq NSF-CISSIC-Near Ground Wireless NSF-Making Optics from Scratch NSF-IMP-Metal Matrix Composites NSF-IMP-Metal Matrix Composites NSF-PERC-Physical Power Systems	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 ECCS-110843 ECCS-1202443 CMMI-1200061 CMMI-1200061	10,215 222,131	118,78 128,97 1,520,64 16,06 29,94 22,68 6,38 57,09 35,04 151,14 87,35 33,92 29,04 6,22 597 34,55 45,95 3,444 87,28 32,65
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWS1-IDR:SustianableWater NSF-SFI Mainshock/Aftershock Seq NSF-CISSIC-Near Ground Wireless NSF-Integrated Wind Turbine Blade NSF-IMP-Metal Matrix Composites NSF-IMP-Metal Matrix Composites NSF-IMP-Notal Matrix Composites NSF-IMP-Solar Energy Conversion	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1009617 CMMI-1100023 ECCS-1101843 ECCS-1101843 ECCS-1102443 CMMI-1200051 CMMI-1200038 ECCS-1128512 CBET-1235750	10,215 222,131	118,78 128,97 1,520,64 16,06 29,94 22,68 6,38 57,09 35,04 151,14 87,355 33,922 29,04 6,222 59 34,555 3,444 87,28 32,655 170,57
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWS1-IDR:SustianableWater NSF-SFI-RET-W2W Transp Shonnard NSF-SIFI Mainshock/Aftershock Seq NSF-CISSIC-Near Ground Wireless NSF-Integrated Wind Turbine Blade NSF-Integrated Wind Turbine Blade NSF-IMP-Solar Energy Conversion NSF-SFI-MAE Energy Conversion	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1009617 CMMI-1100023 ECCS-1101843 ECCS-1101843 ECCS-1101843 ECCS-1102443 CMMI-1200038 ECCS-1128512 CBET-1235750 CMMI-1234126	10,215 222,131	118,786 128,97 1,520,644 16,06 29,94 22,68 6,38- 57,09 35,049 151,14 87,355 33,922 29,044 (6,220 59' 34,555 3,440 87,28- 34,555 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 3,444 87,28- 32,655 34,445 87,28- 34,455 34,444 87,28- 34,455 34,444 87,28- 34,455 34,444 87,28- 34,455 34,444 87,28- 34,455 34,444 87,28- 34,455 34,444 87,28- 34,455 34,444 87,28- 34,455 34,444 87,28- 34,445 34,455 34,455 34,445 34,455 34,455 34,445 34,455 34,445 34,455 34,455 34,445 34,455 34,455 34,455 34,445 34,455 34,555 34,455 34,555 34,455 34,455 34,555 34,455 34,555 34,455 34,555 3
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-CWS1-IDR:SustianableWater NSF-SFI-RET-W2W Transp Shonnard NSF-SFI Mainshock/Aftershock Seq NSF-Making Optics from Scratch NSF-Making Optics from Scratch NSF-Integrated Wind Turbine Blade NSF-IMP-Metal Matrix Composites NSF-IMP-Metal Matrix Composites NSF-IMP-Internet Power Systems NSF-IMP-Internet Power Systems NSF-IMP-Internet Power Systems NSF-IMP-Solar Energy Conversion NSF-SFI-INP-Integration NSF-IMP-Sut Mitigation	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.u41 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1104423 ECCS-1128512 CMMI-1200051 CMMI-1200038 ECCS-1128512 CBET-1235750 CMMI-1234126 CBET-1125425	10,215 222,131	118,78 128,97 1,520,64 16,06 29,94 22,68 6,38 57,099 35,04 151,14 87,35 33,92 29,04 6,22 59 34,45 45,95 3,444 87,28 32,65 170,57 42,87 63,30
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWS1-IDR:SustianableWater NSF-SFI Mainshock/Aftershock Seq NSF-CISSIC-Near Ground Wireless NSF-Metal Matrix Composites NSF-IMP-Metal Matrix Composites NSF-IMP-Nolar Energy Conversion NSF-SIFI.Dust Mitigation NSF-BRC Preferential Hydration NSF-BRC Preferential Hydration	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1026628 CBET-1014818 EEC-1026617 CMMI-1100423 ECCS-1202443 CMMI-1200051 CMMI-1200051 CMMI-1234126 CBET-1159425 CMMI-124025 CMMI-1200383	10,215 222,131	118,78 128,97 1,520,64 16,06 29,94 22,68 6,38 57,09 35,04 151,14 87,35 33,92 29,04 6,22 595 34,455 45,95 34,455 34,455 170,57 42,87 63,300 18,19
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWS1-IDR-SustianableWater NSF-SFI-RET-W2W Transp Shonnard NSF-CISSIC-Near Ground Wireless NSF-Making Optics from Scratch NSF-Integrated Wind Turbine Blade NSF-IMP-Metal Matrix Composites NSF-IMP-Solar Energy Conversion NSF-SFI-Dust Mitigation NSF-SFI-Dust Mitigation NSF-MUSTI-Intercalation in Cathodes NSF-MUSTI-Intercalation in Cathodes	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 ECCS-101843 ECCS-101843 ECCS-101843 ECCS-110843 ECCS-110843 ECCS-110843 ECCS-1128512 CBET-11200038 ECCS-1128512 CBET-1125750 CMMI-1200383 CMMI-1200383 CMMI-1200383 CMMI-1200383	10,215 222,131	118,78 128,97 1,520,64 16,06 29,94 22,68 6,38 57,09 35,04 151,14 87,355 33,922 29,04 6,222 59 34,555 3,444 87,28 32,655 170,57 42,87 6,330 18,19 66,933 18,19 16,06 15,09 15,09 16,07 15,09 16,07 15,09 16,07 15,09 15,14 15,14 15,14 15,14 16,06 16,06 16,06 16,06 15,14 16,06 16,06 16,06 16,06 16,06 16,06 15,14 16,06 1
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-CWS1-IDR:SustianableWater NSF-CWS1-IDR:SustianableWater NSF-SFI-RET-W2W Transp Shonnard NSF-SFI Mainshock/Aftershock Seq NSF-CISSIC-Near Ground Wireless NSF-Integrated Wind Turbine Blade NSF-Integrated Wind Turbine Blade NSF-IMP-Metal Matrix Composites NSF-IMP-Solar Energy Conversion NSF-SFI-INP-Solar Energy Conversion NSF-SFI-Maxing Optics from NSF-SFI-Maxing Optics from NSF-SFI-MP-Solar Energy Conversion NSF-SFI-Dust Mitigation NSF-BRC Preferential Hydration NSF-BRC Preferential Hydration	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1009617 CMMI-1100423 ECCS-1202443 CCMI-110423 ECCS-1202443 CMMI-1200038 ECCS-1128512 CBET-1159425 CMMI-1200383 CMMI-1200383 CMMI-1300970 CMMI-1300970	10,215 222,131	118,786 128,977 1,520,640 16,061 29,944 22,681 6,38- 57,090 35,045 151,141 87,355 33,925 29,044 6,226 597 34,555 3,440 87,28- 32,055 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 33,055 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 3,440 87,28- 32,655 34,405 34,405 34,405 34,405 34,405 34,405 34,405 34,405 34,405 34,405 34,405 34,405 34,405 34,405 34,555 34,405 34,405 34,405 34,405 34,555 34,405 34,405 34,405 34,405 34,405 34,555 34,405 34,405 34,555 34,405 34,405 34,405 34,405 34,905 34,555 34,405 34,405 34,905 34,
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-APSRC-CAREER Fluid Structure NSF-SFI-RET-W2W Transp Shonnard NSF-SFI-RET-W2W Transp Shonnard NSF-SFI Mainshock/Aftershock Seq NSF-INESTI-Mainshock/Aftershock Seq NSF-INEP-Metal Matrix Composites NSF-IMP-Metal Matrix Composites NSF-IMP-Dust Mitigation NSF-SFI-RET-PUSUH Mitigation NSF-SFI-Aerodynamic Vibration NSF-SH-Aerodynamic Vibration NSF-EPSSI-FNR-Damage Assessment NSF-INTI-SusChEM/Collaborative Rese	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1411031 MTU AGMT #1412015 CBET-052218 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1009617 CMMI-1100423 ECCS-110843 ECCS-1202443 CCMSI-1200038 ECCS-1202443 CMMI-1200038 ECCS-1128512 CBET-1235750 CMMI-1200383 CCMMI-124126 CBET-1159425 CMMI-1200286	10,215 222,131	118,786 128,977 1,520,64(16,061 29,941 22,681 6,384 57,099 35,045 151,141 87,355 33,925 29,047 6,226 597 34,552 45,951 3,446 87,284 32,655 170,571 42,877 6,3305 18,197 66,935 99,722 10,486
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-Meeting NAE Grand Challenge NSF-CWS1-IDR:SustianableWater NSF-SFI Mainshock/Aftershock Seq NSF-CISSIC-Near Ground Wireless NSF-IMP-Metal Matrix Composites NSF-IMP-Metal Matrix Composites NSF-IMP-Nolar Energy Conversion NSF-SFI-Dust Mitigation NSF-SHC-Physical Power Systems NSF-MUSTI-Intercalation in Cathodes NSF-MUSTI-Intercalation in Cathodes NSF-SFI-Aerodynamic Vibration NSF-SFI-SATISN-ChAWCIdaborative Rese NSF-APSRC-Combustion Engines	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1412015 CBET-0952218 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-102617 CMMI-1100423 ECCS-1202443 CMMI-1100423 ECCS-1202443 CMMI-1200061 CMMI-1200061 CMMI-1200038 ECCS-1128512 CBET-1235750 CMMI-1200383 CCMI-1159425 CMMI-1300270 CMMI-1300720 CMMI-1300286 CBET-1258720	10,215 222,131	118,786 128,977 1,520,640 16,061 29,941 22,681 6,384 57,090 35,045 151,141 87,353 33,925 29,047 6,226 597 34,552 45,951 3,440 87,284 32,663 170,571 42,874 63,305 18,197 66,935 99,725 10,488 (44,528)
USNAS-FNR-MuSTI Noise Reduction App USNAS-MUSTI-FNR-Cryogenic Total National Aeronautics and Space Administration National Endowment for the Humanities Promotion of the Humanities - Division of Preservation and Access: NATIO-GLRC-CC Historical Spatial National Science Foundation No CFDA Number: JFDRA-Digital Technology Education MICRO-Rapid Blood Typing NITRA-IMP-Open Source Photometer STABI-CQP-Brightness Fluorophores TREAM-APS-Mineral Removal Engineering Grants: NSF-APSRC-CAREER Fluid Structure NSF-APSRC-CAREER Fluid Structure NSF-SFI-RET-W2W Transp Shonnard NSF-SFI-RET-W2W Transp Shonnard NSF-SFI Mainshock/Aftershock Seq NSF-INESTI-Mainshock/Aftershock Seq NSF-INEP-Metal Matrix Composites NSF-IMP-Metal Matrix Composites NSF-IMP-Dust Mitigation NSF-SFI-RET-PUSUH Mitigation NSF-SFI-Aerodynamic Vibration NSF-SH-Aerodynamic Vibration NSF-EPSSI-FNR-Damage Assessment NSF-INTI-SusChEM/Collaborative Rese	43.009 45.149 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.unk 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041 47.041	Direct Direct J F Drake State Technical College Microdevice Engineering LLC Nitrate Elimination Co Inc Stabilux Biosciences Inc. Treamin Energy Inc. Direct	NNX14AB05G PW-234885-16 DPO-1201002 DUE-1205169 MTU AGMT #1312006 MICHIGAN TECH AGREEMENT #13110 MTU AGMT #1411031 MTU AGMT #1411031 MTU AGMT #1412015 CBET-052218 EEC-1024628 CBET-1014818 EEC-1024628 CBET-1014818 EEC-1009617 CMMI-1100423 ECCS-110843 ECCS-1202443 CCMSI-1200038 ECCS-1202443 CMMI-1200038 ECCS-1128512 CBET-1235750 CMMI-1200383 CCMMI-124126 CBET-1159425 CMMI-1200286	10,215 222,131	10,191 118,786 128,977 1,520,640 16,061 29,941 22,681 6,384 57,090 35,045 151,141 87,353 33,925 29,047 6,226 597 34,552 29,047 6,226 597 34,552 29,047 6,265 151,141 87,353 33,925 29,047 6,266 597 34,552 29,047 6,266 597 34,552 29,047 6,266 597 34,552 10,0571 42,874 63,305 18,197 66,935 99,725 10,486 144,528 55,927 35,226 10,486 144,528 55,927 35,226 10,486 144,528 10,486 144,528 10,486 144,528 10,486 144,528 10,486 144,528 10,486 144,528 11,487 11,487 10,486 144,528 10,486 144,528 10,486 144,528 15,927 15,927 15,927 15,927 15,927 16,927 16,927 16,927 16,927 16,927 16,927 16,927 17,927 16,927 16,927 16,927 16,927 16,927 17,927 16,927 1

