COMPLIANCE REPORTS

For the Year Ended June 30, 2019

And Reports of Independent Auditor



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Report of Independent Auditor on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of the Financial Statements Performed in Accordance with Government Auditing Standards

To the Board of Trustees Georgia Tech Research Corporation and Georgia Tech Applied Research Corporation Atlanta, Georgia

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the business-type activities, and each major fund of Georgia Tech Research Corporation and Georgia Tech Applied Research Corporation (collectively "GTRC") as of and for the year ended June 30, 2019, and the related notes to the financial statements which collectively comprise GTRC's basic financial statements, and have issued our report thereon dated September 12, 2019.

Internal Control over Financial Reporting

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

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of GTRC'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 GTRC'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 GTRC's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering GTRC's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Chury Bekaert LLP
Atlanta, Georgia
September 12, 2019



Report of Independent Auditor on Compliance for Each Major Program and Report on Internal Control over Compliance Required by the Uniform Guidance

To the Board of Trustees Georgia Tech Research Corporation, Georgia Tech Applied Research Corporation, and Georgia Institute of Technology Atlanta, Georgia

Report on Compliance for Each Major Federal Program

We have audited the compliance of Georgia Tech Research Corporation, Georgia Tech Applied Research Corporation, and the Georgia Institute of Technology (collectively hereinafter referred to as the "Organization") with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on each of the Organization's major federal programs for the year ended June 30, 2019. As part of the coordinated audit, we did not audit compliance requirements as described in *OMB Compliance Supplement* related to equipment and real property management and procurement, suspension and debarment for the Research and Development Cluster major federal program. Those compliance requirements were audited by State of Georgia Department of Audits and Accounts whose report thereon has been furnished to us, and our opinion, insofar as it relates to those requirements, is based solely on the reports of the State of Georgia Department of Audits and Accounts dated December 23, 2019, which reports no findings in relation to internal control over compliance in accordance with the *OMB Compliance Supplement*. The Organization'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 the requirements of laws, regulations, contracts, and grants applicable to its federal programs.

Auditor's Responsibility

Our responsibility is to express an opinion on the Organization's compliance for each of the Organization's major federal programs based on our audit of the types of compliance requirements referred to above and the report of other auditors. 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 Title 2 U.S. *Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* ("Uniform Guidance"). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the Organization'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 Organization's compliance.

Opinion on Each Major Federal Program

In our opinion, the Organization complied, in all material respects, with the compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2019.

Report on Internal Control over Compliance

Management of the Organization 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 Organization's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the Organization's internal control over compliance.

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

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

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

We have audited the financial statements of the business-type activities and each major fund of Georgia Tech Research Corporation and Georgia Tech Applied Research Corporation (collectively, "GTRC") as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise GTRC's basic financial statements. We issued our report thereon dated September 12, 2019, which contained an unmodified opinion on those financial statements. Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise GTRC's basic financial statements. The accompanying schedule of expenditures of federal awards for the Organization is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements.

The State of Georgia Department of Audits and Accounts has audited the basic financial statements of Georgia Institute of Technology as of and for the year ended June 30, 2019, and has issued its report thereon based on the audit of the basic financial statements performed in accordance with auditing standards generally accepted in the United States of America dated December 23, 2019. We did not audit the financial statements of Georgia Institute of Technology which represent approximately 30% of the expenditures in the accompanying schedule of expenditures of federal awards. Such information related to GTRC has been subjected to the auditing procedures applied in our audit of GTRC's basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion the schedule of expenditures of federal awards, in relation to GTRC, is fairly stated in all material respects in relation to the basic financial statements of GTRC taken as a whole.

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.

Atlanta, Georgia

January 31, 2020 except for the Schedule of Expenditures of Federal Awards, as to which the date is September 12, 2019.

Cherry Bekaert LLP

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Federal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
Research and Development-Cluster:				
Department of Agriculture				
Agriculture and Food Research Initiative (AFRI)	10.310		\$ 23,447	\$ 647,747
Forestry Research	10.652		-	12,530
Wood Utilization Assistance	10.674		-	61,585
Agriculture and Food Research Initiative (AFRI)	10.010	4005404704		75.004
UNIVERSITY OF MINNESOTA/MINNEAPOLIS, MN UNIVERSITY OF FLORIDA/	10.310	A005124701 UFDSP00012103	-	75,801 81,734
LSU/BATON ROUGE. LA	10.310 10.310	PO-0000037155	-	17,418
U.S. ENDOWMENT FOR FORESTRY AND COMMUNITIES/GREENVILLE, SC	10.310	E18-16	-	117,574
Sun Grant Program				,•
Passed through from:				
UNIVERSITY OF TENNESSEE/	10.320	9500070415	-	29,804
Forestry Research				
Passed through from:				
U.S. ENDOWMENT FOR FORESTRY AND COMMUNITIES/GREENVILLE, SC	10.652	E17-22	-	91,987
Wood Utilization Assistance				
Passed through from: U.S. ENDOWMENT FOR FORESTRY AND COMMUNITIES/GREENVILLE, SC	40.674	E19-08		0.026
Total Department of Agriculture	10.674	E19-06	23,447	9,836 1,146,016
Total Department of Agriculture			23,447	1,140,010
Department of Commerce				
Economic Development-Technical Assistance	11.303		-	117,973
Climate and Atmospheric Research	11.431		-	241,766
Measurement and Engineering Research and Standards	11.609		118,125	1,040,927
Science, Technology, Business and/or Education Outreach	11.620		-	94,301
Integrated Ocean Observing System (IOOS)				
Passed through from:				
SE COASTAL OCEAN OBSERVING REGIONAL ASSN/JOHNS ISLAND, SC	11.012	IOOS.16(028)GATECH.FZ.GLD.1	-	45,223
Sea Grant Support				
Passed through from: UNIVERSITY OF GEORGIA/ATHENS, GA	11.417	RR746-096/S001611		68,868
UNIVERSITY OF GEORGIA/ATHENS, GA	11.417	RR746-096/S001612	-	56,130
Ocean Exploration	11.417	1447-050/0001012		50,100
Passed through from:				
MOTE MARINE LABORATORY/SARASOTA, FL	11.011	MML 105-320	-	10,862
Applied Meteorological Research				
Passed through from:				
FLORIDA STATE UNIVERSITY/TALLAHASSEE, FLA	11.468	R01856	-	26,774
Measurement and Engineering Research and Standards				
Passed through from:	44.000	701/41/04/04/04		50.007
CALIFORNIA MANUFACTURING TECHNOLOGY CONSULTING/TORRANCE, CA LEHIGH UNIVERSITY/BETHLEHEM, PA	11.609 11.609	70NANB16H313 543580-78002	-	52,607 45,793
Arrangements for Interdisciplinary Research Infrastructure	11.009	343300-70002	_	43,793
Passed through from:				
NIIMBL/WASHINGTON, DC	11.619	PC1.0-26	-	105,840
Total Department of Commerce			118,125	1,907,064
				·
Department of the Army				
Basic and Applied Scientific Research	12.300		-	916,298
Military Medical Research and Development	12.420		52,852	698,096
Basic Scientific Research Basic, Applied, and Advanced Research in Science and Engineering	12.431 12.630		4,244,653 1,514,664	63,865,391 16,472,112
Science, Technology, Engineering and Mathematics (STEM) Educational Program: Science, Mathematics	12.000		1,514,004	10,472,112
and Research for Transformation (SMART)	12.631		(362)	616
Military Medical Research and Development			(/	
Passed through from:				
WAKE FOREST UNIVERSITY/WINSTON SALEM, NC	12.420	WFUHS 441052 ER-02	278	70,643
Basic Scientific Research				
Passed through from:				
ADVANCED TECHNOLOGY INTERNATIONAL/SUMMERVILLE, SC	12.431	2017-311A PA 5	6,135,546	9,547,249
ADVANCED TECHNOLOGY INTERNATIONAL/SUMMERVILLE, SC	12.431	PROJECT AGREEMENT NO.: 1	-	54,276
ATA ENGINEERING INC/SAN DIEGO, CA	12.431	AGT DTD OCT 13, 2017 US001-0000560752	-	114,255
BATTELLE/	12.431 12.431	OS001-0000560752 AGR DTD 10/17/2017	-	14,086
BLACK DIVED SYSTEMS CO / LITICA NV		AGR DID 10/11/2017	-	450
BLACK RIVER SYSTEMS CO / UTICA, NY CORNELL UNIVERSITY/ITHACA NY		76091-10525		451 261
CORNELL UNIVERSITY/ITHACA, NY	12.431	76091-10525 W911QX19C004	-	451,261 21.013
		76091-10525 W911QX19C004 AGMT DTD 18-NOV-2015	- - -	451,261 21,013 83,385

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

ederal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
GENERAL ATOMICS/SAN DIEGO, CA	12.431	4500076278	_	19,174
GIRD SYSEMS/W15QKN-15-9-1004	12.431	W15QKN-15-9-1004	-	310,289
GRAF LLC/BLACKSBURG,VA	12.431	W56KGU-18-C-0020	_	158,910
JACOBS TECHNOLOGY INC/FT. WALTON BEACH, FL	12.431	1153-01-00-02	-	40,360
LEIDOS INC	12.431	4102781916	_	2,703
METOVA FEDERAL LLC./CABOT, AR	12.431	CBL-240	-	50,756
MILLENNITEK LLC./KNOXVILLE, TN	12.431	AGR DTD 09/25/2017	-	288,035
NATIONAL ADVANCED MOBILITY CONSORTIUM/ANN ARBOR, MI	12.431	70-201708 T01	-	1,109,922
NEWTON CONSULTING AND ENGINEERING INC/TUCSON, AZ	12.431	NCEGTRI0316R23G	-	94
NORTH CAROLINA A&T STATE UNIV/GREENSBORO, NC	12.431	W900KK-16-R-0013	-	271,858
RADIANCE TECHNOLOGIES/HUNTSVILLE, AL	12.431	18S-1329	-	176,610
SAIC	12.431	4600005751/5	-	(1,288
SAIC	12.431	4600005751/6	-	(1,863
SCIENTIFIC RESEARCH CORP/ATLANTA, GA	12.431	AGR DATED 5/14/18	-	910,309
SCIENTIFIC RESEARCH CORP/ATLANTA, GA	12.431	SR20160954 TO-004	-	1,242
SCIENTIFIC RESEARCH CORP/ATLANTA, GA	12.431	SR20180986	-	51,485
SIGNATURE RESEARCH INC./CALUMET, MI	12.431	AGR DTD 04/11/17	-	155,490
SOUTH CAROLINA RES AUTH/CHARLESTON, SC	12.431	2017-311 PROJECT AGREEMENT 01	1,063	315,340
SOUTH CAROLINA RES AUTH/CHARLESTON, SC	12.431	2017-311 PROJECT AGREEMENT 02	26,068	659,313
SOUTH CAROLINA RES AUTH/CHARLESTON, SC	12.431	2017-311 PROJECT AGREEMENT 03	85,132	388,726
SOUTH CAROLINA RES AUTH/CHARLESTON, SC	12.431	2017-311 PROJECT AGREEMENT 04	132,548	437,622
STANFORD UNIVERSITY/STANFORD, CA	12.431	#61892934-130810	-	173,935
STEVENS INST OF TECHNOLOGY/	12.431	2102929-02; WRT-1002	04.000	8,181
UCLA/LOS ANGELES, CA UNIV OF MICHIGAN/	12.431	1000GSA785 3002805832	81,029	106,546
UNIV OF WICHIGAN/ UNIV OF WASHINGTON/SEATTLE, WA	12.431 12.431	UWSC7915 P.O. # BPO 3109	-	107,070 92,089
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	12.431	078122-17266	-	142,378
UNIVERSITY OF MARYLAND/COLLEGE PARK, MD	12.431	46331-Z8425103	-	31,362
UNIVERSITY OF PENNSYLVANIA/PHILADELPHIA, PA	12.431	572622		653,674
UNIVERSITY OF TEXAS AT AUSTIN/AUSTIN, TX	12.431	UTA17-001078	_	185
UNIVERSITY OF WASHINGTON/SEATTLE, WA	12.431	UWSC9283	-	90,788
Basic, Applied, and Advanced Research in Science and Engineering				
Passed through from: HONEYWELL INTERNATIONAL/COONS RAPID,MN	12.630	3501701149E		3,407,803
otal Department of the Army	12.000	33017011432	12,273,471	102,492,301
Department of the Navy				
Basic and Applied Scientific Research	12.300		14,681,960	51,993,037
Air Force Defense Research Sciences Program	12.800		-	2,012,208
Basic and Applied Scientific Research				
Passed through from:				
ADVANCED CONDUCTOR TECHNOLOGIES/BOULDER, CO	12.300	N6833518C0151	-	25,000
AMERICAN SYSTEMS CORPORATION/CHANTILLY, VA	12.300	S19025_1	-	138,649
AMEWAS INC/LEXINGTON PARK, MD	12.300	PO17-00842	-	9,626
AMEWAS INC/LEXINGTON PARK, MD	12.300	PO18-01655	-	333,042
BAE SYSTEMS/NASHUA, NH	12.300	975057	-	16,145
BOEING RESEARCH & TECHNOLOGY/SEATTLE,WA	12.300	1451798	-	158,555
CINTEL INC/HUNTSVILLE,AL	12.300	AGT DTD OCT 16, 2017 CERI GTRC 2017-2382	-	15
COGNITIVE ENGINEERING RESEARCH INSTITUTE (CERI)/MESA, AZ	12.300		-	(6,629 33,603
COMBUSTION RESEARCH AND FLOW TECHNOLOGY INC / HUNTSVILLE, AL CONTINUUM DYNAMICS INC/EWING, NJ	12.300 12.300	AGT DTD AUGUST 2, 2017 AGT DTD MAY 27, 2017	-	16,731
CONTINUUM DYNAMICS INC/EWING, NJ CONTINUUM DYNAMICS INC/EWING, NJ	12.300	AGT DTD MAY 27, 2017 AGT DTD OCT 10, 2017	-	60,606
CRAFT TECH/HUNTSVILLE, AL	12.300	N68335-18-C-0850	-	
ENGILITY CORPORATION / BILLERICA, MA	12.300	PO-0016726	-	38,393 1,483
ENGILITY CORPORATION / BILLERICA, MA	12.300	PO-0017110	-	(12,823
ENGILITY CORPORATION / BILLERICA, MA	12.300	PO-0017302	-	225,365
FLORIDA STATE UNIVERSITY/TALLAHASSEE, FLA	12.300	R02079	-	22,997
GIRD SYSTEMS INC./CINCINATTI, OH	12.300	M67854-18-P-6537		6,337
INNOVEERING LLC./RONKONKOMA, NY	12.300	AGT DTD NOV 1, 2017	_	10,061
J.F. TAYLOR INC./LEXINGTON PARK, MD	12.300	205576	-	10,00
JACOBS TECHNOLOGY INC/FT. WALTON BEACH, FL	12.300	1172-384-15-03	-	319,570
JACOBS TECHNOLOGY INC/FT. WALTON BEACH, FL	12.300	NTP 9/8/17	-	95,263
LEIDOS INC	12.300	P010217707	-	22,950
LEIDOS INC	12.300	P010217707	-	78,593
	12.300	AGR DTD 12/19/16	-	39,199
LUNA INNOVATIONS/BLACKBURG, VA		N68335-18-C-0402	_	44 47
LUNA INNOVATIONS/BLACKBURG, VA LUNA INNOVATIONS/BLACKBURG, VA	12.300	N68335-18-C-0402 7500159934	- -	
LUNA INNOVATIONS/BLACKBURG, VA	12.300 12.300	7500159934	- -	1,406,177
LUNA INNOVATIONS/BLACKBURG, VA LUNA INNOVATIONS/BLACKBURG, VA NORTHROP CORPORATION/	12.300		- - -	44,423 1,406,177 610 (1,082