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

ederal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Passed Through	Pass-Through Entity Identifying Number	Passed Through to Subrecipients'	Federal Expenditure
arch and Development Cluster (continued)	Number	Tasseu Through	Identifying Pumber	Subrecipients	Expenditure
(ational Science Foundation (continued)					
Engineering Grants (continued):					
NSF-BRC-PFI: AIR-TT Blood Typing	47.041	Direct	IIP-1414331	\$ - \$	\$ 53,42
NSF-I-Corps High Brightness Reagent	47.041	Direct	IIP-1445106	-	7,4
NSF-MuSTI-FNR-Millmeter Scale Flow	47.041	Direct	CBET-1402702	-	122,4
NSF-APS-GOALI: Easily Verifiable	47.041	Direct	CMMI-1435257	-	85,09
NSF-CWS-Molecular Level Investigation	47.041	Direct	CBET-1435926	-	80,7
NSF-LSTI-CAREER: Improved Virus Remo	47.041	Direct	1451959	-	62,8
NSF-ICC-Cognitive Radio Networks	47.041	Direct	1523965	-	109,8
NSF-ILI-I-Corps Site Program	47.041	Direct	1450364	-	37.0
NSF-IMP-3D Integrated Circuit Pkg	47.041	Direct	1462204	-	41,3
NSF-LSTI-GOALI:Graphen PaperSensor	47.041	Direct	1510006	-	19,8
NSF-CQP-EAGER: Dynamic Characteristic	47.041	Direct	1545804	-	27,4
NSF-MTTI-Active Mobile Sensor Net	47.041	Direct	1538105	-	53,3
NSF-Workshop on Solar Power	47.041	Direct	1543702	-	13,20
NSF-CWS-Coupled Production-Consump	47.041	Direct	1541816	-	36,2
NSF-LSTI-EAGER: Therapeutic Protein	47.041	Direct	1548107		40,6
NSF-CWS-RET Site:Promoting Learning	47.041	Direct	1542383		44,1
NSF-MTTI-Water Flow In Soils	47.041	Direct	1562522		16,6
Nor MITT water how in Jons	47.041	Ditet	1562522	92,292	1,920,5
)2,2)2	1,720,5
Mathematical and Physical Sciences:					
NSF-BRC-Purification Synth Peptide	47.049	Direct	CHE-1111192	-	60
NSF-MuSTI-Cellulose Nanocrystals	47.049	Direct	DMR-1100806	-	21,8
NSF-SFI-Hydrocarbon Transportation	47.049	Direct	CHE-1230803		357,9
NSF-Numerical Methods Transmission	47.049	Direct	DMS-1321391		4,2
NSF-MuSTI Functional Boron Nitride	47.049	Direct	DMR-1261910		120,1
NSF-EPSSI-Cosmic Ray Acceleration	47.049	Direct	PHY-1307289 AMEND NO 1		141,5
NSF-Hyperbolic Conservation Laws	47.049	Direct	DMS-1316662	-	90,3
NSF-MUSTI-CAREER-Biomineralization	47.049	Direct	DMR-1350734	-	22,4
NSF-BRC-Tunable Nitric Oxide	47.049	Direct	DMR-1410192	-	254,5
		Direct	DMR-1410192 DMR-1429232	-	
NSF-MuSTI-MRI Electron Microscope	47.049	Direct		-	1,080,0
NSF-MuSTI-Metal Oxides	47.049		DMR-1410560	-	7,39
NSF-IMP-Domain Mechanisms	47.049	Direct	DMR-1409317	-	60,32
NSF-Part Supp-Algebraic Conference	47.049	Direct	1539650	-	14,88
NSF-IMP-Collab Research-Martensites	47.049	Direct	1506936	-	31,4
NSF-High Order Eigenvalue Problems	47.049	Direct	1521555		29,99
Geosciences:					
NSF-EPSSI-Cloud Turbulence	47.050	Direct	AGS-1026123	-	34,5
NSF-EPSSI-MRI Dev Multiphase Turb	47.050	Direct	AGS-1039742	-	53,12
NSF-RSI-CAREER-Volcano-Seismic	47.050	Direct	EAR-1053794	-	56,4
NSF-CAREER-Flood Risk Projections	47.050	Direct	EAR-1053655	-	13,6
NSF-Geomagnetic Mafic Dikes India	47.050	Direct	EAR-1112952	-	(34
NSF-EPPSI-FREE Tropospheric Aerosol	47.050	Direct	AGS-1110059	-	55,0
NSF-EPSSI-Physical/Radar Meteor	47.050	Direct	AGS-1119164	-	74,0
NSF-EPSSI-CAREER-Magnet Fingerprint	47.050	Direct	EAR-1149434	-	130,47
NSF-Mid-Continent Rift System	47.050	Direct	EAR-1148321	-	9,6
NSF-CWS2-South Florida Water	47.050	Direct	EAR-1204474	-	70,0
NSF-CWS2-Impacts of Global Transport	47.050	Direct	ICER-1313755	96,743	291,8
NATIO-GLRC-Continuation of MPOWIR	47.050	Direct	OCE-1356212	-	30,04
NSF-EPPSI-Single Silicate Crystals	47.050	Direct	1519967	-	7,4
NSF-LSTI-MRI:Ultrahigh Res Spectrom	47.050	Direct	1531454	-	540,1
NSF-EPSSI-Heterogeneous Ice Nucleat	47.050	Direct	1541998	-	8,4
NSF-EPSSI-EAGER: Aerosol Effects	47.050	Direct	1623429	-	49,6
NSF-AIM-Making Wave Energy	47.050	Direct	1635362	-	8,1
с о .	47.050	InterAmerican Institute for Global Change Research	GRANT AGREEMENT FOR CRNIII	39,912	55,1
INTER-BIOEnergy Development		University of New Hampshire	SUB NO. 13-061, #OCE-1313783		31,6
INTER-Bioenergy Development UNIVE-GLRC-Detect Microcvstis Bloom	47.050		SUB 14-066, PRIME ICER-1313804	-	122,6
UNIVE-GLRC-Detect Microcystis Bloom	47.050 47.050	University of New Hampshire			19,1
UNIVE-GLRC-Detect Microcystis Bloom UNIVE-CWS-Experimental Frameworks	47.050	University of New Hampshire University of Wisconsin-Oshkosh		-	17,1
UNIVE-GLRC-Detect Microcystis Bloom		University of New Hampshire University of Wisconsin-Oshkosh	13309302013-1NSF	136,655	1,660,9
UNIVE-GLRC-Detect Microcystis Bloom UNIVE-CWS-Experimental Frameworks UNIVE-RUI: Probing Caldera-Forming	47.050			136,655	1,660,9
UNIVE-GLRC-Detect Microcystis Bloom UNIVE-CWS-Experimental Frameworks UNIVE-RUI: Probing Caldera-Forming Computer and Information Science and Engineering:	47.050 47.050	University of Wisconsin-Oshkosh	13309302013-1NSF	136,655	
UNIVE-GLRC-Detect Microcystis Bloom UNIVE-CWS-Experimental Frameworks UNIVE-RUI: Probing Caldera-Forming Computer and Information Science and Engineering: NSF-Framework for Algorithmic	47.050 47.050 47.070	University of Wisconsin-Oshkosh Direct	13309302013-1NSF CCF-1116546	136,655	36,0
UNIVE-GLRC-Detect Microcystis Bloom UNIVE-CWS-Experimental Frameworks UNIVE-RUI: Probing Caldera-Forming Computer and Information Science and Engineering: NSF-Framework for Algorithmic NSF-ICC-Graph Sparsification	47.050 47.050 47.070 47.070	University of Wisconsin-Oshkosh Direct Direct	13309302013-1NSF CCF-1116546 CCF-1318694	136,655	36,0 86,3
UNIVE-GLRC-Detect Microcystis Bloom UNIVE-CWS-Experimental Frameworks UNIVE-RUI: Probing Caldera-Forming Computer and Information Science and Engineering: NSF-Framework for Algorithmic NSF-ICC-Graph Sparsification NSF-ICC-CAREER-Integrated Research	47.050 47.050 47.070 47.070 47.070	University of Wisconsin-Oshkosh Direct Direct Direct Direct	13309302013-1NSF CCF-1116546 CCF-1318694 CCF-1349984	 	36,0 86,3 81,2
UNIVE-GLRC-Detect Microcystis Bloom UNIVE-CWS-Experimental Frameworks UNIVE-RUI: Probing Caldera-Forming Computer and Information Science and Engineering: NSF-Framework for Algorithmic NSF-ICC-Graph Sparsification NSF-ICC-CAREER-Integrated Research CAREER-ICC-Heterogeneous Manycore	47.050 47.050 47.070 47.070 47.070 47.070 47.070	University of Wisconsin-Oshkosh Direct Direct Direct Direct Direct	13309302013-1NSF CCF-1116546 CCF-1318694 CCF-1349984 CCF-1350206	136,655	36,0 86,3 81,2 41,0
UNIVE-GLRC-Detect Microcystis Bloom UNIVE-CWS-Experimental Frameworks UNIVE-RUI: Probing Caldera-Forming Computer and Information Science and Engineering: NSF-Framework for Algorithmic NSF-ICC-Graph Sparsification NSF-ICC-CAREER-Integrated Research CAREER-ICC-Heterogeneous Manycore NSF-EAGER Imperative Programs	47.050 47.050 47.070 47.070 47.070 47.070 47.070 47.070	University of Wisconsin-Oshkosh Direct Direct Direct Direct Direct Direct	13309302013-1NSF CCF-1116546 CCF-1318694 CCF-1349984 CCF-1350206 CCF-1450062	- 136,655	36,0 86,3 81,2 41,0 30,3
UNIVE-GLRC-Detect Microcystis Bloom UNIVE-CWS-Experimental Frameworks UNIVE-RUI: Probing Caldera-Forming Computer and Information Science and Engineering: NSF-Framework for Algorithmic NSF-ICC-Graph Sparsification NSF-ICC-CAREER-Integrated Research CAREER-ICC-Heterogeneous Manycore	47.050 47.050 47.070 47.070 47.070 47.070 47.070	University of Wisconsin-Oshkosh Direct Direct Direct Direct Direct	13309302013-1NSF CCF-1116546 CCF-1318694 CCF-1349984 CCF-1350206	 	1,660,9' 36,00 86,3' 81,22 41,00 30,32 113,20 87,72