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Federal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
PURDUE UNIVERSITY/WEST LAFAYETTE. IN	12.300	4104-85873		264
RAYTHEON	12.300	4201706984	-	2,860
RAYTHEON COMPANY/INDIANAPOLIS,IN	12.300	4201913471	-	102,991
RICE UNIVERSITY/HOUSTON, TEXAS	12.300	R18684	-	257,820
SAIC	12.300	P010236291	-	388,325
SAIC	12.300	P010238931	-	320,680
SOAR TECHNOLOGY INC/ANN ARBOR, MI	12.300	AGR DTD 05/26/17	-	38,738
SOAR TECHNOLOGY INC/ANN ARBOR, MI	12.300	SC-18-015	-	55,652
SOAR TECHNOLOGY INC/ANN ARBOR, MI TEKLA RESEARCH INC/DUMFRIES, VA	12.300 12.300	SC-19-005 TRI-18-007	-	46,422 28,913
TUFTS UNIVERSITY/MEDFORD, MA	12.300	ONR029	-	155,790
TYBRIN CORPORATION/FT. WALTON BEACH, FL	12.300	CES-III-13-043	_	915,949
UNIV OF CALIFORNIA/SAN DIEGO/LAJOLLA, CA	12.300	43019109	-	99,951
UNIV OF WASHINGTON/SEATTLE, WA	12.300	#UWSC9065	-	99,667
UNIVERSITY OF CALIFORNIA/SAN DIEGO,CA	12.300	#108547341	-	11,940
UNIVERSITY OF CONNECTICUT/STORRS, CT	12.300	176432	-	152,237
UNIVERSITY OF CONNECTICUT/STORRS, CT	12.300	184733	-	428,777
UNIVERSITY OF MARYLAND/COLLEGE PARK, MD	12.300	43832-Z8995001	-	78,015
UNIVERSITY OF SOUTH CAROLINA/COLUMBIA, SC	12.300	18-3437	-	39,902
UNIVERSITY OF SOUTHERN CALIFORNIA/LOS ANGELES, CA UNIVERSITY OF VIRGINIA/CHARLOTTESVILLE, VA	12.300 12.300	51110592 GG12136.159334	-	41,623
WAKE FOREST UNIVERSITY	12.300	#330607	-	114,548 92,321
ZETA ASSOCIATES INC//FAIRFAX, VA	12.300	990051SC-GTARC-01	_	270,148
Total Department of the Navy	12.000	03003100-017410-01	14,681,960	61,812,413
Department of the Air Force				
Basic and Applied Scientific Research	12.300		-	3,419,489
Basic, Applied, and Advanced Research in Science and Engineering	12.630		936,994	8,068,964
Air Force Defense Research Sciences Program	12.800 12.901		54,825,115	204,492,381
Mathematical Sciences Grants Research and Technology Development	12.910		294,306	35,750 1,008,389
Basic Scientific Research	12.510		294,300	1,000,309
Passed through from:				
SCIENTIFIC RESEARCH CORP/ATLANTA, GA	12.431	SR20180211 (JP03)	_	2
SCIENTIFIC RESEARCH CORP/ATLANTA, GA	12.431	SR20180865	-	256,207
Air Force Defense Research Sciences Program				
Passed through from:				
AGING AIRCRAFT CONSULTING LLC/WARNER ROBINS, GA	12.800	AGR DTD 10/02/2017	-	78,862
ALION SCIENCE AND TECHNOLOGY CORP/MCLEAN, VA	12.800	SUB1148651-002	-	86,694
APPLIED RESEARCH SOLUTIONS/BEAVERCREEK,OH ATA AEROSPACE LLC	12.800 12.800	00115 FA9453-12-D-0285	-	97,295 52,422
ATC MATERIALS/WESTLAKE, OH	12.800	FA8651-18-P-0054	-	41,986
ATK ALLIANT TECHSYSTEMS INC/PLYMOUTH, MN	12.800	MP00175454	_	159
AURA TECHNOLOGIES LLC./RALEIGH, NC	12.800	AGR DTD 11/14/17	_	11,234
AURORA FLIGHT SCIENCES/MANASSAS, VA	12.800	AVA-18-0012	_	121,148
AZIMUTH CORPORATION/BEAVERCREEK, OH	12.800	238-5404-GIT2	-	112,432
BAE SYSTEMS/NASHUA, NH	12.800	994129	-	401,648
BERRIEHILL RESEARCH CORP/DAYTON, OH	12.800	2204	-	(302)
BINGHAMTON UNIVERSITY/BINGHAMTON, NY	12.800	77723/1138629	-	144,624
BINGHAMTON UNIVERSITY/BINGHAMTON, NY	12.800	81628/1147215-2	-	52,922
BOEING COMMERC AIRPLANE/	12.800	1636529	-	83,995
BOEING/PHANTOM WORKS BERKELEY, MO	12.800	1404360	-	148,663
BOOZ, ALLEN AND HAMILTON INC BOOZ, ALLEN AND HAMILTON INC	12.800 12.800	106445SB18 106445SB18/TO 3	-	517,750 361,680
CFD RESEARCH CORPORATION/HUNTSVILLE, AL	12.800	FA945318P0238	_	65,000
CLARKSON AEROSPACE/HOUSTON, TX	12.800	13-S7700-02-C2	_	100,912
CLEAR CREEK APPLIED TECHNOLOGIES/FAIRBORN, OH	12.800	4050-015-01-015	-	123
CLEAR CREEK APPLIED TECHNOLOGIES/FAIRBORN, OH	12.800	4050-015-01-021	-	1,891
COMBUSTION RESEARCH AND FLOW TECHNOLOGY INC / HUNTSVILLE, AL	12.800	AGT DTD NOVEMBER 27, 2017	-	58
CORVID TECHNOLOGIES/MOORESVILLE, NC	12.800	FA8650-18-P-5047	-	41,675
EXOANALYTIC SOLUTIONS/MISSION VIEJO, CA	12.800	AGT DTD APRIL 20, 2018	-	54,609
FLEXTECH ALLIANCE INC/SAN JOSE, CA	12.800	3	83,055	374,113
FLORIDA INTERNATIONAL UNIVERSITY/MIAMI, FL	12.800	800009491-01UG	-	111,856
FREEDOM PHOTONICS/SANTA BARBARA, CA	12.800	NA SUMMERTE AS	-	45,000
HEWLETT PACKARD ENTERPRISE COMPANY/PALO ALTO, CA	12.800	CW2275049	-	96,266
IMPACT TECHNOLOGIES LLC/ROCHESTER, NY	12.800	S1309A	-	1,065
INFOSCITEX CORPORATION/DAYTON, OH INNOVATIVE ADVANCED MATERIALS INC/HAMPTON, GA	12.800 12.800	FA865015D2516 AGT DTD AUGUST 25, 2017	-	181,803 194,318
INNOVATIVE ADVANCED MATERIALS INC/HAMPTON, GA INNOVATIVE SCIENTIFIC SOLUTIONS INC (ISSI)/DAYTON, OH	12.800	FA650-19-P-2026	-	194,318
SVATIVE COLETTI TO COLOTTONO INO (1001)/DAT TON, OT	12.000	130186	-	11,700

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

ederal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
JT4-LLC/LAS VEGAS, NV	12.800	FA8240-18-C-7218	_	8,223
KARAGOZIAN AND CASE STRUCTURAL ENGINEERS/GLENDALE, CA	12.800	AGT DTD DECEMBER 23, 2016	-	113,118
LINCOLN LABORATORY/MASSACHUSETTS INST OF TECH	12.800	7000437192	-	69,038
LOCKHEED MARTIN/FORT WORTH,TX	12.800	6574008559	-	965,493
LOCKHEED MARTIN/KING OF PRUSSIA, PA	12.800	4103577628	-	26,245
LUNA INNOVATIONS/BLACKBURG, VA	12.800	3660-AFR-1S/GTARC	-	6,055
LUNA INNOVATIONS/BLACKBURG, VA MASSTECH INC./COLUMBIA,MD	12.800 12.800	FA8650-18-P-5043 FA8650-17-C-9104-GT	-	14,967 817
MATRIX RESEARCH AND ENGINEERING / DAYTON, OH	12.800	ESCE-002	-	313,544
MATRIX RESEARCH AND ENGINEERING / DAYTON, OH	12.800	S-2014-011-02-03	-	146,865
MATRIX RESEARCH AND ENGINEERING / DAYTON, OH	12.800	S-2014-011-02-04	-	163,209
MATRIX RESEARCH AND ENGINEERING / DAYTON, OH	12.800	TASK ORDER 02	-	305,227
MTECH/LEONARDTOWN,MD	12.800	N000197248P800	-	72,746
NEXTFLEX/SAN JOSE, CA	12.800	AGREEMENT DATED 21-FEB-2017	149,957	185,058
NORTHROP CORPORATION/	12.800	FA8720-10-D-0001	-	356,363
NORTHROP CORPORATION/	12.800	MP00214577	-	15,652
NORTHROP GRUMMAN SYSTEMS CORP/MCLEAN, VA OHIO AEROSPACE INSTITUTE/CLEVELAND, OH	12.800 12.800	7500157027 OAI-PACE-17005 MOD#002	-	237,573 110,735
OPTOXENSE INC./SAN RAMON, CA	12.800	FA8650-18-P-2139	-	99,990
PENNSYLVANIA STATE UNIV/UNIV PARK, PA	12.800	4791-GIT-AFOSR-0004	-	107,012
PENNSYLVANIA STATE UNIV/UNIV PARK, PA	12.800	5676-GTRC-AFOSR-0017	-	177,21
PRATT & WHITNEY AIRCRAFT/	12.800	24102 TASK 24	_	119,134
PURDUE UNIVERSITY	12.800	#13000716-051	-	9,850
RAYTHEON/BBN SYSTEM AND TECHNOLOGIES/CAMBRIDGE, MA	12.800	14787	-	649,39
RELIANCE TEST AND TECHNOLOGY/HOLLOMAN, AFB, NM	12.800	R17N0095	-	28,19
ROCCOR/LONGMONT	12.800	FA8650-18-P-9211	-	5,88
SARA/CYPRESS, CA	12.800	ATP DTD 3/20/19	-	358,59
SCIENTIFIC RESEARCH CORP/ATLANTA, GA	12.800	TO SR20171847	-	1,34
SENTAR INC./HUNTSVILLE, AL SOSSEC/ATKINSON,NH	12.800 12.800	AGR DTD 04/12/17 1 (PLA-0011)	-	45,669 23,829
SOSSEC/ATKINSON,NH	12.800	PLA-0011)	26,500	156,35
SOUTHWEST RESEARCH INSTITUTE/	12.800	J99080CT	-	66,483
SPECTRAL ENERGIES LLC / DAYTON, OH	12.800	FA8650-18-C-2001	-	39,20
SPECTRAL ENERGIES LLC / DAYTON, OH	12.800	SB1717-001-1	-	67,84
SPECTRAL ENERGIES LLC / DAYTON, OH	12.800	SB1819-001-1	-	52,91
SSAI/MELBOURNE, FL	12.800	DESP-093-RJ02-01	-	12,688
STATE UNIV OF NEW YORK/ALBANY, NY	12.800	AGR DTD 3/16/2017	-	83,400
SURVICE ENGINEERING CO/BELCAMP, MD	12.800	LTR SUBCONTRACT DTD 6/25/14	-	27,558
TREX ENTERPRISES	12.800	102963	-	37,000
UES INC UES INC/DAYTON, OH	12.800 12.800	S-953-21-MR019 S-111-048-001	-	80,000 32,610
UES INC/DAYTON, OH	12.800	S-124-001-004		155,292
UES INC/DAYTON, OH	12.800	S-953-21-MR015	-	94,073
UES INC/DAYTON, OH	12.800	S-953-21-MR016	-	174,675
UES INC/DAYTON, OH	12.800	S-977-028-003	-	31,16
UNITED TECHNOLOGY CORPORATION/DAYTON,OH	12.800	17-S8602-02-C3	-	5,549
UNIV OF CENTRAL FL/	12.800	287381	-	325,408
UNIVERSAL TECHNOLOGY CORP/ DAYTON, OH	12.800	165852-18F5828-19-16-C1	-	5,322
UNIVERSAL TECHNOLOGY CORP/ DAYTON, OH	12.800	17-S7700-01-C4	-	121,489
UNIVERSAL TECHNOLOGY CORP/ DAYTON, OH	12.800	17-S8401-03-C1	-	105,545
UNIVERSAL TECHNOLOGY CORP/ DAYTON, OH UNIVERSITY OF CALIFORNIA/SANTA BARBARA,CA	12.800	18-7900-0008-38-C11 #KK1912	-	17,43
UTAH STATE UNIVERSITY/LOGAN, UTAH	12.800 12.800	#KK1912 CP0043229	-	59,54° 2,080
VERUS RESEARCH/ALBUQUERQUE, NM	12.800	AGT DTD AUGUST 9, 2018	-	53,605
WANG ELECTRO-OPTO CORPORATION/MARIETTA, GA	12.800	FA8651-17-C-0042	-	37,68
WYLE LABORATORIES/	12.800	APSC02292	-	35,82
WYLE LABORATORIES/	12.800	LXS005518		11,80
tal Department of the Air Force			56,315,927	227,603,14
epartment of Defense Basic and Applied Scientific Research	12.300		610,139	19,415,60
Basic Scientific Research - Combating Weapons of Mass Destruction	12.351		561,758	2,027,72
Basic Scientific Research	12.431			753,49
Basic, Applied, and Advanced Research in Science and Engineering	12.630		3,152,209	95,637,96
	12.910			1,664,042

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Federal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
Basic and Applied Scientific Research				
Passed through from: DYNETICS INCORPORATED//HUNTSVILLE, AL	12.300	DI-SC-17-22-NTP		(275)
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.300	DI-SC-18-64	-	619,985
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.300	DI-SC-19-40/TO 0001	-	675,771
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.300	HHM402-15-D-0004	-	195,901
Basic Scientific Research - Combating Weapons of Mass Destruction				
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	12.351	A008117	-	176,844
MONTEREY INSTITUTE OF INTERNATIONAL STUDIES/MONTEREY,CA Military Medical Research and Development	12.351	DTRA GTARC 1	-	19,225
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	12.420	A083981	-	39,311
MISSISSIPPI STATE UNIVERSITY/MISSISSIPPI STATE, MS	12.420	183905.310605.01	-	9,579
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	12.420	084199-16474	-	33,753
Basic Scientific Research				
Passed through from:	10.101	405054		0.500
METOVA FEDERAL LLC./CABOT, AR Basic, Applied, and Advanced Research in Science and Engineering	12.431	135954	-	2,539
Passed through from:				
ALION SCIENCE AND TECHNOLOGY CORP/MCLEAN, VA	12.630	SUB1148651-001 TO NO. 001	_	411,828
ATC-NY INC/ITHACA, NY	12.630	W56LGU-16-C-0083	-	23,932
BAE SYSTEMS / BURLINGTON, MA	12.630	ADV PROJECT FORM 10/31/2018	-	639,060
BAE SYSTEMS/NASHUA, NH	12.630	957935	-	1,532
BAE SYSTEMS/NASHUA, NH	12.630	992051	-	242,525
BAE SYSTEMS/NASHUA, NH	12.630	AGR DTD 11/15/2018	-	39,983
BOEING/MESA, AZ CALIFORNIA INSTITUTE OF TECH	12.630 12.630	1542655 S404649	-	2,139 67,699
CAMBRIDGE SYSTEMATICS INC./RALEIGH, NC	12.630	TBD TASK ORDER # 2	-	(1,180)
CFD RESEARCH CORPORATION/HUNTSVILLE, AL	12.630	20180196	-	159,081
CHARLES RIVER ANALYTICS INC / CAMBRIDGE, MA	12.630	140D0419C0048	-	60,646
CHARLES RIVER ANALYTICS INC / CAMBRIDGE, MA	12.630	IARPA-BAA-17-08	-	60,803
DOOLITTLE INSTITUTE/TAMPA, FL	12.630	138132	-	17,621
DUKE UNIVERSITY/DURHAM, NC	12.630	313-0639	-	95,102
DYNETICS INCORPORATED//HUNTSVILLE, AL DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630 12.630	DI-SC-15-05 TASK ORDER NO 06 DI-SC-15-05 TASK ORDER NO 08	-	87,567 5,970
DYNETICS INCORPORATED//HUNTSVILLE, AL DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630	DI-SC-15-05 TASK ORDER NO 08	-	930,967
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630	DI-SC-15-05/TO7	-	17,376
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630	DI-SC-16-01 TASK ORDER 81	-	232,165
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630	DI-SC-16-01 TO 117	-	117,338
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630	DI-SC-16-01 TO 128	-	221,403
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630	DI-SC-16-01 TO 129	-	121,763
DYNETICS INCORPORATED//HUNTSVILLE, AL DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630 12.630	DI-SC-16-01/TO 101 DI-SC-16-01/TO 72	-	154,454 372
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630	DI-SC-16-01/TO 73	-	116,968
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630	DI-SC-16-01/TO 74	-	(1,722)
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630	DI-SC-16-01/TO 76	-	5,407
DYNETICS INCORPORATED//HUNTSVILLE, AL	12.630	DI-SC-16-01/TO 91	-	321,514
DZYNE TECHNOLOGIES INC./IRVINE, CA	12.630	DRP006-SUB_GT001; PHASE 2	-	66,232
EMORY UNIVERSITY/ATLANTA, GA	12.630	T803614	-	178,574
ENGILITY CORPORATION / BILLERICA, MA	12.630	PO-0016317	-	722
EXCET INC/SPRINGFIELD, VA	12.630	PO 7607 3501700183E	-	39,999 276,060
HONEYWELL INC/ JACOBS SVERDRUP ADVANCED SYSTEMS GROUP/FORT WALTON BEACH, FL	12.630 12.630	1153-01-01	-	47,966
LEIDOS INC	12.630	10170252-1	_	99
LEIDOS INC	12.630	AGR DTD 09/21/2018	-	5,119
LEIDOS INC	12.630	P010192863	-	1,571,137
LOCKHEED MARTIN/ORLANDO, FL	12.630	4103970772	-	77,919
MACAULEY-BROWN INC/	12.630	DSC2134-01	-	133,781
MICROSEMI CORPORATION/ALISO VIEJO,CA MIDDLEBURY INSTITUTE OF INTERNATIONAL STUDIES/MONTEREY.CA	12.630	PB92205BV CWMD-GTARC 1	-	779,979
MORSECORP INC./CAMBRIDGE, MA	12.630 12.630	ICARUS-2-01	-	37,700 48,051
MORSECORP INC./CAMBRIDGE, MA	12.630	ICARUS-3-01	-	103,987
NATIONAL CENTER FOR MANUFACTURING SCIENCES / ANN ARBOR, MI	12.630	201726-130194	-	41,525
NORTHROP GRUMMAN SYSTEMS CORP/EL SEGUNDO,CA	12.630	8140000981	-	421,114
NOVATEUR RESEARCH SOLUTIONS/LEESBURG, VA	12.630	SUBK-NGA172-003	-	52,458
OCEUS NETWORKS/RESTON, VA	12.630	P100	-	1,694,917
OHIO STATE UNIVERSITY/COLUMBUS, OH	12.630	60063184 (FORMERLY 60057838)	-	126,687
PHOSPHOR TECH CORPORATION/MABLETON, GA	12.630	AGE DTD 03/10/16	-	225,517
PHOSPHOR TECH CORPORATION/MABLETON, GA	12.630	AGR DTD 8/4/2017	-	188,255

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Federal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
POLY-ORTH INTERNATIONAL/SHARON, MA	12.630	AGRMT DTD 12/23/16	27,694	135,930
QUANTITECH INC/HUNTSVILLE, AL	12.630	47QFSA18F0005		49,952
RADIANCE TECHNOLOGIES/HUNTSVILLE, AL	12.630	16S-3074	-	125,528
RAYTHEON	12.630	0010102015	-	726
RAYTHEON	12.630	4201579340	-	22
SAIC	12.630	4600005751/4	-	29,684
SAIC	12.630	PO10105875	-	(406)
SIEMENS CORPORATE RESEARCH/PRINCETON, NJ	12.630	GRP122-01	-	65,047
SMARTRONIX INC./HOLLYWOOD, MD	12.630	17R14S, TASK ORDER #01	-	2,855,341
SPACE DYNAMICS LAB/LOGAN, UTAH	12.630	CP0053206	-	93,238
SPACEWORKS ENTERPRISES/ATLANTA, GA	12.630	AGT DTD APR 9, 2018	-	25,269
STEVENS INST OF TECHNOLOGY/	12.630	2102748-03 RT 182	-	23,391
STEVENS INST OF TECHNOLOGY/	12.630	2102765-01	-	16,069
STEVENS INST OF TECHNOLOGY/	12.630	2102816-01	-	47,651
STEVENS INST OF TECHNOLOGY/	12.630	2102848-01	-	197,393
STEVENS INST OF TECHNOLOGY/	12.630	2102876-02	-	36,548
STEVENS INST OF TECHNOLOGY/	12.630	HQ003418F0089 RT 195	-	48,865
STEVENS INST OF TECHNOLOGY/	12.630	TO # HQ003417F0283, RT-181	-	(12)
STEVENS INST OF TECHNOLOGY/	12.630	TO# HQ003417F0300, RT-182	-	(19,958)
SYRACUSE RESEARCH CORPORATION/SYRACUSE, NY	12.630	SCWM00707	-	30,764
SYSTEM HIGH/ ARLINGTON, VA	12.630	DAR 621	-	57,298
SYSTEM HIGH/ ARLINGTON, VA	12.630	HR0011-17-F-0001 AID-OAA I-14-00068/TO-16-00016	-	34,041
TETRA TECH INC (HEADQUARTERS)/PASADENA CA	12.630	0320170002	-	27,455
UI LABS/CHICAGO, IL	12.630 12.630	0320170002	-	28,948
UI LABS/CHICAGO, IL			-	125,092
UNIVERSITY OF CALIFORNIA/BERKELEY, CA UNIVERSITY OF NOTRE DAME/SOUTH BEND, IN	12.630 12.630	00010037 #203278GT-BAKIR	-	9,072 200,997
UNIVERSITY OF NOTRE DAME/SOUTH BEND, IN	12.630	203278GT-BARIK 203278GT-KHAN	-	267,670
UNIVERSITY OF NOTRE DAME/SOUTH BEND, IN	12.630	203278GT-NAEEMI	-	227,505
UNIVERSITY OF NOTRE DAME/SOUTH BEND, IN	12.630	208107GT	_	455,729
UNIVERSITY OF PENNSYLVANIA/PHILADELPHIA, PA	12.630	575015	-	153,970
UTAH STATE UNIVERSITY/LOGAN, UTAH	12.630	CP0049402	_	27,537
WEST COAST SOLUTIONS/HUNTINGTON BEACH, CA	12.630	AGR DTD 4-20-18		22,867
Research and Technology Development	12.000	NOIN D 10 4-20-10		22,001
Passed through from:				
EMORY	12.910	T680127	_	164,253
GENERAL DYNAMICS/	12.910	02ESM1022277	_	763,876
IBM Thomas J. Watson Research Center	12.910	5004876066	_	169,724
RUTGERS UNIVERSITY/PISCATAWAY, NJ	12.910	SUB00000007 PO# 624585	-	11,618
SIEMENS CORPORATE RESEARCH/PRINCETON, NJ	12.910	126-003	-	334,723
SRI INTERNATIONAL	12.910	206-000114	-	125,340
TELEDYNE SCIENTIFIC & IMAGING LLC/THOUSAND OAKS, CA	12.910	PO00143792	-	66,262
UNIVERSITY OF CALIFORNIA/BERKELEY, CA	12.910	#00009974	-	72,519
University of Colorado	12.910	FY18.920.001	-	377,278
Fotal Department of Defense			4,351,800	139,026,389
·				
Department of the Interior				
Wildland Fire Research and Studies	15.232		-	23,606
Assistance to State Water Resources Research Institutes	15.805		36,852	103,717
Cooperative Research and Training Programs Resources of the National Park System	15.945		-	13,233
Research Grants (Generic)				
Passed through from:				
GALLUP/WASHINGTON, DC	15.650	D17PC00002	-	311,958
Earthquake Hazards Program Assistance				
Passed through from:				
UNIVERSITY OF SOUTHERN CALIFORNIA/LOS ANGELES,CA	15.807	104713868		27,386
Total Department of the Interior			36,852	479,900
Department of Justice	10.500		0.4=+	040.001
National Institute of Justice Research, Evaluation, and Development Project Grants	16.560		2,174	312,091
Edward Byrne Memorial Justice Assistance Grant Program	16.738		-	155,124
Regional Information Sharing Systems				
Passed through from:	40.040	004.08.0704		440
CRIMINAL INFORMATION SHARING ALLIANCE/FOLSOM, CA Fotal Department of Justice	16.610	001-98-07SA	2,174	443 467,658
our population of subtree			2,174	407,058
Department of Labor				
Occupational Safety and Health-Susan Harwood Training Grants	17.502		-	121,576

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Federal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Passed Through to Subrecipient	Federal Expenditures
_				
Department of Transportation	00.400			044.740
Aviation Research Grants	20.108 20.109		3,272	314,710 1,544,218
Air Transportation Centers of Excellence Highway Planning and Construction	20.109		24,933	1,544,216
Highway Fraining and Constitution	20.205		24,933	4,999
Biobased Transportation Research	20.724		-	46,437
Research Grants	20.762		_	363,156
Aviation Research Grants				,
Passed through from:				
NATIONAL INSTITUTE OF AEROSPACE/HAMPTON, VA	20.108	X16-8329-GTRC	-	28,683
Highway Planning and Construction				
Passed through from:				
ICF INCORPORATED	20.205	17ANSK0018	-	32,537
University Transportation Centers Program				
Passed through from:				
MISSOURI UNIVERSITY OF SCIENCE	20.701	00055082-02C	-	61,929
MISSOURI UNIVERSITY OF SCIENCE & TECHNOLOGY/ROLIA, MO	20.701	00055082-02A	-	51,225
MISSOURI UNIVERSITY OF SCIENCE & TECHNOLOGY/ROLIA, MO	20.701	00055082-02B	-	80,373
TEXAS A & M UNIVERSITY/COLLEGE STATION, TX	20.701	12-S171237	-	189,678
UNIVERSITY OF FLORIDA/	20.701	UFDSP00011673	-	12,000
UNIVERSITY OF TEXAS AT ARLINGTON/ARLINGTON, TX	20.701	CTEDD 017-02; TO# 2A	-	12,503
UNIVERSITY OF TEXAS AT ARLINGTON/ARLINGTON, TX	20.701	CTEDD 017-03; TO# 2B	-	37,063
UNIVERSITY OF TEXAS AT ARLINGTON/ARLINGTON, TX	20.701	CTEDD 017-04; TO #2C	-	6,410
UNIVERSITY OF TEXAS AT ARLINGTON/ARLINGTON, TX	20.701	CTEDD 018-02	-	12,672
Research Grants				
Passed through from: AMERICAN PLANNING ASSOCIATION/WASHINGTON, DC	20.762	AGMT DTD 7/24/18		51,717
ARIZONA STATE UNIVERSITY/TEMPE, AZ	20.762	17-166	-	407,776
BOOZ, ALLEN, HAMILITON INC.	20.762	S901463BAH	-	98,504
CREARE INC/HANOVER, NH	20.762	6913G618C100008	-	516
HDR ENGINEERING INC/PITTSBURGH, PA	20.762	PO#1000100006996		25,000
NATL ACADEMY OF SCIENCES/	20.762	HR-01-60	9,997	99,856
TRANSPORTATION RESEARCH BOARD/WASHINGTON, DC	20.762	HR 08-102 ITEM 12		19,313
TRANSPORTATION RESEARCH BOARD/WASHINGTON, DC	20.762	NCHRP-214	_	32,618
TRANSPORTATION RESEARCH BOARD/WASHINGTON, DC	20.762	TCRP J-11(028)	_	60,000
UNIVERSITY OF CALIFORNIA/DAVIS, CA	20.762	201302432-04; PO# 38352	_	47,900
UNIVERSITY OF CALIFORNIA/DAVIS, CA	20.762	A17-0183-S002	_	405,521
UNIVERSITY OF FLORIDA	20.762	UFDSP00011673 AMEND. 5	-	11,308
UNIVERSITY OF FLORIDA/	20.762	AMEND #6 (UFDSP00011673	-	23,254
UNIVERSITY OF FLORIDA/	20.762	AMEND #7 (UFDSP00011673)	=	38,398
UNIVERSITY OF FLORIDA/	20.762	PROJECT A2: UFDSP00011673	=	85,000
UNIVERSITY OF FLORIDA/	20.762	UFDSP00011673 - PROJECT Q2	-	1,049
UNIVERSITY OF FLORIDA/	20.762	UFDSP00011673 (AMEND 4)	-	68,492
UNIVERSITY OF FLORIDA/	20.762	UFDSP00011673-AMEND 1	-	10,108
UNIVERSITY OF TEXAS AT ARLINGTON/ARLINGTON, TX	20.762	CTEDD 018-07	-	34,367
UNIVERSITY OF TEXAS AT ARLINGTON/ARLINGTON, TX	20.762	CTEDD 018-08		35,825
Total Department of Transportation			38,202	4,459,350
National Aeronautics and Space Administration				
Science	43.001		2,000,265	9,117,387
Aeronautics	43.002		101,436	884,286
Exploration	43.003		228,768	617,987
Education	43.008		322,802	461,186
Cross Agency Support	43.009		-	109,674
Space Technology	43.012		13,406	1,043,469
Science				
Passed through from:		45044 2272		
AURORA FLIGHT SCIENCES/CAMBRIDGE, MA	43.001	AFSA4-2379	-	13,150
FLORIDA INTERNATIONAL UNIVERSITY/MIAMI, FL	43.001	800007887-01UG	-	119,615
HARVARD UNIVERSITY/BOSTON, MA	43.001	TM7-18008X	-	67,717
JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001	1570950	-	44,545
JET PROPULSION LAB/CALIFORNIA INST. OF TECH JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001	1586278	44.044	53,367
	43.001	1586691	11,211	21,557
JET PROPULSION LAB/CALIFORNIA INST. OF TECH JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001 43.001	1587199 1587222	-	951 7,852
JET PROPULSION LAB/CALIFORNIA INST. OF TECH JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001	1587222	-	7,852 7,677
JET PROPULSION LAB/CALIFORNIA INST. OF TECH JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001	1587288	-	21,995
ULT THOS DEGICIN EAD/OALII OMNIA INGT. OF TECH			-	10,373
	43 nn1			
JET PROPULSION LAB/CALIFORNIA INST. OF TECH JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001 43.001	1596803 1609494	-	49,263