Schedule of Expenditures of Federal Awards

Year Ended June 30, 2016

Search and Development Chair contained Natival Science modulation continued Natival Science modulation continued Normal Science modulation continued 7000 Direct 145385 \$<	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
National Science Fundation Contended Compart of all formation formation for a state of the stat		1 (dilloci	russed rinough	Activity ng Panisor	Subrecipients	Expenditures
Computer and Information Notices and Perspecting Control Notices 2014 Section 2014 <td>· · · · · · · · · · · · · · · · · · ·</td> <td></td> <td></td> <td></td> <td></td> <td></td>	· · · · · · · · · · · · · · · · · · ·					
NSI-CLARC-CARDER Advancements System 47.070 Direct 153323 - 5 9.22 NSI-CLARC-CARDER Advancements System 47.070 Direct 153323 - 7 9.23 NSI-CLARCE-NTP Control Field Mathe 47.070 Direct 153323 - 7 7 NSI-CLARCE-NTP Control Field Mathe 47.070 Direct 153323 - 7 789.24 NNI-SACK-MAREM Resout CARDER Type 2 47.070 Direct DEII 1614923 - 7 789.24 NNI-ESC-TCP Pathate Disson 47.074 Direct DEII 1614943 42.53 5.06 NNI-ESC-TCP Pathate Disson 47.074 Direct DEII 1614943 42.53 5.06 NNI-ESC-TCP Pathate Charge 47.074 Direct DEII 153373 - 5.567 NNI-ESC-TCP Pathate Charge 47.074 Direct DEII 153373 - 5.567 NNI-ESC-TCP Pathate Charge 47.074 Direct DIEI 158373 - 5.567 NNI-ESC-TCP Pathate Charge 47.074 Direct DIEI 158373 - 5.567<						
NERCC.205 Collaboratic Spins 47.070 Direct 13338 - 120.7 NERCC.205 Collaboration Spins 47.070 Direct 150.137 - 120.14 NERCC.2017 Collaboration Spins 47.070 Direct 150.137 - 120.14 NERCC.2017 Collaboration Spins 47.070 Direct DER 101.012 150.012 - 120.005 Biodical Science 47.071 Direct DER 101.012 45.050 - 45.050 NERCC.PC Pedata Not FORVETDAS 47.071 Direct DER 101.012 45.050 - 63.01 NERCC.PC Pedata Not FORVETDAS 47.071 Direct DER 101.012 45.050 - 63.01 NERCC.PC Pedata Not FORVETDAS 47.071 Direct DER 101.012 - 63.01 NERCC.PC Pedata Not FORVETDAS 47.071 Direct DER 101.012 - 63.01 NERCC.PC Pedata Not FORVETDAS 47.071 Direct DER 100.011 63.04 - 94.01 - 94.01 94.01 94.01 94.01	Engineering (continued):					
NF-ICC_EAGRENT State-ice Method 47.070 Direct 133012 - 7.27.27 NF-ICC_EAGRENT CRUP Type 47.070 Direct 134.000 - 124.01 NF-ADL-Gale Messent CRUP Type 47.070 Direct 202.00071 (MMC) 124.01 NF-ECC_FRC Freedom 47.071 Direct DEB 109929 - 124.02 NF-ECC_FRC Freedom 47.071 Direct DEB 109929 - 124.02 NF-ECC_FRC Freedom 47.071 Direct DEB 109929 - 32.000 NF-ECC_FRC Freedom 47.071 Direct DEB 109929 - 33.000 NF-ECC_FRC Freedom 47.071 Direct DEB 109273 - 33.000 NF-ECC_FRC Freedom 47.071 Direct DEB 109273 - 30.000 NF-ECC_FRC Freedom 47.071 Direct DEB 109273 - 30.000 NF-ECC_FRC Freedom 47.071 Direct DEB 133564 - 30.200 NF-ECC_FRC Freedom Freedom 47.071 Direct DEE 133	NSF-GLRC-CAREER-Autonomous System	47.070	Direct	1453886	\$ -	\$ 59,227
NN-RCC_Spino-Torophic 47.070 Direct 153100 - 32.14 UNIVE-CUV big Standing Data 47.070 University of Note Data 20240571U [PIAME: US-145553] - 1.02 INSERCE_Spino-Torophic Data 47.070 University of Note Data 20240571U [PIAME: US-145553] - 1.02 INSERCE_CVF (PLATA DCS System 47.074 Direct DEB-1019723 - 3.04 NERSEC_VFF (PLATA DCS System 47.074 Direct DEB-1019723 - 3.04 NERSEC_CVFF (PLATA DCS System 47.074 Direct DEB-1019723 - 3.04 NERSEC_CVFF (PLATA DCS System 47.074 Direct DEB-1019723 - 3.04 NERSEC_CVFC (PLATA DCS System 47.074 Direct DEB-1019723 - 3.04 NERSEC_CVFC (Correl Root FLee Stressen Direct DEB-1019723 - 3.04 3.04 NERSEC_CVFC (Correl Root FLee Stressen Direct DEB-1019723 - 3.04 3.07 NERSEC_CVFC (Correl Root FLee Stressen Direct DIRES DIRES 3.06 3.07 <td< td=""><td>NSF-ICC-XPS Collaborative Sphinx</td><td>47.070</td><td>Direct</td><td>1533828</td><td>-</td><td>120,176</td></td<>	NSF-ICC-XPS Collaborative Sphinx	47.070	Direct	1533828	-	120,176
NN-MAC Outle Security Type2 47.070 Denot 14.000 - 14.24.57 NUMPSCOVERS Social Data 47.070 Denote Data 20000MU (NRDE 118-145765) - 16.225 NUMPSCOVERS NA 47.074 Denot DEB.1019228 - 16.225 NUMPSCOVERS NA 47.074 Denot DEB.141619 42.538 53.014 NUMPSCOVERS NA 47.074 Denot DEB.141619 42.538 53.014 NUMPSCOVERS NA 47.074 Denot DEB.151813 - 65.119 NUMPSCOVERS NA 47.074 Denot DEB.151870 - 65.01 NUMPSCOVERS NA 47.074 Denot DEB.151870 - 65.07 NUMPSCOVERS NA 47.074 Denot 118301 - 91.44 NUMPSCOVERS NA 47.074 Denot 118301 - 92.67 NUMPSCOVERS NA 47.074 Denot 118301 - 92.67 NUMPSCOVERS NA 47.074 Denot 118301 - 92.67 </td <td>NSF-ICC-EAGER:NeTS Under-Ice Mobile</td> <td>47.070</td> <td>Direct</td> <td>1551067</td> <td>-</td> <td>72,975</td>	NSF-ICC-EAGER:NeTS Under-Ice Mobile	47.070	Direct	1551067	-	72,975
UNIVE-COV/Rig Scientific Data 47.070 University of Note Data 202409MTU PRIME: ISS-1450765	NSF-ICC-Spatio-Temporal Correlation	47.070	Direct	1526152	-	32,144
Biological Science: Desci. Desci. Desci. NSE SESCE: Control Notice Science: 16.22 16.23 5.23 5.20 NSE SESCE: Control Notice Science: 16.23 5.31 5.31 5.31 NSE SESCE: File Science: DEEL 15152 5.31 5	NSF-AIM-Collab Research:CRISP Type2	47.070	Direct	1541000	-	124,513
Integral Science: NR-FSC-FRC-Production Each System 7.074 Direct DBE-1019928 - 6.23 NSE-FSC-FRC-PRA-PLADE CONSTRAINS 4.701 Direct DBE-1144149 4.23.00 5.3.00 NSE-FSC-FRC-PRA-Name Deparition 4.7014 Direct DBE-1144149 4.23.00 5.3.00 NSE-FSC-FRC-PRA-Name Deparition 47.074 Direct DBE-1151757 - 5.3.00 NSE-FSC-FRC-PRA-Name Deparition 47.074 Direct DBE-1151701 - 5.507. NSE-FSC-FRC-PRA-Internet Dates 47.074 Direct DBE-1151701 - 5.507. NSE-FSC-FRC-Internet Dates 145301 - - 5.507. - 1.523.01 - 2.527. NSE-FSC-FRC-Internet Dates 145301 - 3.020.01 - 3.020.01 - 3.020.01 - 3.020.01 - 3.020.01 - 3.020.01 - 3.020.01 - 3.020.01 - 3.020.01 - 3.020.01 - 3.020.01 - 3.020.01 - <td>UNIVE-CGV:Big Scientific Data</td> <td>47.070</td> <td>University of Notre Dame</td> <td>202405MTU PRIME: IIS-1456763</td> <td>-</td> <td>14,028</td>	UNIVE-CGV:Big Scientific Data	47.070	University of Notre Dame	202405MTU PRIME: IIS-1456763	-	14,028
SNE HSCHPTC-Prediate Eo. System 47.074 Direct DBH 146149 16.23 SNE HSCHPTC-Velowan Works ITER 47.074 Direct DBH 126333 6.31 SNS HSCHPTC-Velowan Works ITER 47.074 Direct DBH 126333 6.31 SNS HSCHPTC-Velowan Works ITER 47.074 Direct DBH 135307 49.35 9.50 NSF HSCHPTC-Velowan Advert Mark 47.074 Direct DBH 135364 6.32,44 NSF HSCHPTC-MSR busine Mark 47.074 Direct DBH 135364 16.23,24 NSF HSCHPTC-MSR busine Mark 47.074 Direct 143313 12.32,44 NSF HSCHPTC-RC and Review Tower Mark 47.074 Direct 143133 12.32,44 NSF HSCHPTC-RC and Review Tower Tower Mark 10.04 Direct 143133 - 12.37,44 NSF HSCHPTC-RC and Review Tower To						899,147
NSI-ESC-PT-CFL010000 (WOND LTREE) 47.074 Direct DIFE DIFE 47.074 Direct DIFE DIFE 47.074 Direct DIFE 47.074 Direct DIFE 47.074 Direct DIFE 47.074 Direct 17.074 Direct 17.075 Direct 17.074 Direct 17.075 Direct 27.075 - 27.075 - 27.075 - 27.075 - 27.075 - 27.075 - 27.075 - 27.075 - 27.075 - 27.075 - 27.075 - 27.075						
NSF ESC FEC Yellowano Woles LTREB 47.074 Direct DEB 151529 - 63.01 NSF ESC FEC Yellowano Topognion 47.074 Direct 1068-151529 - 31.06 NSF REC Targeting inteRNA 47.074 Direct 1068-151570 - 65.07 NSF CAR, UBB, Unconventing Attain 47.074 Direct 1081-151570 - 82.07 NSF ESC FFR Carlor Events Events 2001 145.09 - 82.02 - 82.02 NSF ESC FFR Carlor Events Events 2001 - 42.03 - 82.02 NSF ESC FFR Carlor Events Events - 42.03 - 22.03 NSF ESC FFR Carlor Events - - 30.02 - 30.02 NSF ESC FFR Carlor Events - - 30.02 - 30.02 - 30.02 - 30.02 - 30.02 - 30.02 - 30.02 - 30.02 - 30.02 - 30.02 - 30.02 - 30.02 - 3	NSF-ESC-FFC-Predation Eco System	47.074	Direct	DEB-1019928	-	16,235
NSF-ESC-FFC-FNN Name Deposition 4 / 074 Detect DEF:131529 - - 31.0001 NSF-ESC-FFC-FNN-Name Deposition 4 / 074 Detect DBR-135370 - 55.07 NSF-FRC-ESC-Fundual Clines 4 / 074 Detect DBR-135370 - 55.07 NSF-ESC-FNC-Court Rovine Excess 4 / 074 Detect DBR-135370 - 51.07 NSF-ESC-FNC-Court Rovine Excess 4 / 074 Detect 1451919 - 152.11 NSF-ESC-FNC-Court Rovine Court 4 / 074 Detect 1455611 - 30.07 NSF-ESC-FNC-Court Rovine Court 4 / 075 Detect ECS-1219540 - 5.37 NSF-GLRC-Tock Incomfung Count 4 / 075 Detect SES-123263 - 5.37 NSF-GLRC-Tock Incomfung Count 4 / 075 Detect DEtect 3.90 - 3.90 NSF-GLRC-Tock Incomfung Count 4 / 075 Detect DEL-1040883 - 3.93 NSF-GLRC-Tock Incomfung Count 4 / 075 Detect DEL-1040883 -	NSF-ESC-FFC-PEATLAND ECOSYSTEMS	47.074	Direct	DEB-1146149	42,530	53,019
NSF-RE-Targeting mixed NA 4.074 Direct D63-134001 403,859 69.96 NSF-CCS-Rubal (Linux) 4.074 Direct DB1-135864 - 8.56 NSF-CCS-Rubal (Linux) 4.074 Direct D43,133 - 8.57 NSF-CCS-Rubal (Linux) 4.074 Direct 143,313 - 112,44 NSF-CCS-Rubal (Numvertial Cubin) 4.074 Direct 143,313 - 123,72 NSF-RCS-Rubal (Numvertial Cubin) 4.074 Direct 143,133 - 23,73 NSF-RUC-RSC-EAGER Venthane Food 4.075 Direct BCS-12,195,40 - 2,87 Social, Relavioral, and Economic Sciences: - 2,87 NSF-CARER-Numvertor Rubal (Linux) 4.075 Direct BCS-12,195,40 - 2,87 NSF-CARER-Number Constant Selegionstronton 4.075 Direct BCS-12,195,40 - 2,87 NSF-CARER-Number Constant Nummer Constant Numer Constant Nummer Constant Nummer Constant Numer Constan	NSF-ESC-FFC-Yellowston Wolves LTREB	47.074	Direct	DEB-1245335	-	65,319
NSF-FFC-ESC-Fullar Conversion Autem 47.074 Dect DBE-153570 - 56.07 NSF-FECE-SC-FBLIDR Torrential Chain 47.074 Dect 1453641 - 9.44 NSF-ESC-FFC-LTRE Torrential Chain 47.074 Dect 1453101 - 113.27 NSF-ESC-FFC-LTRE Torrential Chain 47.074 Dect 1458130 - 12.37 NSF-ESC-FFC-Cartex Eventume Food 47.074 Dect 154811 - 9.44 NSF-ESC-EACE EVENtume Food 47.075 Decet 1548213333.3 - 3.57 NSF-CARE Numers of Neith Elements - 92.60 - 92.60 - 92.60 Education and Human Resources: - - 92.60 - 3.60 NSF-CIRESC-Colver Volume Huzakh Mod 47.076 Decet DBE-1032938 - 62.02 NSF-ERSC-Colver Volum Huzakh Momens Inorm 47.076 Decet DBE-1032938 - 63.60 NSF-Toronting Toroty of Toolderive Mult Use 47.076 Decet DBE-1032938 - 15.50	NSF-ESC-FFC-FNR-Nitrate Deposition	47.074	Direct	DEB-1251529	-	31,062