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

ederal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001	1614730	_	13,845
JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001	1614809	_	6,749
JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001	1616612	-	70,882
JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001	1619992	-	24,933
JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001	1626782	-	6,804
JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001	1627916	-	24,979
JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.001	1627988	-	1,116
MASSACHUSETTS INST OF TECH (MIT)/CAMBRIDGE, MA	43.001	5710004050	-	202,474
NATIONAL INSTITUTE OF AFROSPACE/HAMPTON, VA	43.001	601025	-	256,798
NATIONAL INSTITUTE OF AEROSPACE/HAMPTON, VA PENNSYLVANIA STATE UNIV/UNIV PARK, PA	43.001 43.001	601050 5953-GTRC-NASA-B50G	-	118,053 31,481
SOUTHWEST RESEARCH INSTITUTE/	43.001	699054X/15.12029	-	165,006
UCLA/LOS ANGELES, CA	43.001	2090-S-RB151	-	68,129
UNIVERSITY OF CALIFORNIA RIVERSIDE/RIVERSIDE, CA	43.001	S-000728	_	277,597
UNIVERSITY OF CALIFORNIA/BERKELEY, CA	43.001	00009623	-	95,141
YALE UNIVERSITY/NEW HAVEN, CT	43.001	C16N12519 (CON80001051)	_	50,449
Aeronautics				,
Passed through from:				
ADVANCED ROTORCRAFT TECHNOLOGY INC./SUNNYVALE, CA	43.002	AGT DTD AUG 19, 2016	-	76,237
BOOZ, ALLEN AND HAMILTON INC	43.002	S900016BAH	-	680,272
CENTER FOR THE ADVANCEMENT OF SCIENCE IN SPACE (CASIS)/EXPLORATION PARK, FL	43.002	GA-2019-001	-	77,539
CROWN CONSULTING INC	43.002	TASK ORDER NO. 6	-	8,021
CROWN CONSULTING INC/ARLINGTON,VA	43.002	G025-GATECH-001 TO 03	-	83,632
CROWN CONSULTING INC/ARLINGTON,VA	43.002	G025-GATECH-001 TO 04	-	124,921
CROWN CONSULTING INC/ARLINGTON,VA	43.002	TASK ORDER 02	-	213,795
CROWN CONSULTING INC/ARLINGTON,VA	43.002	TASK ORDER 03	-	32,323
CROWN CONSULTING INC/ARLINGTON,VA	43.002	TASK ORDER NO. 02	-	67,735
DNC PARKS & RESORTS AT KSC INC./KENNEDY SPACE CENTER, FL	43.002	13410-2	-	295,263
DNC PARKS & RESORTS AT KSC INC./KENNEDY SPACE CENTER, FL	43.002	TO 1 DTD 11/18/15	-	379,238
IRVINE SENSORS CORPORATION/COSTA MESA, CA	43.002	80NSSC18C0087	-	65,862
IRVINE SENSORS CORPORATION/COSTA MESA, CA	43.002	AGT DTD OCT 5, 2017	-	119,717
JACOBS ENGINEERING GROUP	43.002	80MSFC18C0011	-	41,155
JACOBS ENGINEERING GROUP	43.002	PO #18N0758	-	38,231
JET PROPULSION LAB/CALIFORNIA INST. OF TECH	43.002	1562787	-	1,423
JOHNS HOPKINS APPLIED PHYSICS LAB/LAUREL, MD JOHNS HOPKINS APPLIED PHYSICS LAB/LAUREL, MD	43.002 43.002	134620 PROJECT # 1GA02 MSA # 115841	-	5,807 72,322
MAGNOLIA OPTICAL TECHNOLOGIES INC/WOBURN, MA	43.002	80NSSC18C0093	-	130,612
NATIONAL INSTITUTE OF AEROSPACE/HAMPTON, VA	43.002	601036	-	639,231
NATIONAL INSTITUTE OF AEROSPACE/HAMPTON, VA	43.002	601047	_	45,463
NATIONAL INSTITUTE OF AEROSPACE/HAMPTON, VA	43.002	601052	-	21,229
OEWAVES INC./PASADENA, CA	43.002	60NSSC18P2149	-	62,237
OHIO STATE UNIVERSITY	43.002	60061601	_	319,402
PURDUE UNIVERSITY/WEST LAFAYETTE, IN	43.002	4103-83991	-	12,769
ROLLS-ROYCE	43.002	5100002879	-	32,301
SANDIA NATL LABS/SANDIA CORP	43.002	2005349	-	13,896
SETI INSTITUTE	43.002	SC3131	-	40,907
SPACE DYNAMICS LAB/LOGAN, UTAH	43.002	CP0055174	-	28,449
SPACE TELESCOPE SCIENCE INSTITUTE	43.002	HST-AR-143326.001	-	8,069
THE BOEING COMPANY/HUNTINGTON BEACH, CA	43.002	1435446	-	16,783
TRACLABS/WEBSTER,TX	43.002	AGT DTD AUG 25, 2017	-	99,691
UNIVERSITY OF COLORADO/BOULDER, CO	43.002	1554484	-	23,634
UNIVERSITY OF CONNECTICUT/STORRS, CT	43.002	106763	-	8,245
UNIVERSITY OF MINNESOTA/ST. PAUL, MN	43.002	H006201401	-	126,334
UNIVERSITY OF TEXAS AT AUSTIN/AUSTIN, TX	43.002	#133480	-	39,064
UNIVERSITY OF VIRGINIA/CHARLOTTESVILLE, VA	43.002	GD10052 152367	93,505	210,202
VERUS RESEARCH/ALBUQUERQUE, NM	43.002	80NSSC18P1931	-	14,470
XAVIER UNIVERSITY OF LA/NEW ORLEANS	43.002	OSP-15-216811-02A	-	169,856
Education Record through from:				
Passed through from:	42 000	201077 CTDC		47.500
NATIONAL INSTITUTE OF AEROSPACE/HAMPTON, VA	43.008	201077-GTRC	-	47,590 133,014
NATIONAL INSTITUTE OF AEROSPACE/HAMPTON, VA NATIONAL INSTITUTE OF AEROSPACE/HAMPTON, VA	43.008 43.008	201078-GTRC 201123-GTRC	-	133,014
NATIONAL INSTITUTE OF AEROSPACE/HAMPTON, VA NATIONAL INSTITUTE OF AEROSPACE/HAMPTON, VA	43.008	301001-GTRC	-	15,000 246,167
Space Technology	40.000	301001-GINC	-	240,107
Passed through from:				
MICHIGAN TECHNOLOGICAL UNIVERSITY/HOUGHTON, MICH	43.012	1607060Z4	_	134,836
otal National Aeronautics and Space Administration	10.012	.00.00024	2,771,393	19,164,636

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Federal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
The National Endowment for the Humanities				
Promotion of the Humanities Division of Preservation and Access	45.149		_	2,796
Promotion of the Humanities Research	45.161		_	50,400
Promotion of the Humanities Division of Preservation and Access				,
Passed through from:				
UNIVERSITY OF GEORGIA/ATHENS, GA	45.149	RR180-058/S001681	_	43,156
Total The National Endowment for the Humanities				96,352
National Science Foundation				
Engineering Grants	47.041		3,804,610	25,758,950
Mathematical and Physical Sciences	47.049		1,505,114	15,183,201
Geosciences	47.050		375,378	3,427,656
Computer and Information Science and Engineering	47.070		647,961	15,696,626
Biological Sciences	47.074		104,275	3,064,159
Social, Behavioral, and Economic Sciences	47.075		441	229,803
Education and Human Resources	47.076		277,755	9,891,632
Office of International Science and Engineering	47.079		-	144,941
Engineering Grants				
Passed through from:				
ARIZONA STATE UNIVERSITY	47.041	15-741	-	626,556
ARIZONA STATE UNIVERSITY/TEMPE, AZ	47.041	17-098	-	207,521
ARIZONA STATE UNIVERSITY/TEMPE, AZ	47.041	18-368	-	9,903
CITY COLLEGE OF NEW YORK/NEW YORK, NY	47.041	40B88-B	-	1,127
CLEMSON UNIVERSITY/CLEMSON, SC	47.041	1825-206-2010995	-	21,199
COLUMBIA UNIVERSITY/NEW YORK, NY	47.041	1(GG13910)	-	251,465
FLORIDA STATE UNIVERSITY/TALLAHASSEE, FLA	47.041	R01706	-	41,863
GEORGE WASHINGTON UNIVERSITY/WASHINGTON, DC	47.041	18-S10	-	58,675
HARVARD UNIVERSITY/BOSTON, MA	47.041	124050-5104116	-	36,481
JOHNS HOPKINS UNIV/BALTIMORE, MD	47.041	2004147329	-	1,328
LEADING EDGE CRYSTAL TECHNOLOGIES INC./GLOUCESTER, MA	47.041	AGREEMENT DATED AUG 28 2018	-	55,000
MASSACHUSETTS INST OF TECH (MIT)/CAMBRIDGE, MA	47.041	5710003968	250,205	1,179,646
MICHIGAN STATE UNIVERSITY/EAST LANSING, MI	47.041	RC104008GTRC PO# P0044575	-	5,179
MOREHOUSE COLLEGE/ATLANTA, GA	47.041 47.041	2017-2662-01	-	3,210
NORTH CAROLINA STATE UNIVERSITY/RALEIGH, NC STATE UNIV OF NEW YORK AT BINGHAMTON/BINGHAMTON, NY	47.041 47.041	73033	-	68,387 15,068
TEACHERS COLLEGE - COLUMBIA UNIVERSITY/NEW YORK, NY	47.041	513147	-	111,816
TEXAS A & M UNIVERSITY/COLLEGE STATION, TX	47.041	M1900051	-	24,567
UNIVERSITY OF CALIFORNIA/BERKELEY, CA	47.041	00009367	-	9,790
UNIVERSITY OF CALIFORNIA/IRVINE,CA	47.041	#2016-3324		12,841
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	47.041	#083276-16801	_	35,024
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	47.041	#083276-16803	-	73,296
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	47.041	078981-16550		20,353
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	47.041	083276-16293/GRANT CODE AC291	_	74,464
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	47.041	092559-17315		16,188
UNIVERSITY OF MASSACHUSETTS/LOWELL, MASSACHUSETTS	47.041	S58000041772GT1	_	23,534
UNIVERSITY OF MASSACHUSETTS/LOWELL, MASSACHUSETTS	47.041	S58000041772GT2	_	317
UNIVERSITY OF MASSACHUSETTS/LOWELL, MASSACHUSETTS	47.041	S58000041772GT3	_	13,364
UNIVERSITY OF MINNESOTA/MINNEAPOLIS, MN	47.041	A005261901	-	363,221
UNIVERSITY OF NEBRASKA/LINCOLN, NE	47.041	25-0521-0210-003	_	42,991
UNIVERSITY OF NEBRASKA/LINCOLN, NE	47.041	25-6221-0388-002	_	21,099
UNIVERSITY OF TEXAS AT AUSTIN	47.041	UTA15-001072	_	120,172
UNIVERSITY OF WASHINGTON	47.041	UWSC10741 BPO NO. 34658	_	97,635
Mathematical and Physical Sciences				,
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	47.049	A022614	-	373,354
EMORY UNIVERSITY/ATLANTA, GA	47.049	T820709	-	6,353
UNIV. OF WISCONSIN - TRACE CENTER/MADISON, WI	47.049	632K273	-	63,423
Geosciences				
Passed through from:				
ARIZONA STATE UNIVERSITY/TEMPE, AZ	47.050	18-369	-	4,966
DUKE UNIVERSITY/DURHAM, NC	47.050	#14-NSF-1074	-	107,538
NEW YORK UNIVERSITY/NEW YORK, NY	47.050	F0691-01	-	64,191
UNIVERSITY OF CALIFORNIA/SAN DIEGO,CA	47.050	83829300	-	28,950
UNIVERSITY OF GEORGIA	47.050	RR534-098 / S001108	-	8,511
UNIVERSITY OF NEW HAMPSHIRE/DURHAM, NH	47.050	#14-059	-	39,876
UNIVERSITY OF SOUTHERN CALIFORNIA/LOS ANGELES,CA	47.050	91270817		54,121

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Computer and Information Science and Engineering				
Passed through from:				
2M RESEARCH SERVICES LLC./ARLINGTON, TX	47.070	2017-NSF-10020	-	42,400
BARNARD COLLEGE/NEW YORK, NY	47.070	GT-1828168	-	83,473
COMPUTING RESEARCH ASSOCIATION/WASHINGTON, DC	47.070	CCC-GT-07012016	-	122,408
CONCORD CONSORTIUM	47.070	318.19.01	-	16,145
CORNELL UNIVERSITY/ITHACA, NY	47.070	72954-10595	-	85,440
EMORY UNIVERSITY/ATLANTA, GA	47.070	T674956	-	13,540
FLORIDA INTERNATIONAL UNIVERSITY/MIAMI, FL	47.070	800004907-02	-	220,244
MASSACHUSETTS INST OF TECH (MIT)/CAMBRIDGE, MA	47.070	5710004130	-	16,991
PEROXYGEN SYSTEMS INC/KNOXVILLE,TN	47.070	AGR DTD 12/11/17	-	16,315
SEARCH TECHNOLOGY INC/	47.070 47.070	1645237 PO28222	-	54,471
SRI INTERNATIONAL/ARLINGTON, VA UNIV OF NOTRE DAME/SOUTH BEND, IN	47.070 47.070	202917GT	-	5,223
UNIVERSITY OF ALABAMA/TUSCALOOSA, AL	47.070 47.070	A19-0027-S001	-	386,675 18,021
UNIVERSITY OF ALABAMAY TOSCALOOSA, ALL	47.070	A18-0027-3001 A18-0727-S001	-	14,723
UNIVERSITY OF CALIFORNIA/SANTA BARBARA,CA	47.070	KK1926	_	25,214
UNIVERSITY OF CONNECTICUT/STORRS, CT	47.070	177479	-	55,221
UNIVERSITY OF CONNECTION OF TORRAS, CT	47.070	083276-16241/GRANT CODE AC291	-	64,554
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	47.070	15832	_	326
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	47.070	# 083276-17230	_	22,993
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	47.070	#083276-17228	_	19,241
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	47.070	075958-16451	_	24,727
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL	47.070	083842-16099	_	268,192
UNIVERSITY OF ILLNOIS AT URBANA	47.070	2007-01077-59	_	(2,460)
UNIVERSITY OF MICHIGAN/	47.070	SUBK00009143	_	26,402
UNIVERSITY OF TEXAS AT AUSTIN/AUSTIN, TX	47.070	UTA17-001353	-	46,676
UNIVERSITY OF WASHINGTON/SEATTLE, WA	47.070	UWSC9939	_	83,759
UNIVERSITY OF WISCONSIN/MILWAUKEE, WI	47.070	183405342/144AAC6327	-	74,695
VIRGINIA TECH/BLACKSBURG, VA	47.070	480073-19034	-	3,707
Biological Sciences				
Passed through from:				
ARIZONA STATE UNIVERSITY/TEMPE, AZ	47.074	T.O. 1	-	158,102
EMORY UNIVERSITY/ATLANTA, GA	47.074	T806105	-	23,265
MONTANA STATE UNIVERSITY/BOZEMAN, MONTANA	47.074	G124-14-W4596	-	11,153
UNIVERSITY OF GEORGIA/ATHENS, GA	47.074	RR182-466/S001304;	-	163,920
Social, Behavioral, and Economic Sciences				
Passed through from:				
ARIZONA STATE UNIVERSITY/TEMPE, AZ	47.075	14-364	-	6,896
ARIZONA STATE UNIVERSITY/TEMPE, AZ	47.075	18-292	-	20,874
EMORY UNIVERSITY/ATLANTA, GA	47.075	T610300	-	83,157
SEARCH TECHNOLOGY INC/	47.075	STI-GTRC-18-1	-	39,905
Education and Human Resources				
Passed through from:		.=		
ARIZONA STATE UNIVERSITY/TEMPE, AZ	47.076	17-231	5,744	52,655
NORTHWESTERN UNIVERSITY/EVANSTON, IL	47.076	SP0049508-PROJ0013883	-	15,115
UNIVERSITY OF COLORADO/BOULDER, CO UNIVERSITY OF COLORADO/BOULDER. CO	47.076	1554503	-	123,728
UNIVERSITY OF COLORADO/BOULDER, CO UNIVERSITY OF GEORGIA/ATHENS, GA	47.076	1556410 SUB00001592	-	7,655
UNIVERSITY OF GEORGIA/ATHENS, GA UNIVERSITY OF ILLINOIS/CHICAGO,IL	47.076 47.076	087787-16516	-	110,832 35,257
Office of Integrative Activities	47.070	08/76/-10510	-	35,237
Passed through from:				
UNIV OF KY RESEARCH FDN/LEXINGTON,KY	47.083	3200000271-16-075		99,857
Total National Science Foundation	47.000	3200000271-10-073	6,971,483	80,553,218
Department of Veteran Affairs				
Research and Development	64.054		_	71,108
Research and Development				,
Passed through from:				
LIBERTY IT SOLUTIONS LLC./HERNDON, VA	64.054	17-GTRC-0001	-	57,836
Total Department of Veteran Affairs				128,944
Environmental Protection Agency				
Science To Achieve Results (STAR) Research Program	66.509		34,439	533,844
Science To Achieve Results (STAR) Fellowship Program	66.514		-	19,626
P3 Award: National Student Design Competition for Sustainability	66.516		-	4,423
Pollution Prevention Grants Program	66.708			126,707
Total Environmental Protection Agency			34,439	684,600

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Federal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
eventury events or Frogram rate		11MILIDEI	Just colpient	-Apenditures
Nuclear Regulatory Commission	77.008			452.270
U.S. Nuclear Regulatory Commission Scholarship and Fellowship Program Total Nuclear Regulatory Commission	77.006			153,378 153,378
Department of Energy Office of Science Financial Assistance Program	81.049		860,915	7,422,644
Conservation Research and Development	81.086		-	879,988
Renewable Energy Research and Development	81.087		-	1,967,030
Fossil Energy Research and Development Stewardship Science Grant Program	81.089 81.112		321,077	1,578,451 314,514
Energy Efficiency and Renewable Energy Information Dissemination, Outreach, Training and	01.112		-	314,314
Technical Analysis/Assistance	81.117		48,307	211,931
Nuclear Energy Research, Development and Demonstration	81.121		398,698	1,332,556
Electricity Delivery and Energy Reliability, Research, Development and Analysis Advanced Research and Projects Agency – Energy	81.122 81.135		104,056 181,485	553,112 606,204
Inventions and Innovations				
Passed through from:				
SANDIA NATL LABS/SANDIA CORP Office of Science Financial Assistance Program	81.036	1614313	-	1,345
Passed through from:				
AECOM E&C INC./MORGANTOWN, WV	81.049	RES15056247	-	34,509
AECOM E&C INC./MORGANTOWN, WV	81.049	RES1506246	-	29,940
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS (AICHE)/NEW YORK, NY AMTECH SYSTEMS INC	81.049 81.049	2 AGREEMENT DATED MARCH 1, 2019	-	103,617 88,883
ARGONNE NATL LAB/UCHICAGO ARGONNE LLC/ARGONNE, IL	81.049	8F-30135	20,286	195,270
ARGONNE NATL LAB/UCHICAGO ARGONNE LLC/ARGONNE, IL	81.049	9F-60044	-	28,686
AVAPCO LLC./THOMASTON, GA	81.049	1549-00-005	-	-
BROOKHAVEN NATIONAL LAB/UPTON, NY BROWN UNIVERSITY/PROVIDENCE, RI	81.049 81.049	343172 00001289	-	108,578 33,954
CONTINUUM DYNAMICS INC/EWING, NJ	81.049	STTR: AGRMT DTD 01 APR 2015	-	104,694
FERMILAB/BATAVIA, IL	81.049	655410	-	17,338
FLORIDA STATE UNIVERSITY/TALLAHASSEE, FLA	81.049	R01436	-	14,229
FLUOR MARINE PROPULSION LLC/WEST MIFFLIN, PA FLUOR MARINE PROPULSION, LLC	81.049 81.049	131210 124004	44,998	212,288 168,650
HIFUNDA LLC/SALT LAKE CITY,UT	81.049	STTR: AGMT DTD 02 MARCH 2015	-	(528)
HONEYWELL INC	81.049	N000293974	-	13,557
HONEYWELL INC/	81.049	AGR DTD 08/07/18	-	123,472
HONEYWELL INC/ HONEYWELL INC/	81.049 81.049	N000230924 N000250980	-	77,433
HONEYWELL INC/	81.049	N000254510	-	58,157
HONEYWELL INC/	81.049	N000297946	-	30,907
HONEYWELL INC/	81.049	N000300107	-	178,243
HONEYWELL INC/ HONEYWELL INC/	81.049 81.049	N000300454 N000314432	-	59,005 69,045
HONEYWELL INC/	81.049	PO # N000249536 TASK #3	-	46,265
IDAHO NATIONAL LAB/BEA/IDAHO FALLS	81.049	0179569	-	5,160
IDAHO NATIONAL LAB/BEA/IDAHO FALLS	81.049	190986	-	96,093
IDAHO NATIONAL LAB/BEA/IDAHO FALLS IDAHO NATIONAL LAB/BEA/IDAHO FALLS	81.049 81.049	201636 0207604	9,305	13,332 17,062
KRELL INSTITUTE/AMES, IA	81.049	Krell-02	9,303	48,640
LAWRENCE BERKELEY NATIONAL LAB/UNIVERSITY OF CALIFORNIA	81.049	7284683	-	34,026
LAWRENCE BERKELEY NATIONAL LAB/UNIVERSITY OF CALIFORNIA	81.049	7360408	-	452,484
LAWRENCE BERKELEY NATIONAL LAB/UNIVERSITY OF CALIFORNIA LEADING EDGE CRYSTAL TECHNOLOGIES INC./GLOUCESTER, MA	81.049 81.049	7375547 AGREEMENT DATED JUNE 1 2018	-	47,562 55,000
LINCOLN LABORATORY/MASSACHUSETTS INST OF TECH	81.049	7000434835	-	9,015
LLNL/LAWRENCE LIVERMORE NATL SEC LLC/LIVERMORE,CA	81.049	B617458	-	4
LLNL/LAWRENCE LIVERMORE NATL SEC LLC/LIVERMORE,CA	81.049	B628150	-	39,144
LLNL/LAWRENCE LIVERMORE NATL SEC LLC/LIVERMORE,CA LLNL/LAWRENCE LIVERMORE NATL SEC LLC/LIVERMORE,CA	81.049 81.049	B630765 B632619	-	29,999 41,316
LOS ALAMOS NATIONAL LAB/LOS ALAMOS NATIONAL SECURITY (LANS)	81.049	364502	-	48,581
LOS ALAMOS NATIONAL LAB/LOS ALAMOS NATIONAL SECURITY (LANS)	81.049	371097	-	93,211
LOS ALAMOS NATIONAL LAB/LOS ALAMOS NATIONAL SECURITY (LANS)	81.049	389971	-	(4,685)
LOS ALAMOS NATIONAL LAB/LOS ALAMOS NATIONAL SECURITY (LANS) LOS ALAMOS NATIONAL LAB/LOS ALAMOS NATIONAL SECURITY (LANS)/LOS ALAMOS, NM	81.049 81.049	421807 515443	-	81,721 12,860
LOS ALAMOS NATIONAL LAB/LOS ALAMOS NATIONAL SECURITY (LANS)/LOS ALAMOS, NM LOS ALAMOS NATIONAL LAB/LOS ALAMOS NATIONAL SECURITY (LANS)/LOS ALAMOS, NM	81.049 81.049	515443 524823	-	12,860
LOS ALAMOS NATIONAL LAB/LOS ALAMOS NATIONAL SECURITY (LANS)/LOS ALAMOS, NM	81.049	547813	-	80,511
MELE ASSOCIATES INC./ROCKVILLE, MD	81.049	MELE AGMT 21SEPT2018	-	168,205
NATIONAL RENEWABLE ENERGY LAB (NREL) NATIONAL RENEWABLE ENERGY LAB (NREL)	81.049 81.049	XDJ-9-82320-01 XEJ-9-82336-01	-	9,996 40,900
NATI RENEWABLE ENERGY LAB (NREL)	81.049	XEJ-9-62336-01 XEJ-7-70103-01	-	10,882
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SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

eral Grantor/Pass-Though Itor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
NATL RENEWABLE ENERGY LAB/ALLNC FOR SUSTAIN ENGY	81.049	XAT-6-62147-01		49,333
NATL RENEWABLE ENERGY LAB/ALLNC FOR SUSTAIN ENGY	81.049	XEJ-7-62291-01	-	1,296
OAK RIDGE ASSOCIATED UNIV	81.049	LTR DTD 5/28/18	_	6,316
OAK RIDGE ASSOCIATED UNIVERSITIES	81.049	LTR DTD 5/21/18	-	5,000
OAK RIDGE NATL LAB/OAK RIDGE, TN	81.049	4000084578	-	10
OAK RIDGE NATL LAB/UT BATTELLE LLC	81.049	4000100062	-	27,392
PACIFIC NW NATL LAB/BATTELLE MEMORIAL INST	81.049	262787	-	(28,333
PACIFIC NW NATL LAB/BATTELLE MEMORIAL INST	81.049	322234	-	161,01
PACIFIC NW NATL LAB/BATTELLE MEMORIAL INST	81.049	331867	-	14,49
PACIFIC NW NATL LAB/BATTELLE MEMORIAL INST PACIFIC NW NATL LAB/BATTELLE MEMORIAL INST	81.049 81.049	392784 414670	-	6,64 90,43
PACIFIC NW NATL LAB/BATTELLE MEMORIAL INST	81.049	432002	_	44,27
PACIFIC NW NATL LAB/BATTELLE MEMORIAL INST	81.049	439121	_	32,79
PACIFIC NW NATL LAB/BATTELLE MEMORIAL INST	81.049	449705	_	69,63
PACIFIC NW NATL LAB/BATTELLE MEMORIAL INST	81.049	462860	-	25,57
PHOSPHORTECH CORPORATION/MABLETON, GA	81.049	DE-SC0018611	-	89,06
SANDIA NATL LABS/SANDIA CORP	81.049	139668	-	15,000
SANDIA NATL LABS/SANDIA CORP	81.049	1631334	-	15,000
SANDIA NATL LABS/SANDIA CORP	81.049	1643373	-	46,60
SANDIA NATL LABS/SANDIA CORP	81.049	1719027	-	23,95
SANDIA NATL LABS/SANDIA CORP	81.049	1740727	-	17,04
SANDIA NATL LABS/SANDIA CORP	81.049	1742041	-	15,61
SANDIA NATI LABS/SANDIA CORP	81.049	1744348	-	79,15
SANDIA NATL LABS/SANDIA CORP SANDIA NATL LABS/SANDIA CORP	81.049 81.049	1755523 1764531	-	122,81 28,63
SANDIA NATL LABS/SANDIA CORP	81.049	1767660	-	48,50
SANDIA NATE LABS/SANDIA CONT	81.049	1804495	_	31,33
SANDIA NATL LABS/SANDIA CORP	81.049	1807549	_	186,32
SANDIA NATL LABS/SANDIA CORP	81.049	1836843	_	42,16
SANDIA NATL LABS/SANDIA CORP	81.049	1838573	-	103,63
SANDIA NATL LABS/SANDIA CORP	81.049	1838714	-	132,60
SANDIA NATL LABS/SANDIA CORP	81.049	1840059	-	90,79
SANDIA NATL LABS/SANDIA CORP	81.049	1841736	-	41,65
SANDIA NATL LABS/SANDIA CORP	81.049	1846613	-	2,38
SANDIA NATL LABS/SANDIA CORP	81.049	1856100	-	19,80
SANDIA NATL LABS/SANDIA CORP	81.049	1856101	-	9,58
SANDIA NATULARS/SANDIA CORP	81.049	1861841	-	30,62
SANDIA NATL LABS/SANDIA CORP SANDIA NATL LABS/SANDIA CORP	81.049 81.049	1862981 1871005	-	161,90 69,44
SANDIA NATL LABS/SANDIA CORP	81.049	1883603	-	21,15
SANDIA NATL LABS/SANDIA CORP	81.049	1884667	_	16,67
SANDIA NATL LABS/SANDIA CORP	81.049	1897564	_	32,53
SANDIA NATL LABS/SANDIA CORP	81.049	1901033	_	34,17
SANDIA NATL LABS/SANDIA CORP	81.049	1902837	-	19,04
SANDIA NATL LABS/SANDIA CORP	81.049	1907283	-	69,44
SANDIA NATL LABS/SANDIA CORP	81.049	1920585	-	106,33
SANDIA NATL LABS/SANDIA CORP	81.049	1920644	-	65,93
SANDIA NATL LABS/SANDIA CORP	81.049	1930550	-	35,62
SANDIA NATL LABS/SANDIA CORP	81.049	1944705	-	20,00
SANDIA NATL LABS/SANDIA CORP	81.049	1952411	-	143,33
SANDIA NATL LABS/SANDIA CORP SANDIA NATL LABS/SANDIA CORP	81.049	1954355	-	151,62
	81.049	1959383	-	5,00
SANDIA NATL LABS/SANDIA CORP SANDIA NATL LABS/SANDIA CORP	81.049 81.049	1960037 1960773	-	43,09 38,84
SANDIA NATL LABS/SANDIA CORP	81.049	1971768	_	53,51
SANDIA NATL LABS/SANDIA CORP	81.049	1973820	_	90,84
SANDIA NATL LABS/SANDIA CORP	81.049	1974284	_	40,21
SANDIA NATL LABS/SANDIA CORP	81.049	1975640	_	42,95
SANDIA NATL LABS/SANDIA CORP	81.049	1978929	-	22,74
SANDIA NATL LABS/SANDIA CORP	81.049	1980535	-	31,00
SANDIA NATL LABS/SANDIA CORP	81.049	1984599	-	35,70
SANDIA NATL LABS/SANDIA CORP	81.049	1991855	-	65,78
SANDIA NATL LABS/SANDIA CORP	81.049	1995330	-	31,35
SANDIA NATL LABS/SANDIA CORP	81.049	1995932	-	32,34
SANDIA NATI LABS/SANDIA CORP	81.049	1997022	-	37,27
SANDIA NATI LABS/SANDIA CORP	81.049	2001728	-	1,77
SANDIA NATL LABS/SANDIA CORP SANDIA NATL LABS/SANDIA CORP	81.049	2006806	-	19,32
JANUIA NATE LADO/JANUIA CURP	81.049	2013350	-	1,39
SANDIA NATL LABS/SANDIA CORP	81.049	2015247		7,89