NSF-CCSR-IDER Ubconventional Antem 47.074 Direct 1815/3564 - 82.80 NSF-CCSR-IDER Ubconventional Carter 47.074 Direct 1455/91 - 183.19 NSF-EXEC-FURCTURE There are benoty 47.074 Direct 1458/10 - 122.18 NSF-EXEC-FARCER Vertebras Food 47.074 Direct 1458/10 - 122.18 Steider Ther-CAR IL monohisting C2P 47.075 Direct BICS-1219540 - 2.87 NSF-CLRCE Crack Edge Workstain 47.075 Direct BICS-1219540 - 2.87 NSF-CLRCE Table Thermosy Attable Advances of Attable Advance	NSF-BRC-Targeting microRNAs	47.074	Direct	IOS-1340001	403,859	659,961
NSF-ESC-IPC_LTRB Tercente Character Construction 47,074 Direct 1453941 - 91,445 NSF-ESC-INC_CARC Reference Construction Co	NSF-FFC-ESC-Peatland C Fluxes	47.074	Direct	DEB-1354370	-	56,072
NSF-ESC-IPC_LTRB Tercente Character Construction 47,074 Direct 1453941 - 91,445 NSF-ESC-INC_CARC Reference Construction Co		47.074	Direct	DBI-1353664	-	82,641
NSF-ESC-FNR-Currer Riverine Ecosys 47.074 Direct 145.1919 - 182.72 NSF-ESC-FNR-Currer Riverine Food 47.074 Direct 1556.01 - 30.78 Secial, Relaxional, and Economic Sciences - 30.78 - 30.78 NSF-ESC-EAGER-Verbrace form 440.389 1.02.148 - 2.07 NSF-CARCETE Numbersy & Kink Lineacy 47.075 Direct 106.51.2055.03 - 2.97 NSF-CRECTOR Construction of Human Resources: - - 9.96.04 - 9.96.04 SNSF-ESC-Cyber Volkano Huzanth Mod 47.076 Direct DRL-102.958 - 2.027 NSF-CAREER-Mult Moments Intru 47.076 Direct DIRL-1102.958 - 3.06 NSF-FESC-Cyber Volkano Huzen Kanning & Cinnau 47.076 Direct DIRL-1102.958 - 3.06 NSF-FESC-Cyber Volkano Huzen Kanning & Cinnau 47.076 Direct 1.03.03 1.51.03 NSF-FESC-Cheer Direct Hubers & Control 47.076 Direct 1.03.03 1.14.32.03 - 1.14.32.03					-	
NSF-LST-HPC-ARI Immovation (22) 47/074 Direct 1458130 - 122,18 Social, Behavioral, and Economic Sciences: -					-	
NSF-FPC-LSC-EAGER-Venebrate Food 47.074 Direct 1545611 - - 30.78 Social, Behavioral, and Economic Sciences: NSF-MP-Cernnik Relaydroxylation 47.075 Direct BCS-1219540 - 2.237 NSF-GREEN-Nemerics (RS Kik Literacy 47.075 Direct SES-1430755 - - 93.63 NSF-GREEN-Nemerics (RS Kik Literacy 47.075 Direct SES-1430755 - - 93.63 Statistics (Statistics) 47.076 Direct DEL-093083 - - 93.60 NSF-CAREER-Nemerics (Statistics) 47.076 Direct DEL-102308 - 93.60 NSF-Teaching TS-socially 47.076 Direct DUR-140008 - 153.92 NSF-Teaching TS-socially 47.076 Direct DUR-140008 - 153.92 NSF-Teaching TS-socially 47.076 Direct DUR-140012 - 153.92 NSF-Teaching TS-socially 47.076 Direct DUR-140012 - 153.92 NSF-Teaching TS-socially 47.076<					-	
Social, Behavioral, and Economic Sciences:						
NSF-IMP C-rank Relydroxylarion 47.075 Direct BCS-1219540 - 2.277 NSF-GLRC-Toxic Iron-Mining Contam 47.075 Direct SES-1253263 - 59.30 NSF-GLRC-Toxic Iron-Mining Contam 47.075 Direct SES-1430755 - 99.360 SE-CREPS IC-Oper Volcano Hazards Mod 47.076 Direct DRL-0940883 - 2.292 NSF-CREPS ML-Monean Isstra 47.076 Direct DUE-1140308 - 3.60 NSF-ILE-Ethical Resoning & Climate 47.076 Direct DUE-1140308 - 15.30 NSF-Modern Cryprography 47.076 Direct DUE-1140308 - 15.30 NSF-Modern Cryprography 47.076 Direct DUE-1140312 - 13.29 NSF-Modern Cryprography 47.076 Direct 104.80420 - 8.13 NSF-Agle Communicator-Software 47.076 Direct 101.301 15.301 NSF-Agle Collaborative VACCS 47.076 Direct 103.308 12.1501 - 8.1251416	ADI TTE EDE ENOEK VEREDIAE FOOL	47.074	Dict	1545011	446,389	1,392,448
NSF-IMP C-rank Relydroxylarion 47.075 Direct BCS-1219540 - 2.277 NSF-GLRC-Toxic Iron-Mining Contam 47.075 Direct SES-1253263 - 59.30 NSF-GLRC-Toxic Iron-Mining Contam 47.075 Direct SES-1430755 - 99.360 SE-CREPS IC-Oper Volcano Hazards Mod 47.076 Direct DRL-0940883 - 2.292 NSF-CREPS ML-Monean Isstra 47.076 Direct DUE-1140308 - 3.60 NSF-ILE-Ethical Resoning & Climate 47.076 Direct DUE-1140308 - 15.30 NSF-Modern Cryprography 47.076 Direct DUE-1140308 - 15.30 NSF-Modern Cryprography 47.076 Direct DUE-1140312 - 13.29 NSF-Modern Cryprography 47.076 Direct 104.80420 - 8.13 NSF-Agle Communicator-Software 47.076 Direct 101.301 15.301 NSF-Agle Collaborative VACCS 47.076 Direct 103.308 12.1501 - 8.1251416	Social, Behavioral, and Economic Sciences:					
NSF-CAREER-Numericy & Risk Litency 47075 Direct SES-13253 - 5,37 NSF-CARECT-roxe from-Mining Contam 47075 Direct SES-1430755 - 99,36 Education and Huma Resources: - - - 98,60 NSF-CAREER-Nath Moments Instra 47076 Direct DRL-040883 - 2,320 NSF-CAREER-Nath Moments Instra 47076 Direct DRL-112309 - 3,600 NSF-Traching T Security 47076 Direct DUE-1140308 - 15,302 NSF-Traching T Security 47076 Direct DUE-1140312 - 13,322 NSF-Taching T Security 47076 Direct DUE-1145310 - 8,133 NSF-Revampting Robutics Education 47076 Direct 1501335 157.155 229,237 NSF-SEC FFC-E. Beller Fellowship 47076 Direct 1051831 AMEND, 9 - 14,835 NSF-SEC FFC-E. Beller Fellowship 47076 Direct 122017 - 23,377 REGEN-LL-Microaggressions in Te		47.075	Direct	BCS-1219540	-	2,873
NSE-GLRC-Toxic Iron-Mining Contam 47.075 Direct SES-1430755		47.075	Direct	SES-1253263	-	5,370
Effection and Human Resources: - - - <th< td=""><td></td><td></td><td></td><td></td><td>-</td><td>90,361</td></th<>					-	90,361
NSF-EPSSI-Cyber Vokano Hazards Mod 47076 Direct DRL-040883 - 2.202 NSF-CAREER-Math Moments Instru 47076 Direct DUE-112390 - 3.000 NSF-LL-Entacing IT Security 47076 Direct DUE-112390 - 3.000 NSF-Taching IT Security 47076 Direct DUE-1140512 - 13.92 NSF-Theory of Productive Math Use 47076 Direct AMENDMENT NO.002 - 5.927 NSF-Theory of Productive Math Use 47076 Direct 150135 157.155 329.327 NSF-Revanging Robotics Education 47.076 Direct 1504860 - 104.855 NSF-SEC-FPCE: Beller Fellowship 47.076 Direct 153.013 157.155 329.327 NSF-Adje Communication-Softwar 47.076 Direct 105.031 AMERD.9 - 11.050 NSF-ESC-FPCE: Beller Fellowship 47.076 Regents of the University of Minesota A005354501 PTE: DUE-1540789 - 2.8.762 UNIVE-Promoting Reflective 47.076 Direct OISE-1243444	· · · · · · · · · · · · · · · · · · ·				-	98,604
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NSF-LI-Entral Reasoning & Climate 47.076 Direct DUE-1122300 - 5.600 NSF-Roading TS scoriny 47.076 Direct DUE-1140308 - 15.200 NSF-Modern Cryprography 47.076 Direct AMENDMENT NO.002 - 59.273 NSF-Teory of Productive Math Use 47.076 Direct DUE-1140303 - 81.322 NSF-Revamping Robotics Education 47.076 Direct DUE-1245310 - 8.13 NSF-Revamping Robotics Education 47.076 Direct 1501333 157.155 329.32 NSF-Rescrept C-E. Beller Fellowship 47.076 Direct 1633017 - 2.357 NSF-GEC-FFC: E. Beller Fellowship 47.076 Direct 1632017 - 2.357 NSF-Measuring Robotics Education 47.076 Regents of the University of Michigan SUBCONTRACT NO.3003298295 - 44.692 UNIVE-Promoting Reflective 47.076 Direct ARC-1107398 - 2.3275 Office of International and Integrative Activitis: NSF-SP-Bioenergy Development	-				-	
NSF-Teaching IT Security 47,076 Direct DUE:140308 - 15,00 NSF-Modern Cyprography 47,076 Direct DUE:140512 - 15,200 NSF-Theory of Productive Math Use 47,076 Direct DUE:140512 - 59,277 NSF-Accessible Access Control 47,076 Direct DUE:142510 - 8,13 NSF-Acaning Robotics Education 47,076 Direct 1504860 - 104,855 NSF-Agile Communicator-Software 47,076 Direct 1051031 AMEND.9 - 11,050 NSF-Agile Communicator-Software 47,076 Direct 1053017 - 23,377 REGEN-LLL-Microagnessions in Teams 47,076 Regents of the University of Miningsota A005354501 PTE: DUE:1540789 - 23,676 UNIVE-Promoting Reflective 47.076 University of Miningsota A005354501 PTE: DUE:1540789 - 44.696 UNIVE-Promoting Reflective 47.076 Direct OISE-1243444 338,751 842,256 MSF-Measuring Nitrogen Oxide GEO 47.079 Direct					-	
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NSF-ICC-EDU/Collaborative;VACCS 41,076 Direct 1523017 - 23,377 REGEN-ILI-Microaggressions in Teams 47,076 Regents of the University of Michigan SUBCONTRACT NO.3003298295 - 44,692 UNIVE-Promoting Reflective 47,076 University of Minnesota A005354501 PTE: DUE.1540789 - 28,076 Polar Program: NSF-Measuring Nitrogen Oxide GEO 47,078 Direct ARC-1107398 - (3,267 Office of International and Integrative Activities: NSF-SFI-Bioenergy Development 47,079 Direct OISE-1243444 338,751 842,255 NSF-FNR-US-China-Germany Planning 47,079 Direct 0ISE-1243444 338,751 842,255 Office of Cyberinfrastructure: NSF-CWS2-Environmental CyberCitizen 47,080 Direct OCI-1135523 - 45,600 1,171,242 9,971,112 U.S.Environmental CyberCitizen 47,080 Direct OCI-1135523 - 45,600 1,171,242 9,971,112 U.S.Environmental Protection Agency No CFDA Number: BATTE-GLRC-Erie Phosphorus Model 66.unk Battelle LETTER SUBCONTRACT 431347 - 6,366 ICFIN-Rangeland Fires Prototype 66.unk ICF International EP-BPA-12-H-002-BO#14KIBO0014 - (1,3) Great Lakes Program: USENV-GLRC-Earsian Watermilfoil 66,469 Direct GL-00E01291-0 - 148,033 USENV-Watermilfoil Control 66,469 Direct GL-00E01291-0 - 148,033 USENV-Unvarier Phragmines 66,469 Direct GL-00E01291-0 - 25,051 USENV-Invarier Phragmines 66,469 Direct 0,000192-0 - 25,051					-	
REGEN-LI-Microaggressions in Teams 47.076 Regents of the University of Minesota SUBCONTRACT NO:3003298295 - 44.69.7 UNIVE-Promoting Reflective 47.076 University of Minesota A003354501 PTE: DUE-1540789 - 28.762 Polar Program: NSF-Measuring Nitrogen Oxide GEO 47.078 Direct ARC-1107398 - (3.267 Office of International and Integrative Activities: NSF-SPI-Bioenergy Development 47.079 Direct OISE-1243444 338.751 842.255 NSF-SPR-US-China-Germany Planning 47.079 Direct OISE-1243444 338.751 842.255 Office of Cyberinfrastructure: NSF-WR-US-China-Germany Planning 47.080 Direct OCI-1135523 - 45.602 NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 - 45.602 No CFDA Number: - - - - 45.602 No CFDA Number: - - - - - 5.602 Great Lakes Program: - - - - 1.501 USENV-GLRC-Eurasian Watermilfoil 66.469 Direct GL-00E0129	*				-	
UNIVE-Promoting Reflective 47.076 University of Minnesota A005354501 PTE: DUE-1540789 - 28.76 Polar Program: NSF-Measuring Nitrogen Oxide GEO 47.078 Direct ARC-1107398 - (3.26) Office of International and Integrative Activities: NSF-SFI-Bioenery Development 47.079 Direct OISE-1243444 338.751 842.256 Office of Cyberinfrastructure: NSF-SFI-Bioenery 018E-1243444 338.751 842.256 NSF-CWS2-Environmental CyberCitizen 47.079 Direct OISE-1243444 338.751 842.256 Office of Cyberinfrastructure: NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 - 45.600 Total National Science Foundation I/CFI International EP-BPA-12-H-002-BO#I4KIB00014 - 6.500 U.S. Environmental Protection Agency No CFDA Number: - - 45.600 BATTE-CLRC- Eric Phosphorus Model 66 unk Battelle LETTER SUBCONTRACT 431347 - 6.300 USENV-OLRC- Eurasian Wattermilfoil 66.469 Direct GL-00E01291-0 - <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td>					-	
Polar Program: 157,155 713,943 NSF-Measuring Nitrogen Oxide GEO 47.078 Direct ARC-1107398 - (3,267 Office of International and Integrative Activities: NSF-SFI-Bioenergy Development 47.079 Direct OISE-1243444 338,751 842,256 NSF-SFR-US-China-Germany Planning 47.079 Direct OISE-1243444 338,751 842,256 Office of Cyberinfrastructure: NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 - 45,603 NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 - 45,603 Total National Science Foundation ILCFI N-Rangeland Fires Prototype 66.unk Battelle LETTER SUBCONTRACT 431347 - 6,336 USENV-GLRC-Errei Phosphorus Model 66.unk ICF International EP-BPA-12-H-002-BO#14KJBO0014 - (5,013) USENV-GLRC-Eurasian Watermilfoil 66.469 Direct GL-00E01291-0 - 148,033 USENV-Watermilfoil Control 66.469 Direct GL-00E01292-0 - 148,033 USENV-Vastive Phragmites 66.469 Direct GL-00E01928-0 - 25,193			• • •		-	
Polar Program: NSF-Measuring Nitrogen Oxide GEO 47.078 Direct ARC-1107398 . (3.267 Office of International and Integrative Activities: NSF-SFI-Bioenergy Development 47.079 Direct OISE-1243444 338,751 842,254 Office of Cyberinfrastructure: NSF-CWS2-Environmental CyberCitizen 47.079 Direct IIA-1427665 . 11.892 Office of Cyberinfrastructure: NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 . 45.602 USE. Environmental Protection Agency No CPDA Number: No CFDA Number: . <	UNIVE-Promoting Reflective	47.076	University of Minnesota	A005354501 PTE: DUE-1540789	157,155	28,765
NSF-Measuring Nitrogen Oxide GEO 47.078 Direct ARC-1107398 - (3,267) Office of International and Integrative Activities: NSF-SFI-Bioenergy Development 47.079 Direct OISE-1243444 338,751 842,250 NSF-FNR-US-China-Germany Planning 47.079 Direct IIA-1427665 - 11,892 338,751 854,148 Office of Cyberinfrastructure: NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 - 45,600 1,171,242 9,971,114 U.S. Environmental Protection Agency No CFDA Number: BATTE-GLARC-Eric Phosphorus Model 66.unk Battelle LETTER SUBCONTRACT 431347 - 6,366 ICFIN-Rangeland Fires Prototype 66.unk ICF International EP-BPA-12-H-002-BO#14KJBO0014 - (5,011 - 1,350 Great Lakes Program: USENV-GLRC-Eurasian Watermilfoil 66.469 Direct GL-00E01291-0 - 148,038 USENV-Watermilfoil Control 66.469 Direct GL-00E01929-0 - 9,515					· · · · · · · · · · · · · · · · · · ·	,
Office of International and Integrative Activities: NSF-SFI-Bioenergy Development 47.079 Direct OISE-1243444 338,751 842,256 NSF-SFI-Bioenergy Development 47.079 Direct IIA-1427665 - 11,892 NSF-SFI-SFI-Bioenergy Development 47.079 Direct IIA-1427665 - 11,892 Office of Cyberinfrastructure: NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 - - 45.600 Total National Science Foundation 0 Direct OCI-1135523 - - 45.600 No CFDA Number: No CFDA Number: No CFDA Number: - - - - 45.600 Mo CFDA Number: No CFDA Number: - - - - - 6.366 - <td< td=""><td></td><td>47.078</td><td>Direct</td><td>ARC-1107398</td><td>-</td><td>(3,267)</td></td<>		47.078	Direct	ARC-1107398	-	(3,267)
NSF-SFI-Bioenergy Development 47.079 Direct OISE-1243444 338,751 842,250 NSF-FNR-US-China-Germany Planning 47.079 Direct IIA-1427665 - 11.892 Office of Cyberinfrastructure: NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 - 45.602 Total National Science Foundation 0 Direct OCI-1135523 - 45.602 U.S. Environmental Protection Agency No CFDA Number: - - 66.unk Battelle LETTER SUBCONTRACT 431347 - 6.363 ICFIN-Rangeland Fires Prototype 66.unk Battelle LETTER SUBCONTRACT 431347 - 6.363 USENV-GLRC-Eurasian Watermilfoil 66.469 Direct GL-00E01291-0 - 11.350 Great Lakes Program: - - - 148.033 - 148.033 USENV-Vatermilfoil Control 66.469 Direct GL-00E01291-0 - 148.033 USENV-Invasive Phragmites 66.469 Direct GL-00E01928-0 - 25.192						
NSF-FNR-US-China-Germany Planning 47.079 Direct IIA-1427665 - 11,892 Office of Cyberinfrastructure: NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 - 45.602 Total National Science Foundation 0 Direct OCI-1135523 - 45.602 U.S. Environmental Protection Agency 0 Direct OCI-1135523 - 45.602 No CFDA Number: BATTE-GLRC-Erie Phosphorus Model 66.unk Battelle LETTER SUBCONTRACT 431347 - 6.366 ICFIN-Rangeland Fires Prototype 66.unk ICF International EP-BPA-12-H-002-B0#14KJB00014 - 1,350 Great Lakes Program: USENV-GLRC-Euraian Watermilfoil 66.469 Direct GL-00E01291-0 - 148.033 USENV-Vatermilfoil Control 66.469 Direct GL-00E01291-0 - 148.033 USENV-Invasive Phragmites 66.469 Direct GL-00E01291-0 - 148.033		47.079	Direct	OISE-1243444	338,751	842,256
Office of Cyberinfrastructure: NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 - 45,603 Total National Science Foundation 1,171,242 9,971,114 1,171,242 9,971,114 U.S. Environmental Protection Agency No CFDA Number: BATTE-GLRC-Eric Phosphorus Model 66.unk Battelle LETTER SUBCONTRACT 431347 - 6,363 ICFIN-Rangeland Fires Prototype 66.unk ICF International EP-BPA-12-H-002-BO#14KJB00014 - (5,013) Great Lakes Program: USENV-GLRC-Eurasian Watermilfoil 66.469 Direct GL-00E01291-0 - 1.48,033 USENV-Vatermilfoil Control 66.469 Direct GL-00E01291-0 - 1.48,033 USENV-Invasive Phragmites 66.469 Direct GL-00E01291-0 - 1.48,033		47.079	Direct	IIA-1427665	· -	11,892
NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 - 45.602 Total National Science Foundation I.171,242 9.971,114 U.S. Environmental Protection Agency No CFDA Number: - 6.362 BATTE-GLRC-Erie Phosphorus Model 66.unk Battelle LETTER SUBCONTRACT 431347 - 6.366 ICFIN-Rangeland Fires Prototype 66.unk ICF International EP-BPA-12-H-002-B0#14KJB00014 - 1,350 Great Lakes Program: USENV-GLRC-Euraian Watermilfoil 66.469 Direct GL-00E01291-0 - 148.033 USENV-Watermilfoil Control 66.469 Direct GL-00E01291-0 - 148.033 USENV-Invasive Phragmites 66.469 Direct GL-00E01291-0 - 9,512					338,751	854,148
NSF-CWS2-Environmental CyberCitizen 47.080 Direct OCI-1135523 - 45.602 Total National Science Foundation I.171,242 9.971,114 U.S. Environmental Protection Agency No CFDA Number: - 6.362 BATTE-GLRC-Erie Phosphorus Model 66.unk Battelle LETTER SUBCONTRACT 431347 - 6.366 ICFIN-Rangeland Fires Prototype 66.unk ICF International EP-BPA-12-H-002-B0#14KJB00014 - 1,350 Great Lakes Program: USENV-GLRC-Euraian Watermilfoil 66.469 Direct GL-00E01291-0 - 148.033 USENV-Watermilfoil Control 66.469 Direct GL-00E01291-0 - 148.033 USENV-Invasive Phragmites 66.469 Direct GL-00E01291-0 - 9,512	Office of Cyberinfrastructure:					
Total National Science Foundation 1,171,242 9,971,114 U.S. Environmental Protection Agency No CFDA Number: 1,171,242 9,971,114 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) Great Lakes Program:		47.080	Direct	OCI-1135523	-	45,603
No CFDA Number: LETTER SUBCONTRACT 431347 - 6.362 BATTE-GLRC-Erie Phosphorus Model 66.unk Battelle LETTER SUBCONTRACT 431347 - 6.362 ICFIN-Rangeland Fires Prototype 66.unk ICF International EP-BPA-12-H-002-B0#14KJB00014 - (5.013) Great Lakes Program: USENV-GLRC-Eurasian Watermilfoil 66.469 Direct GL-00E01291-0 - 148.033 USENV-Watermilfoil Control 66.469 Direct GL-00E01928-0 - 25,192 USENV-Invasive Phragmites 66.469 Direct GL-00E01929-0 - 9,512					1,171,242	9,971,114
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 - (5,012) - 1,350 Great Lakes Program: USENV-GLRC-Eurasian Watermilfoil 66.469 Direct GL-00E01291-0 - 148,038 USENV-Watermilfoil Control 66.469 Direct GL-00E01928-0 - 25,199 USENV-Invasive Phragmites 66.469 Direct GL-00E01929-0 - 9,515						
ICFIN-Rangeland Fires Prototype 66.unk ICF International EP-BPA-12-H-002-BO#14KJBO0014 - (5.013) Great Lakes Program: - 1.350 - 1.350 USENV-GLRC-Eurasian Watermilfoil 66.469 Direct GL-00E01291-0 - 148.033 USENV-Watermilfoil Control 66.469 Direct GL-00E01928-0 - 25.193 USENV-Invasive Phragmites 66.469 Direct GL-00E01929-0 - 9,513		66.unk	Battelle	LETTER SUBCONTRACT 431347	-	6,363
Great Lakes Program: - 1,350 USENV-GLRC-Eurasian Watermilfoil 66.469 Direct GL-00E01291-0 - 148,033 USENV-Watermilfoil Control 66.469 Direct GL-00E01928-0 - 225,195 USENV-Invasive Phragmites 66.469 Direct GL-00E01929-0 - 9,515	Ĩ				-	(5,013)
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						1,350
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	Great Lakes Program:					
USENV-Watermilfoil Control 66.469 Direct GL-00E01928-0 - 25,192 USENV-Invasive Phragmites 66.469 Direct GL-00E01929-0 - 9,512		66.469	Direct	GL-00E01291-0	-	148,038
USENV-Invasive Phragmites 66.469 Direct GL-00E01929-0 - 9,515					-	25,195
					-	9,515
- 187.747	0				-	182,748