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ral Grantor/Pass-Though tor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
SANDIA NATL LABS/SANDIA CORP	81.049	2041627	_	5,142
SANDIA NATL LABS/SANDIA CORP	81.049	AGMT DTD 4/5/17	_	0,112
SAVANNAH RIV NATL LAB/SAVANNAH RIV NUCLEAR SOL LLC/AIKEN, SC	81.049	0000265739	_	33,879
SAVANNAH RIV NATL LAB/SAVANNAH RIV NUCLEAR SOL LLC/AIKEN, SC	81.049	0000342690	-	86,466
SAVANNAH RIV NATL LAB/SAVANNAH RIV NUCLEAR SOL LLC/AIKEN, SC	81.049	2018-000030	-	20,948
SAVANNAH RIV NATL LAB/SAVANNAH RIV NUCLEAR SOL LLC/AIKEN, SC	81.049	GT00005	-	31,797
SIXPOINT MATERIALS INC./BUELLTON, CA	81.049	AGR DTD 07/06/2017	-	17,216
STATE UNIV OF NY AT STONY BROOK	81.049	68856-TASK 3, PROJ. 1119493	-	173,306
SUSTAINABLE MANUFACTURING INNOVATION ALLIANCE CORP/WEST HENRIETTA, NY	81.049	1	-	19,84
UNIV OF NORTH CAROLINA/CHAPEL HILL, NC	81.049	5035981	-	42,024
UNIVERSITY OF ARIZONA/TUCSON, AZ	81.049	PO# 109150	-	41,63
UNIVERSITY OF CALIFORNIA/ SAN DIEGO, CA	81.049	1916-1689	-	4,38
UNIVERSITY OF DELAWARE	81.049	37792	-	5,24
UNIVERSITY OF MINNESOTA/MINNEAPOLIS, MN	81.049	A003127003	-	100,396
UNIVERSITY OF WISCONSIN - DISABILITY RESOURCE CENTER/MADISON, WI	81.049	775K563	-	64,654
UNIVERSITY OF WISCONSIN/MADISON WISCONSIN	81.049	562K284	-	41,91
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000125663	-	33,63
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049 81.049	4000128095	-	47,88
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000136270 4000145143	-	4,85
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000145143	-	73,91; 9,34
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000150871	-	1,607
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000152624	-	(13,31
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000152786		174,42
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000154548		43,02
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000154975	_	73,79
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000156592	-	66,77
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000158523	_	57,16
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000159194	-	28,002
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000159587	-	40,91
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000160017	_	65,064
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000160033	-	47,369
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000160093	-	53,287
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000160364	-	47,773
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000160408	-	57,96
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000160671	-	51
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000160789	-	6,809
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000160795	-	13,98
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000161062	143,494	313,50
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000161873	-	47,464
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000162743	-	26,599
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000164602	-	44,337
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000164801	-	45,478
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000164882	-	46,848
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000165080	-	53,25
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000167438	-	30,33
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000167866	-	43,43
UT BATTELLE LLC/OAK RIDGE NATL LAB - TN	81.049	4000170517	-	4,105
VANDERBILT UNIVERSITY/NASHVILLE, TN	81.049	#19067-S12	-	207,413
VIRGINIA TECH/BLACKSBURG, VA	81.049	449898-19034	-	1,04
VURONYX TECHNOLOGIES INC./BEVERLY, MA	81.049	AGMT DTD 16 JUN 2015	-	(606
onservation Research and Development				
Passed through from:	04.000	0044 0054 74		00.000
POWERAMERICA INSTITUTE/RALEIGH, NC VIRGINIA TECH APPLIED RESEARCH CORPORATION/BLACKSBURG, VA	81.086 81.086	2014-0654-71 #429398-19034	-	30,29
ELECTRIC POWER RES INST/	81.086	10010454	-	7,38° 2,804
enewable Energy Research and Development	61.060	10010434	-	2,004
Passed through from:				
ALGENOL/ATLANTA, GA.	81.087	8/29/17 AGRMT		210,857
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS	81.087	DE-EE0007888-09-6	-	108,97
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS AMERICAN INSTITUTE OF CHEMICAL ENGINEERS (AICHE)/NEW YORK, NY	81.087	DE-EE0007888-06-4B	-	55,28
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS (AICHE)/NEW YORK, NY	81.087	DE-EE0007888-10-5	-	106,64
ELECTRIC POWER RES INST/	81.087	#10001646	- -	93,44
NORTHWESTERN UNIVERSITY/EVANSTON, IL	81.087	\$P0045962-PROJ0012882	-	13,59
PURDUE UNIVERSITY/WEST LAFAYETTE	81.087	14000249-006	-	77,056
TEXAS A & M UNIVERSITY/COLLEGE STATION, TX	81.087	M1900414	-	72,578
	81.087	#53038	-	43,086
UNIVERSITY OF DELAWARE/NEWARK, DE				

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Fossil Energy Research and Development				
Passed through from:				
SOUTHWEST RESEARCH INSTITUTE/	81.089	L99007RI	-	116,702
SOUTHWEST RESEARCH INSTITUTE/	81.089	L99069MJM	-	10,000
SOUTHWEST RESEARCH INSTITUTE/	81.089	M99005RR	-	5,569
UNIVERSITY OF CENTRAL FLORIDA/	81.089	#16306016-01	-	56,546
Defense Nuclear Nonproliferation Research				
Passed through from:				
NORTH CAROLINA STATE UNIVERSITY/RALEIGH, NC	81.113	2014-0501-05	-	389,817
Nuclear Energy Research, Development and Demonstration Passed through from:				
PURDUE UNIVERSITY/WEST LAFAYETTE, IN	81.121	14000271-002	_	82,664
PURDUE UNIVERSITY/WEST LAFAYETTE, IN	81.121	14000276-006.	_	76,562
SYRACUSE UNIVERSITY/SYRACUSE, NY	81.121	#30308-05133-S01	_	45,315
SYRACUSE UNIVERSITY/SYRACUSE, NY	81.121	28643-04465-S02	-	83,912
UNIVERSITY OF NEBRASKA/LINCOLN, NE	81.121	25-1120-0014-004	-	37,429
Advanced Research Projects Agency - Energy				
Passed through from:				
OREGON STATE UNIVERSITY	81.135	#G0173A-A	-	111,792
RENSSELAER POLYTECHNIC INSTIT/TROY, NY	81.135	A12820	-	242,207
SILA NANOTECHNOLOGIES INC	81.135	133588	2 422 624	(9,339)
Total Department of Energy			2,132,621	26,222,720
Department of Education				
National Resource Centers Program for Foreign Language and Area Studies or Foreign Language and				
International Studies Program and Foreign Language and Area Studies Fellowship Program	84.015		15,869	127,879
Fund for the Improvement of Postsecondary Education	84.116		69,674	398,042
Graduate Assistance in Areas of National Need	84.200		-	137,667
Centers for International Business Education	84.220		-	101,280
Directed Grants and Awards	84.417		-	-
Graduate Assistance in Areas of National Need				
Passed through from:	04.200	DU1046 264/0004256		404
UNIVERSITY OF GEORGIA/ATHENS, GA Total Department of Education	84.200	RH216-361/S001356	85,543	764,972
Total Department of Education			00,040	104,512
Department of Health and Human Services				
Food and Drug Administration_Research	93.103		413,020	1,281,235
Environmental Health	93.113		69,488	572,988
Oral Diseases and Disorders Research	93.121		229,314	1,293,403
Human Genome Research	93.172		220,190	623,049
Research Related to Deafness and Communication Disorders	93.173		22,454	319,869
Mental Health Research Grants	93.242		277,285	743,463
Discovery and Applied Research for Technological Innovations to Improve Human Health Trans-NIH Research Support	93.286 93.310		569,284	3,422,515 790,582
Cancer Cause and Prevention Research	93.393		80,000	349,378
Cancer Detection and Diagnosis Research	93.394		-	536,030
Cancer Treatment Research	93.395		245,447	1,428,303
Cancer Biology Research	93.396		903,924	2,018,345
Cancer Research Manpower	93.398		-	43,393
ACL National Institute on Disability, Independent Living, and Rehabilitation Research	93.433		371,612	2,420,119
CDC Undergraduate Public Health Scholars Program (CUPS): A Public Health Experience to				
Expose Undergraduates Interested in Minority Health to Public Health and the Public Health Professions	93.456		-	57,701
ACL Assistive Technology	93.464		156,730	726,963
PPHF-CDC Partnership: Strengthening Public Health Laboratories	93.765			2,990
Cardiovascular Diseases Research	93.837		743,137	3,739,764
Lung Diseases Research	93.838		602,007	1,552,653
Blood Diseases and Resources Research Arthritis, Musculoskeletal and Skin Diseases Research	93.839 93.846		38,233 91,452	231,734 1,209,884
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847		51,452	88,050
Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853		462,065	3,451,235
Allergy and Infectious Diseases Research	93.855		333,018	1,014,309
Biomedical Research and Research Training	93.859		688,152	7,416,939
	93.865		225,768	992,567
Child Health and Human Development Extramural Research			258,515	1,241,086
Child Health and Human Development Extramural Research Aging Research	93.866			
Child Health and Human Development Extramural Research Aging Research Vision Research	93.867		343,061	1,434,301
Child Health and Human Development Extramural Research Aging Research Vision Research International Research and Research Training	93.867 93.989		375,032	1,021,146
Child Health and Human Development Extramural Research Aging Research Vision Research International Research and Research Training Preventive Health and Health Services Block Grant	93.867			
Child Health and Human Development Extramural Research Aging Research Vision Research International Research and Research Training	93.867 93.989		375,032	1,021,146

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ederal Grantor/Pass-Though rantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
Cardina mandal Hashib				
Environmental Health Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.113	T779501	_	38,087
EMORY UNIVERSITY/ATLANTA, GA	93.113	T811860	_	171,413
Oral Diseases and Disorders Research	30.110	1011000		171,410
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.121	T825580	-	253,724
UNIVERSITY OF ALABAMA AT BIRMINGHAM/BIRMINGHAM, AL	93.121	000412838-103	_	119,033
Research Related to Deafness and Communication Disorders				
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.173	A004096	-	29,788
Research and Training in Complementary and Integrative Health				
Passed through from:				
VIRGINIA COMMONWEALTH UNIVERSITY/RICHMOND, VA	93.213	PT112083-SC107082	-	24,273
Mental Health Research Grants				
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.242	#A027182	-	88,69
EMORY UNIVERSITY/ATLANTA, GA	93.242	T923072	-	2,83
JOHNS HOPKINS UNIV/BALTIMORE, MD	93.242	#145278	-	67,76
Occupational Safety and Health Program				
Passed through from:				
UNIVERSITY OF SOUTH FLORIDA/TAMPA, FL	93.262	6402-1095-03-C	-	9,54
Discovery and Applied Research for Technological Innovations to Improve Human Health				
Passed through from:				
CORNELL UNIVERSITY/ITHACA, NY	93.286	16111826-GEORGIA	-	40,99
EMORY UNIVERSITY/ATLANTA, GA	93.286	A066666	-	39,46
EMORY UNIVERSITY/ATLANTA, GA	93.286	A066738 (CORE 4)	-	15
EMORY UNIVERSITY/ATLANTA, GA	93.286	A073523	-	79,49
EMORY UNIVERSITY/ATLANTA, GA	93.286	A084034	-	84,71
MICHIGAN STATE UNIVERSITY/EAST LANSING, MI	93.286	RC104170GT	-	128,66
NORTHEASTERN UNIVERSITY/BOSTON, MA	93.286	500396-78050	-	7,92
UNIVERSITY OF CALIFORNIA AT SAN FRANCISCO/SAN FRANCISCO, CA	93.286 93.286	10547SC 5-40708	-	156,24
UNIVERSITY OF MEMPHIS/MEMPHIS, TN UT SOUTHWESTERN MEDICAL CENTER/DALLAS, TX	93.286	0-40706 UTA17-000428	-	74,27 44,42
Trans-NIH Research Support	93.200	01A17-000428	-	44,42
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.310	S699823	_	116,04
EMORY UNIVERSITY/ATLANTA, GA	93.310	T491511	_	25,02
EMORY UNIVERSITY/ATLANTA, GA	93.310	T662893	_	(11,82)
EMORY UNIVERSITY/ATLANTA, GA	93.310	T951414	_	240,87
UNIVERSITY OF GEORGIA/ATHENS, GA	93.310	SUB00001822	_	3,93
National Center for Advancing Translational Sciences				-,
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.350	A004409	_	20,899
EMORY UNIVERSITY/ATLANTA, GA	93.350	A007319	_	282,47
EMORY UNIVERSITY/ATLANTA, GA	93.350	A053611	_	13,08
Research Infrastructure Programs				
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.351	T620910	-	252,54
National and State Tobacco Control Program				
Passed through from:				
UNIVERSITY OF PENNSYLVANIA/PHILADELPHIA	93.387	1RO1HL147256-01	-	70
Cancer Detection and Diagnosis Research				
Passed through from:				
UNIVERSITY OF UTAH/SALT LAKE CITY, UT	93.393	10044693-02	-	29,609
Cancer Treatment Research				
Passed through from:				
UNIVERSITY OF MICHIGAN/	93.395	SUBK00008227	-	16,10
Cancer Biology Research				
Passed through from:				
EMORY UNIVERSITY	93.396	T953287	-	53,12
UNIVERSITY OF MICHIGAN/	93.396	3004589137	-	88,62
ACL National Institute on Disability, Independent Living, and Rehabilitation Research				
Passed through from:				
UNIVERSITY OF PITTSBURG/PITTSBURG, PA	93.433	0058440 (130293-1)	-	90,14
Centers for Medicare and Medicaid Services (CMS) Research, Demonstrations and Evaluations				
Passed through from:				
GEORGIA DEPT OF COMMUNITY HEALTH/ATLANTA,GA	93.779	15005G	42,033	757,12