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' Ex	Federal penditures
Research and Development Cluster (continued)			• • • • • •		
U.S. Environmental Protection Agency (continued) Science To Achieve Results (STAR) Research Program:					
USENV-EPSSI-Extreme Event Impacts	66.509	Direct	RD-83518901-0	\$ - \$	90,105
National Student Design Competition for					
Sustainability: USENV-GLRC-Geothermal Energy Harnes	66.516	Direct	SU-83569201		5,266
Total U.S. Environmental Protection Agency	00.510	Direct	50-85509201		279,469
U.S. Department of Energy No CFDA Number:					
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 BONNE-PERC-Transformer Protection	81.unk	Battelle Energy Alliance Bonneville Power Administration	CONTRACT #155738	-	76,770
HONEY-APS-Tailorable Plate Testing	81.unk 81.unk	Honeywell Federal Manufacturing & Technologies, LLC	GRANT 66296 DE-NA0002839 / PO#N000189974	-	70,393
HONEY-Senior Design: Plate Testing	81.unk	Honeywell Federal Manufacturing & Technologies, LLC	DE-NA0002839 PO#N000189974 DE-NA0002839 PO#N000189963	-	53,530 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
Office of Science Financial Assistance Program:					
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-FFC-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 AEROD-EPSSI-Cloud Particle Form	81.049 81.049	Direct	DE-SC0012762 SUB #ARI 11045-1 DE-SC0011935	-	120,699 14,769
AEROD-EPSSI-Cloud Particle Form	81.049	Aerodyne Research	SUB #ARI 11045-1 DE-SC0011955	105,228	697,449
Conservation Research and Development:					
USENE-APS-FNR-Spraywall Interaction	81.086	Direct	DE-EE0007292	-	16,117
USENE-APS-FNR-Natural Gas Engine	81.086	Direct	DE-EE007331	-	5,220 21,337
Renewable Energy Research and Development:					
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
Advanced Research Projects Agency - Energy: 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
Total U.S. Department of Energy				105,228	114,923 1,285,402
U.S. Department of Education					
Fund for the Improvement of Postsecondary Education:					
USEDU-EPSSI-Yr 1-INVOGE Program	84.116J	Direct	P116J090031-ACTION NO. 01	22,406	22,406
Education Research, Development and Dissemination:					
OHIOS-Enhancing Middle School Math Total U.S. Department of Education	84.305	The Ohio State University	60046917 SUB R305A150365	22,406	89,340 111,746
U.S. Department of Health and Human Services					
No CFDA Number:	02 1	Desite to a location of the state	HURNAC0001000051077 0		a
RADIO-BRC-Properties Human Liver	93.unk	Radiological Society of North America	HHSN268201300071C(Z-3)	-	7,657
PECEN Quantitative Analysis					
REGEN-Quantitative Analysis REGEN-FFP-Biophysical Data	93.unk 93.unk	Regents of the University of Michigan Regents of the University of Michigan	MTU#1402036 PO# 3003903607 & 3003921692	-	12,715 11,000