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Ebola Support: Transmission and Prevention Control, Public Health Preparedness, Vaccine Development Passed through from:	- 60,919 - 1,885 - 113,687 - 146,396 - 79,543 - 37,884 - 17,933 - 24,928 - 174,376 - 75,214
Passed through from: EMORY UNIVERSITY 93.823 T562794	- 1,885 - 113,687 - 146,396 - 79,543 - 37,884 - 17,933 - 24,928 - 174,376 - 75,214
Cardiovascular Diseases Research Passed through from: BAYLOR COLLEGE OF MEDICINE/HOUSTON, TX 93.837 #P.O. 700000129 BOSTON CHILDREN'S HOSPITAL/BOSTON, MA 93.837 GENFD0001475301 EMORY UNIVERSITY/ATLANTA, GA 93.837 A092263 A022264 EMORY UNIVERSITY/ATLANTA, GA 93.837 A022294 EMORY UNIVERSITY/ATLANTA, GA 93.837 A022294 EMORY UNIVERSITY/ATLANTA, GA 93.837 A101267 EMORY UNIVERSITY/ATLANTA, GA 93.837 T586137 SUTTER HEALT-HIVMALNUT CREEK, CA 93.837 260201017-S249 UNIVERSITY OF TEXAS AT AUSTIN 93.837 UTA13-000981 UNIVERSITY OF VIRGINIA/CHARLOTTESVILLE, VA 93.837 GB10347 2133564 UT BATTELLE LLC/OAK RIDGE NATL LAB -TN 93.837 4000128353 Blood Diseases and Resources Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA 93.839 A035610 EMORY UNIVERSITY/ATLANTA, GA 93.846 2(GG014632-01) EMORY UNIVERSITY/ATLANTA, GA 93.846 T684228 GEORGIA STATE UNIVERSITY 93.846 #SP00013208-01 Diabetes, Digestive, and Kidney Diseases Extramural Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA 93.847 #T663443 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701369 EMORY UNIVERSITY/ATLANTA, GA	- 1,885 - 113,687 - 146,396 - 79,543 - 37,884 - 17,933 - 24,928 - 174,376 - 75,214
Passed through from: BAYLOR COLLEGE OF MEDICINE/HOUSTON, TX 93.837	- 113,687 - 146,396 - 79,543 - 37,884 - 17,933 - 24,928 - 174,376 - 75,214
BAYLOR COLLEGE OF MEDICINE/HOUSTON, TX 93.837 #P.O. 700000129	- 113,687 - 146,396 - 79,543 - 37,884 - 17,933 - 24,928 - 174,376 - 75,214
BOSTON CHILDREN'S HOSPITAL/BOSTON, MA 93.837 GENFD0001475301 EMORY UNIVERSITY/ATLANTA, GA 93.837 A092263 EMORY UNIVERSITY/ATLANTA, GA 93.837 A022924 EMORY UNIVERSITY/ATLANTA, GA 93.837 A101267 EMORY UNIVERSITY/ATLANTA, GA 93.837 T586137 SUTTER HEALTH/WALNUT CREEK, CA 93.837 UTA15-000981 UNIVERSITY OF TEXAS AT AUSTIN 93.837 UTA15-000981 UNIVERSITY OF VIRGINIA/CHARLOTTESVILLE, VA 93.837 GB10347 2133564 UT BATTELLE LLC/OAK RIDGE NATL LAB - TN 93.837 4000128353 Blood Diseases and Resources Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA 93.849 A035610 Athritis, Musculoskeletal and Skin Diseases Research Passed through from: COLUMBIA UNIVERSITY/NEW YORK, NY 93.846 2(GG014632-01) EMORY UNIVERSITY/ATLANTA, GA 93.846 #SP00013208-01 Diabetes, Digestive, and Kidney Diseases Extramural Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA 93.847 #T663443 EMORY UNIVERSITY/ATLANTA, GA 93.847 A054794 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701369 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701369 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701372 MAYO CLINIC/ROCHESTER, MN 93.847 T701372 MAYO CLINIC/ROCHESTER, MN 93.847 T701372 Extamural Research Programs in the Neurosciences and Neurological Disorders Passed through from: Emorgams in the Neurosciences and Neurological Disorders Passed through from: GEO-235217/PO#65641111	- 113,687 - 146,396 - 79,543 - 37,884 - 17,933 - 24,928 - 174,376 - 75,214
EMORY UNIVERSITY/ATLANTA, GA 93.837 A092263 EMORY UNIVERSITY/ATLANTA, GA 93.837 A022924 EMORY UNIVERSITY/ATLANTA, GA 93.837 A101267 EMORY UNIVERSITY/ATLANTA, GA 93.837 T586137 SUTTER HEALTH/WALNUT CREEK, CA 93.837 280201017-S249 UNIVERSITY OF TEXAS AT AUSTIN 93.837 UTA13-000981 UNIVERSITY OF VIRGINIA/CHARLOTTESVILLE, VA 93.837 GB10347 2133564 UT BATTELLE LLC/OAK RIDGE NATL LAB - TN 93.837 4000128353 Blood Diseases and Resources Research Passed through from:	- 146,396 - 79,543 - 37,884 - 17,933 - 24,928 - 174,376 - 75,214
EMORY UNIVERSITY/ATLANTA, GA 93.837	- 37,884 - 17,933 - 24,928 - 174,376 - 75,214
EMORY UNIVERSITY/ATLANTA, GA 93.837 T586137 SUTTER HEALTHWALNUT CREEK,CA 93.837 280201017-S249 UNIVERSITY OF TEXAS AT AUSTIN 93.837 UTA13-000981 UNIVERSITY OF VIRGINIA/CHARLOTTESVILLE, VA 93.837 GB10347 2133564 UT BATTELLE LLC/OAK RIDGE NATL LAB - TN 93.837 4000128353 Blood Diseases and Resources Research ************************************	- 17,933 - 24,928 - 174,376 - 75,214
SUTTER HEALTH/WALNUT CREEK,CA 93.837 280201017-S249 UNIVERSITY OF TEXAS AT AUSTIN 93.837 UTA13-000981 UNIVERSITY OF VIRGINIA/CHARLOTTESVILLE, VA 93.837 GB10347 2133564 UNIVERSITY OF VIRGINIA/CHARLOTTESVILLE, VA 93.837 4000128353 Blood Diseases and Resources Research **** **** Passed through from: *** *** EMORY UNIVERSITY/ATLANTA, GA 93.839 A035610 Arhntis, Musculoskeletal and Skin Diseases Research *** *** Passed through from: *** *** COLUMBIA UNIVERSITY/NEW YORK, NY 93.846 2(GG014632-01) EMORY UNIVERSITY/ATLANTA, GA 93.846 #** GEORGIA STATE UNIVERSITY 93.846 #** Diabetes, Digestive, and Kidney Diseases Extramural Research *** *** Passed through from: *** *** EMORY UNIVERSITY/ATLANTA, GA 93.847 #** EMORY UNIVERSITY/ATLANTA, GA 93.847 *** EMORY UNIVERSITY/ATLANTA, GA 93.847 T701372 MAYO CLINIC/ROCHESTER, M <td< td=""><td>- 24,928 - 174,376 - 75,214</td></td<>	- 24,928 - 174,376 - 75,214
UNIVERSITY OF TEXAS AT AUSTIN UNIVERSITY OF VIRGINIA/CHARLOTTESVILLE, VA UNIVERSITY OF VIRGINIA/CHARLOTS Blood Diseases and Resources Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA Arthritis, Musculoskeletal and Skin Diseases Research Passed through from: COLUMBIA UNIVERSITY/NEW YORK, NY Sassed through from: EMORY UNIVERSITY/ATLANTA, GA 93.846 GEORGIA STATE UNIVERSITY Diabetes, Digestive, and Kidney Diseases Extramural Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA 93.847 EMORY UNIVERSITY/ATLANTA, GA 93.847 EMORY UNIVERSITY/ATLANTA, GA 93.847 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701369 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701372 MAYO CLINIC/ROCHESTER, MN 93.847 GEO-235217/PO#65641111 Extramural Research Programs in the Neurosciences and Neurological Disorders Passed through from:	- 174,376 - 75,214
UNIVERSITY OF VIRGINIA/CHARLOTTESVILLE, VA 93.837 GB10347 2133564 UT BATTELLE LLC/OAK RIDGE NATL LAB - TN 93.837 4000128353 Blood Diseases and Resources Research ************************************	- 75,214
Blood Diseases and Resources Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA 93.839 A035610 Arthritis, Musculoskeletal and Skin Diseases Research Passed through from: COLUMBIA UNIVERSITY/NEW YORK, NY 93.846 2(GG014632-01) EMORY UNIVERSITY/ATLANTA, GA 93.846 7684328 GEORGIA STATE UNIVERSITY 93.846 #SP0013208-01 Diabetes, Digestive, and Kidney Diseases Extramural Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA 93.847 #T663443 EMORY UNIVERSITY/ATLANTA, GA 93.847 A054794 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701369 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701372 MAYO CLINIC/ROCHESTER, MN 93.847 GEO-235217/PO#65641111 Extramural Research Programs in the Neurosciences and Neurological Disorders Passed through from:	- 91
Passed through from: 93.839 A035610 EMORY UNIVERSITY/ATLANTA, GA 93.839 A035610 Arthritis, Musculoskeletal and Skin Diseases Research Passed through from: COLUMBIA UNIVERSITY/NEW YORK, NY 93.846 2(GG014632-01) EMORY UNIVERSITY/ATLANTA, GA 93.846 T684328 GEORGIA STATE UNIVERSITY 38.46 *SP00013208-01 Diabetes, Digestive, and Kidney Diseases Extramural Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA 93.847 #T663443 EMORY UNIVERSITY/ATLANTA, GA 93.847 40564794 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701369 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701372 MAYO CLINIC/ROCHESTER, MN 93.847 GEO-235217/PO#65641111 Extramural Research Programs in the Neurosciences and Neurological Disorders Passed through from:	٠.
### EMORY UNIVERSITY/ATLANTA, GA Arthritis, Musculoskeletal and Skin Diseases Research Passed through from: COLUMBIA UNIVERSITY/NEW YORK, NY EMORY UNIVERSITY/ATLANTA, GA GEORGIA STATE UNIVERSITY Diabetes, Digestive, and Kidney Diseases Extramural Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA GEORGIA STATE UNIVERSITY Diabetes, Digestive, and Kidney Diseases Extramural Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA GEORGIA STATE UNIVERSITY/ATLANTA,	
Arthritis, Musculoskeletal and Skin Diseases Research Passed through from: COLUMBIA UNIVERSITY/NEW YORK, NY EMORY UNIVERSITY/ATLANTA, GA GEORGIA STATE UNIVERSITY BIASED GEORGIA STATE UNIVERSITY Diabetes, Digestive, and Kidney Diseases Extramural Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA EXTRAMPA CLINIC/ROCHESTER, MN Extramural Research Programs in the Neurosciences and Neurological Disorders Passed through from:	
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COLUMBIA UNIVERSITY/NEW YORK, NY EMORY UNIVERSITY/ATLANTA, GA GEORGIA STATE UNIVERSITY Diabetes, Digestive, and Kidney Diseases Extramural Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA 93.847 EMORY UNIVERSITY/ATLANTA, GA 93.847 EMORY UNIVERSITY/ATLANTA, GA 93.847 EMORY UNIVERSITY/ATLANTA, GA EMORY UNIVERSITY/ATLANTA, GA 93.847 EXTRAMURAL RESEARCH Programs in the Neurosciences and Neurological Disorders Passed through from:	
EMORY UNIVERSITY/ATLANTA, GA 93.846 T684328 GEORGIA STATE UNIVERSITY 93.846 #SP00013208-01 Diabetes, Dijestive, and Kidney Diseases Extramural Research	- 31,560
Diabetes, Digestive, and Kidney Diseases Extramural Research Passed through from: EMORY UNIVERSITY/ATLANTA, GA EXTRAMURAL RESEARCH Programs in the Neurosciences and Neurological Disorders Passed through from:	
Passed through from: 93.847 #T663443 EMORY UNIVERSITY/ATLANTA, GA 93.847 A054794 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701369 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701372 MAYO CLINIC/ROCHESTER, MN 93.847 GEO-235217/PO#65641111 Extramural Research Programs in the Neurosciences and Neurological Disorders Passed through from:	- 65,845
EMORY UNIVERSITY/ATLANTA, GA 93.847 #T663443 EMORY UNIVERSITY/ATLANTA, GA 93.847 A054794 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701369 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701372 MAYO CLINIC/ROCHESTER, MN 93.847 GEO-235217/PO#65641111 Extramural Research Programs in the Neurosciences and Neurological Disorders Passed through from:	
EMORY UNIVERSITY/ATLANTA, GA 93.847 A054794 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701369 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701372 MAYO CLINIC/ROCHESTER, MN Extramural Research Programs in the Neurosciences and Neurological Disorders Passed through from:	404 505
EMORY UNIVERSITY/ATLANTA, GA 93.847 T701369 EMORY UNIVERSITY/ATLANTA, GA 93.847 T701372 MAYO CLINIC/ROCHESTER, MN 93.847 GEO-235217/PO#65641111 Extramural Research Programs in the Neurosciences and Neurological Disorders Passed through from:	- 104,585 - 23,739
EMORY UNIVERSITY/ATLANTA, GA 93.847 T701372 MAYO CLINIC/ROCHESTER, MN 93.847 GEO-235217/PO#65641111 Extramural Research Programs in the Neurosciences and Neurological Disorders Passed through from:	- 5,048
Extramural Research Programs in the Neurosciences and Neurological Disorders Passed through from:	- (515)
Passed through from:	- 23,112
EMORY UNIVERSITY/ATLANTA, GA 93.853 A041130 EMORY UNIVERSITY/ATLANTA, GA 93.853 T990147	- 5,353 - 47,346
EMORY UNIVERSITY/ATLANTA, GA 93.853 1990238	- 46,152
Icahn School of Medicine at MOUNT SINAI 93.853 0255-A441-4609	- 140,734
MASSACHUSETTS GENERAL HOSPITAL/BOSTON, MA 93.853 232958	- 18,384
MASSACHUSETTS INST OF TECH (MIT)/CAMBRIDGE, MA 93.853 #64620	- 279,304
UNIVERSITY OF CALIFORNIA/BERKELEY, CA 93.853 00008936	- 122,170
UNIVERSITY OF CALIFORNIA/BERKELEY, CA 93.853 00008937 WASHINGTON UNIVERSITY/SAINT LOUIS, MO 93.853 WU-19-100	- 171,929 - 138,075
WRIGHT STATE UNIVERSITY 93.853 AGMT DTD 9/18/15	- 50,693
Allergy, Immunology and Transplantation Research	,
Passed through from:	
BOSTON UNIVERSITY/BOSTON, MA 93.855 4500001690	- (40,137)
BOSTON UNIVERSITY/BOSTON, MA 93.855 #-4500002698	- 20,547
EMORY UNIVERSITY 93.855 T966688 EMORY UNIVERSITY/ATLANTA, GA 93.855 A007606	- 138,818 - 9,115
EMORY UNIVERSITY/ATLANTA, GA 93.855 A016182	- 86,865
EMORY UNIVERSITY/ATLANTA, GA 93.855 A085091	- 160,064
EMORY UNIVERSITY/ATLANTA, GA 93.855 T253685	- 118,168
EMORY UNIVERSITY/ATLANTA, GA 93.855 T365272	- 89,775
EMORY UNIVERSITY/ATLANTA, GA 93.855 T939590	- 115,185
EMORY UNIVERSITY/ATLANTA, GA 93.855 T970397 GEORGIA STATE UNIV/ATLANTA, GA 93.855 SP00012355-01	- 227,994 - 172,525
GEORGIA STATE UNIVERSITY 93.855 SP00013690-01	- 7,331
GEORGIA STATE UNIVERSITY/ATLANTA, GA 93.855 SP00013700-01B	- 163
SCRIPPS RESEARCH INSTITUTE/ LA JOLLA,CA 93.855 5-53830	- 106,237
STANFORD UNIVERSITY/STANFORD, CA 93.855 61989439-131451	- 89,807
UNIVERSITY OF ALABAMA AT BIRMINGHAM/BIRMINGHAM, AL 93.855 000521324-002	- 26,467
	5 195,848
UNIVERSITY OF LOUISIANA LAFAYETTE/LAFAYETTE, LA 93.855 87100-01 UNIVERSITY OF LOUISVILLE/LOUISVILLE, KY 93.855 ULRF-17-0481-01	- 95,273 - 128,032
UNIVERSITY OF MICHIGAN 93.855 3004744318	- 195,015
UNIVERSITY OF PENNSYLVANIA/PHILADELPHIA, PA 93.855 571380	,