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 Federal Subrecipients' Expenditur
Research and Development Cluster (continued)		*	• •	
U.S. Department of Health and Human Services (continued)				
Environmental Health:				
UNIVE-GLRC-Microcystis Blooms	93.113	University of New Hampshire	SUB NO. 13-060: #1R01ES021929	\$ - \$ 1,9
Human Genome Research:				
NIH-LSTI-Rare Variant Assoc Studies	93.172	Direct	1 R15 HG008209-01A1	- 36,5
BAYLO-LSTI-Next Gen Bioinformations	93.172	Baylor College of Medicine	PO#102140111, 5R01HG008115-02	- 94,7
				- 131,3
National Center on Sleep Disorders Research:				
UNIVE-Sleep Disordered Breathing	93.233	University of Michigan	SUB#3002300214 1-R01-HL1059991	- 29,5
Discovery and Applied Research for Technological				
Innovations to Improve Human Health:				
NIH-ILI-Cardiac Annunciator	93.286	Direct	1 RO3 EB014844-01	- 25,0
NIH-IMP-Zn-Based Stent Materials	93.286	Direct	1R21EB019118-01A1	13,473 193,9
Cancer Detection and Diagnosis Research:				13,473 218,9
NIH-BRC-Virtual Breast Project	93.394	Direct	1 R15 CA179409-01A1	- 112,1
UNIVE-LSTI-Ultrasonic Ablation	93.394	University of Wisconsin-Madison	SUB #494K686 PRIME R01CA112192	- 22,3
				- 134,5
Cardiovascular Diseases Research:				
NIH-BRC-Small Diameter Blood Vessel	93.837	Direct	1R15HL115521-01A1	- 128,6
NIH-BRC-Rats with High Salt Intake	93.837	Direct	1R15HL122952-01A1	- 214,9
NIH-IMP-Stent Materials	93.837	Direct	1R15HL129199-01	- 111,8
				- 455,4
Lung Diseases Research: NIH-BRC-Sleep Deprivation in Women	93.838	Direct	IR15HL122919-01	- 109,0
Diabetes, Digestive, and Kidney Diseases				
Extramural Research: NIH-LSTI-miR-483 in Pancreatic Cell	93.847	Direct	1R15DK103197-01A1	- 71,7
Biomedical Research and Research Training:				
NIH-BRC-Biomimetic Tissue Adhesive	93.859	Direct	1 R15 GM104846-01	- 24,1
NIH-BRC-Oligodeoxynucleotide	93.859	Direct	1R15GM109288-01	- 138,2
NIH-BRC-Lysosomal pH in Living Cell	93.859	Direct	1 R15 GM114751-01	- 93,4
NIH-LSTI-Adhesive PEG-fibrinogen	93.859	Direct	1R15GM112082-01	- 164,8
NIH-LSTI-Role of Toolkit Genes	93.859	Direct	1 R15 GM107801-01A1	- 30,3
NIH-LSTI-Biomimetic Tissue Adhesive	93.859	Direct	2 R15 GM104846-02	- 49,3
				- 500,4
Child Health and Human Development				
Extramural Research:				
GEORG-ICC-Music Based Robotic	93.865	George Washington University	SUB #16-S12 / 7R01HD082914-03	- 60,5
MAYOM-MuSTI-Intramuscular Pressure	93.865	Mayo Clinic Rochester	5R01HD031476-14 PO#63695169	- 1,9
NEWYO-NRI Robotic Orchestration ASD	93.865	New York Institute of Technology	SUB #1 PRIME 1R01HD082914-01	- 10,8 - 73,3
Total U.S. Department of Health and Human Services				13,473 1,757,6
Total Research and Development Cluster				2,439,848 29,774,2
Other Programs				
U.S. Department of Agriculture				
No CDFA Number: USAGR-ESC-FFC-Climate Change	10.unk	Direct	15-CR-11242306-043	- 8,7
USAGR-ESC-FFC-Fire Preparedness	10.unk	Direct	15-CS-11242306-044	- 15,6
USAGR-ESC-FFC-Climate Change	10.unk	Direct	15-CR-11242306-059	- 1,2
USAGR-ESC-FFC-Ed/Outrch Climate Chg	10.unk	Direct	11-CR-11242306-124	- 288,7
USAGR-ESC-FFC-Belowground Ecosystem	10.unk	Direct	13-JV-11242306-039	- 58,0
USFOR-Completion of TRACS Surveys	10.unk	Direct	15-CS-11090100-016	- 51,6
Wood Energy for Ford Center	10.unk	Michigan Institute for Timber Resources and Education Excell	GRANT DATED 10/2/14	- 73,0
		Education Excell		- 496,9
Child Care Food Program	10.558	Michigan Dept of Education		- 20,8
Child Cale Food Flogram	10.558	Mengan Dept of Education		- 20,8

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' Exp	Federal penditures
Other Programs (continued)			· *		
U.S. Department of Agriculture (continued)					
Forestry Research:					
USAGR-ESC-FFC-Climate Change Silvi	10.652	Direct	11-CA-11330124-051	<u>\$ 87,412 \$</u> 87,412	89,912
Total U.S. Department of Agriculture				87,412	607,685
U.S. Department of Commerce					
No CDFA Number:					
MICHI-GLRC-Great Lakes Literacy	11.unk	Michigan State University	PO234120		5,000
Economic Development Technical Assistance:					
USCOM-Economic Dev in Central UP	11.303	Direct	EDA AWARD #06-06-05950		20,494
Sea Grant Support:					
UNIVE-GLRC-Angela Yu Fellowship	11.417	University of Michigan	PO# 3003997385	-	4,000
Total U.S. Department of Commerce	11.117	entreisity of Mengan	10// 5005577505	-	29,494
•					<u> </u>
U.S. Department of Defense					
No CDFA Number:					
TECHN-PIOI-MTU-Summer Youth	12.unk	Technology Student Association	AWARD LETTER 1/28/16		13,893
Designed Amerikal Coloration Descender					
Basic and Applied Scientific Research: OFFIC-GLRC-Talent Pipeline	12.300	Direct	N00014-15-1-2796		155 540
Total U.S. Department of Defense	12.300	Dilect	1000014-15-1-2796		155,540 169,433
Total 0.5. Department of Detense					107,455
U.S. Department of Interior					
No CDFA Number:					
John Payne - Intergovernmental Pers	15.unk	Direct	IPA EXTENSION DATE 3/20/15		269,630
Keweenaw National Historical Park (NHP) and Kew					
NHP Advisory Commission Partner Enhancemen			C2015 011		
KEWEE-Heritage Preservation	15.407	Keweenaw NHP Advisory Commission	C2015-014		4,158
Cooperative Research and Training Programs -					
Resources of the National Park System:					
USPAR-ESC-FFC-Isle Royale Membership	15.945	Direct	TASK AGREEMENT NO P15AC00157	-	32,397
Total U.S. Department of Interior				-	306,185
U.S. Department of Labor					
Mine Health and Safety Grants:	1	B ¹	NO 27472 15 55 D 26		
USLAB-FY15 Mine Safety	17.600	Direct	MS-27472-15-55-R-26		193,932
U.S. Department of Transportation					
No CDFA Number:					
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
				5,611	1,588,209
History December 4D 4 (D					
Highway Research and Development Program: USTRA-MTTI-Eastern Region TTAP Cntr	20.200	Direct	DTFH6114H00006		323,094
USTRA-MITI-Lasteni Region TTAF Chu	20.200	Dilect	D11101141100000		323,074
Highway Planning and Construction:					
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
				-	35,608
Highway Training and Education:	20.215	Mishioon Deportment of Theorem	CONTRACT NO. 2017 0205		17.021
MITRA-PIOI-NSTI 2016	20.215	Michigan Department of Transportation	CONTRACT NO. 2016-0295	-	17,931
University Transportation Centers Program:					
UNIVE-21st Century Education	20.701	University of Wisconsin-Madison	AGREEMENT #394K026	-	42,362
Total U.S. Department of Transportation				5,611	2,007,204
					· · · · ·

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
her Programs (continued)	runioci	r asseu rinougli	ruchurymg (Millott	Subrecipients	Sapenuture
Federal Mediation and Conciliation Service					
Labor Management Cooperation					
FEDER-Labor-Mgmt Staff Mentoring	34.002	Direct	15-MI/PS-005	\$ -	\$ 769
National Aeronautics and Space Administration No CDFA Number:					
	42	University of Michigan	CUECK#2028610		(20)
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
Science:					
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		Direct	NNX15AN59H	-	27,259
1	43.001			-	
USNAS-FNR-EPPSI-MBrege Fellowship	43.001	Direct	NNX15AN57H		26,357
					135,777
Education:					
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		1,500
		• •		-	
UNIVE-CWS-FNR-MSGC-Methyl Mercury	43.008	University of Michigan	PO3003978288		1,873
Fotal National Aeronautics and Space Administration					251,294
National Endowment for the Humanities					
Promotion of the Humanities - Division of					
Preservation and Access:					
NATIO-GLRC-CC Historical Spatial	45.149	Direct	PW-234885-16	-	476
National Science Foundation					
No CDFA Number:					
NSF-IPA Assignment P Murthy	47.unk	Direct	DGE-1261336		(5,789
Engineering Grants:	47.041	Direct	ODET 1140150		(2.452
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
					08,451
Computer and Information Science and					
Engineering:					
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
Biological Sciences:					
NSF-ESC-FFC-Ford Center Improvement	47.074	Direct	DBI-1226627		18,175
Education and Hamon D					
Education and Human Resources:	17.074	Direct	DUE 0021049		1/0 500
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
	47.076	Direct	DGE-1051031 AMEND. NO. 005	-	1,334
NSF-D Cerminaro Fellowship	47.070				
*	47.076	Direct	HRD-1305678	-	61,112
NSF-D Cerminaro Fellowship NSF-Professoriate Progression NSF-B Winter Fellowship			HRD-1305678 DGE-1051031	-	61,112 15,729

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
Other Programs (continued)					
National Science Foundation (continued)					
Education and Human Resources (continued):					
NSF-C. Meingast Fellowship	47.076	Direct	AMENTMENT 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
					467,915
ARRA - Trans-NSF Recovery Act Research Support:					
NSF-ARRA-FNR-CWS1-GK12-Huckins	47.082	Direct	DGE-0841073	10,823	38,786
Total National Science Foundation				10,823	712,602
Small Business Administration					
Small Business Development Centers:					
SIXCO-Small Business Tech Dev	59.037	Six County Employment Alliance	CONTRACT AGREEMENT	7,337	9,052
Environmental Protection Agency					
No CDFA Number:					
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.S. Department of Education Gaining Early Awareness and Readiness for Undergraduate Programs:					
MILAB-PIOI-GEAR UP 2015	84.334	Michigan Dept of Labor & Economic Growth	GRANT NUMBER: 14-00-07		16,598
Improving Teacher Quality State Grants:					
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
				-	58,492
Total U.S. Department of Education				-	75,090
Total Other Programs				111,183	4,379,981
Total Expenditures of Federal Awards				\$ 2,551,031	\$ 82,526,895

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.

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 Lands, 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.

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

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:

Federal CFDA Number	Name of Federal Program or Cluster			
84.007, 84.033, 84.038, 84.063, 84.268 Various	Student Financial Aid Cluster 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.

Summary Schedule of Prior Audit Findings

Year Ended June 30, 2016

None.