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Federal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
Biomedical Research and Research Training				
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.859	T546559	-	(3,898)
EMORY UNIVERSITY/ATLANTA, GA	93.859	T674760	-	77,011
EMORY UNIVERSITY/ATLANTA, GA	93.859	T720873	-	(72,234)
HARVARD UNIVERSITY/BOSTON, MA	93.859	133233-5068506	-	97,796
M.D. ANDERSON CANCER CENTER/HOUSTON,TX	93.859	3001093383	-	72,234
NEW YORK UNIVERSITY LANGONE MEDICAL CENTER/NEW YORK, NY	93.859	17-A1-00-007405-01	_	103,231
UNIVERSITY OF WISCONSIN - MADISON/MADISON WI	93.859	#856K520	-	73,074
Child Health and Human Development Extramural Research				
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.865	A081027	-	30,146
EMORY UNIVERSITY/ATLANTA, GA	93.865	T696074	-	37,019
UNIV OF ALABAMA/TUSCALOOSA, AL	93.865	T949806	_	61,985
Aging Research				
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.866	A007350	_	39,177
EMORY UNIVERSITY/ATLANTA, GA	93.866	A054728	_	15,965
MAYO CLINIC/ROCHESTER, MN	93.866	GEO-233617/PO#65936217	20,668	221,734
UNIVERSITY OF MIAMI MEDICAL SCHOOL/MIAMI, FL	93.866	SPC-000552 GR000165	-	(4,911)
UNIVERSITY OF MICHIGAN/	93.866	SUBK00008360	_	73,531
UNIVERSITY OF NORTH CAROLINA/CHAPEL HILL, NC	93.866	#5111414	_	118,665
WEILL CORNELL MEDICAL COLLEGE/NEW YORK, NY	93.866	ADV PROJECT- SUB W/WCM	_	82,735
Vision Research				,
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.867	#A043837	_	31,936
EMORY UNIVERSITY/ATLANTA, GA	93.867	A051015	_	39,230
EMORY UNIVERSITY/ATLANTA, GA	93.867	T806043	_	501
MASSACHUSETTS INST OF TECH (MIT)/CAMBRIDGE, MA	93.867	#5710003266	_	659
NEW YORK UNIVERSITY/NEW YORK, NY	93.867	17-A0-00-006701-01	_	67,252
NORTHWESTERN UNIVERSITY/EVANSTON, IL	93.867	SP0028943-PROJ0007598	-	107,582
UNIVERSITY OF COLORADO	93.867	FY17.558.004_AMD5		99
Autism Collaboration, Accountability, Research, Education, and Support	33.007	1 17.556.004_AMD5		99
Passed through from:				
EMORY UNIVERSITY/ATLANTA, GA	93.877	T652508		29,518
Passed through from:	93.077	1032300		29,510
EMORY UNIVERSITY/ATLANTA, GA	93.967	T807472 5P01AI125180-02		44,626
EMORY UNIVERSITY/ATLANTA, GA	93.967	T674525	_	158,511
Preventive Health and Health Services Block Grant	33.301	1074323		130,311
Passed through from:				
BOSTON CHILDREN'S HOSPITAL/BOSTON, MA	93.991	GENFD0001493133		35,844
DANA-FARBER CANCER INSTITUTE INC./BOSTON, MA	93.991	1242101	-	39,275
EMORY UNIVERSITY/ATLANTA, GA	93.991	A031295		168,006
EMORY UNIVERSITY/ATLANTA, GA	93.991	T783523	-	90,418
EMORY UNIVERSITY/ATLANTA, GA	93.991	T846705	-	141,893
EMORY UNIVERSITY/ATLANTA, GA	93.991	T935644	-	52,785
GEORGIA STATE UNIVERSITY	93.991	SP00013700-01B	-	3,048
GEORGIA STATE UNIVERSITY/ATLANTA, GA	93.991	SP00013700-01B SP00013351-03	-	81,032
IMS GOVERNMENT SOLUTIONS INC/FAIRFAX, VA	93.991	2017-IMS-SC-GT001	-	49,887
IMS GOVERNMENT SOLUTIONS INC/FAIRFAX, VA		2017-IMS-SC-GT001 2017-IMS-SC-GT002	-	
NATIONWIDE CHILDREN'S HOSPITAL/COLUMBUS, OH	93.991		-	86,576
NORTHROP GRUMMAN SYSTEMS CORP/MCLEAN, VA	93.991	700090-0519-00 7500152764	-	32,390
	93.991		-	91,456
NORTHWESTERN UNIVERSITY/EVANSTON, IL	93.991	60047538 GIT	-	56,279
PHOTOSOUND TECHNOLOGIES INC./HOUSTON, TX	93.991	AGR DTD 04/20/18 AGR DTD 10/01/2017	-	39,630
PHOTOSOUND TECHNOLOGIES INC./HOUSTON, TX	93.991		-	14,747
THRUST INTERACTIVE/ATLANTA, GA	93.991	9R44GM130282-02	-	34,308
THRUST INTERACTIVE/ATLANTA, GA	93.991	AGR DTD 03/20/2017	-	10,944
UNIVERSITY OF ALABAMA AT BIRMINGHAM/BIRMINGHAM, AL	93.991	000508606-016	-	42,104
UNIVERSITY OF LOUISVILLE/LOUISVILLE, KY	93.991	ULRF 14-1431	-	
UNIVERSITY OF CONSCILLE/LOUISVILLE, KY	93.991	ULRF 17-0029-01	-	203,482
UNIVERSITY OF OREGON/EUGENE, OREGON	93.991	215830A	-	256,131
W-Z BIOTECH LLC./LEXINGTON, KY	93.991	AGR DTD 02/15/2017	0.400.440	94,576
Total Department of Health and Human Services			8,130,149	53,430,719

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Federal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
Department of Homeland Security				
State and Local Homeland Security National Training Program	97.005		241,155	264,070
Homeland Security Research, Development, Testing, Evaluation, and Demonstration of Technologies				
Related to Nuclear Threat Detection	97.077		77,268	351,440
State and Local Homeland Security National Training Program				
Passed through from:				
BERRIEHILL RESEARCH CORP/DAYTON, OH	97.005	AQUA_S2212_GTARC	-	70
JOHNS HOPKINS APPLIED PHYSICS LAB/LAUREL, MD	97.005	141999	-	5,760
SCIENTIFIC RESEARCH CORP/ATLANTA, GA	97.005	SR20180956	-	128,958
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN/CHAMPAIGN, IL ZETA ASSOCIATES INC//FAIRFAX, VA	97.005 97.005	077083-16371 173118LS-GTARC-01	-	121,324 256,668
Centers for Homeland Security	97.005	173116L3-GTARC-01	-	230,008
Passed through from:				
ARIZONA STATE UNIVERSITY	97.061	18-340	_	369,890
Homeland Security Grant Program	07.007	10 0 10		000,000
Passed through from:				
GEORGIA EMERGENCY MGMT & HOMELAND SECURITY AGCY/ATLANTA, GA	97.067	DELIVERY ORDER 63	_	55,427
Total Department of Homeland Security			318,423	1,553,607
				,,,,,,,
Agency for International Development				
USAID Foreign Assistance for Programs Overseas				
Passed through from:				
FHI 360/DURHAM, NC	98.001	#PO16003387	52,552	824,153
Total Agency for International Development			52,552	824,153
Total Research and Development-Cluster			108,338,561	723,093,107
Student Financial Assistance-Cluster:				
Department of Education				
Federal Supplemental Educational Opportunity Grants	84.007		-	631,203
Federal Work-Study Program	84.033		-	567,443
Federal Perkins Loan Program_Federal Capital Contributions	84.038		-	5,145,976
Federal Pell Grant Program	84.063		-	11,425,574
Federal Direct Student Loans	84.268			79,348,522
Total Department of Education				97,118,718
Total Student Financial Assistance-Cluster				97,118,718
Other Programs:				
Department of Agriculture Small Business Innovation Research				
Passed through from:				
AMERICA'S SMALL BUSINESS DEVELOPMENT CENTERS/BURKE, VA	10.212	AGMT EXEC 12/15/17	_	21,960
Total Department of Agriculture				21,960
Department of Commerce				
Trade Adjustment Assistance for Firms	11.313		434,303	1,196,734
Manufacturing Extension Partnership	11.611		-	3.032.905
Minority Business Resource Development	11.802		65,000	319,410
MBDA Business Center	11.805		-	266,094
Measurement and Engineering Research and Standards				
Passed through from:				40,960
Passed through from: GENEDGE ALLIANCE/MARTINSVILLE, VA	11.609	138138		
GENEDGE ALLIANCE/MARTINSVILLE, VA	11.609	138138	499,303	
GENEDGE ALLIANCE/MARTINSVILLE, VA Total Department of Commerce Department of the Army		138138	499,303	4,856,103
GENEDGE ALLIANCE/MARTINSVILLE, VA Total Department of Commerce Department of the Army Basic Scientific Research	12.431	138138	499,303	4,856,103 174
GENEDGE ALLIANCE/MARTINSVILLE, VA Total Department of Commerce Department of the Army		138138	499,303	4,856,103
GENEDGE ALLIANCE/MARTINSVILLE, VA Fotal Department of Commerce Department of the Army Basic Scientific Research Basic, Applied, and Advanced Research in Science and Engineering Fotal Department of the Army	12.431	138138	499,303	4,856,103 174 2,576
GENEDGE ALLIANCE/MARTINSVILLE, VA Total Department of Commerce Department of the Army Basic Scientific Research Basic, Applied, and Advanced Research in Science and Engineering	12.431	138138	499,303	4,856,103 174 2,576

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Page	Federal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures	
ROTION Communication Content Properties (Content Properties Content	Department of Defense					
Persist Brough Trook		12.630		-	753,158	
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Promotion of the Humaniles Releaser\(a\) \$1,364 \$0,833 \$0.0000 \$1,364 \$0.0000 \$1.0	National Endowment for the Humanities					
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Page	Promotion of the Humanities Office of Digital Humanities	45.169		17,384	90,833	
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Page		45 312		_	7 213	
S. Nuclear Regulatory Commission Scholarship and Fellowship Program 77.008 55.000 55		40.012				
Page	Nuclear Regulatory Commission					
Department of Energy Defice of Science Financial Assistance Program \$1.049 65.110 Nuclear Energy Research, Development and Demonstration \$1.121 6 105.990 Office of Science Financial Assistance Program \$1.049 6 105.990 Office of Science Financial Assistance Program \$1.049 6 6 105.990 REPLIA DE NISSA SIGFELLOWSHIP \$1.049 6 6 105.912 KRELL DOE NINSSA SIGFELLOWSHIP \$1.049 6 6 105.912 KRELL INSTITUTE/IAMES, IA		77.008		-		
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Total Department of Education 1,402,604 3,559,682 Department of Health and Human Services Alzheimer's Disease Demonstration Grants to States 93.051						
Department of Health and Human Services Alzheimer's Disease Demonstration Grants to States 93.051		84.367	RH216-361/S001357	1,402,604		
Alzheimer's Disease Demonstration Grants to States 93.051 1						
		93.051		_	1	
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SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

Federal Grantor/Pass-Though Grantor/Cluster or Program Title	Federal CFDA Number	Pass-through Entity ID Number	Amount Passed Through to Subrecipient	Federal Expenditures
Homeland Security				
Centers for Homeland Security				
Passed through from:				
ARIZONA STATE UNIVERSITY/TEMPE, AZ	97.061	18-341	94,852	282,524
ARIZONA STATE UNIVERSITY/TEMPE, AZ	97.061	18-310	-	119,014
ARIZONA STATE UNIVERSITY/TEMPE, AZ	97.061	ASUB00000018	<u>-</u> _	9,000
Total Homeland Security			94,852	410,538
Total Other Programs			2,014,143	12,237,851
Total Expenditures of Federal Awards			\$ 110,352,704	\$ 832,449,676

NOTES TO SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

YEAR ENDED JUNE 30, 2019

Note 1—Basis of presentation

The accompanying schedule of expenditures of federal awards includes the federal grant activity of Georgia Tech Research Corporation ("GTRC"), Georgia Tech Applied Research Corporation ("GTARC"), and Georgia Institute of Technology ("GIT") and is presented on the accrual basis of accounting. The information in this schedule is presented in accordance with the requirements of the Uniform Guidance. Therefore, some amounts presented in this schedule may differ from amounts presented in or used in the preparation of the basic financial statements. Because the schedule of expenditures of federal awards presents only a selected portion of the activities of GIT, it is not intended to, and does not, present either the financial position, changes in fund balances, or cash flows of GIT.

Basis of Accounting – Expenditures reported on the schedule of expenditures of federal awards are reported on the accrual basis of accounting. Such expenditures are recognized following the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable.

Indirect Cost Rate – GTRC, GTARC, and GIT have elected not to use the 10% de minimis indirect cost rate as allowed under the Uniform Guidance.

Note 2—Catalog of Federal Domestic Assistance ("CFDA") numbers

CFDA numbers that are available for each federal award program are indicated on the schedule of expenditures of federal awards.

Note 3—Student financial aid expenditures

Expenditures for student financial aid programs include the Federal Pell grants to students, the federal share of students' Federal Supplemental Educational Opportunity Grant (FSEOG) program grants, the Federal Work Study (FWS) program earnings, certain other federal financial aid for students, and administrative cost allowances, where applicable. During the fiscal year ended June 30, 2019, GIT disbursed \$91,972,742 in new loans under the Federal Direct Student Loan Programs which included Federal Stafford Loans and Federal PLUS loans. The Federal Perkins Loan Program is administered directly by GIT and balances and transactions relating to the program are included in GIT's financial statements. During the fiscal year ended June 30, 2019, GIT did not disburse new loans under the Federal Perkins Loan Program. The balance of loans outstanding under the Federal Perkins Loan program was \$5,145,976 as of June 30, 2019.

Note 4—Contingencies

These award programs are subject to financial and compliance audits by grantor agencies. The amount, if any, of expenditures that may be disallowed by the grantor agencies cannot be determined at this time, although GTRC, GTARC, and GIT expect such amounts, if any, to be immaterial.

SCHEDULE OF FINDINGS AND QUESTIONED COSTS

YEAR ENDED JUNE 30, 2019

I. Summary of the Auditor's Results

<u>Financial Statements – Georgia Tech Research Corporation and Georgia Tech Applied Research Corporation</u>

The auditor's report expresses an unmodified opinion on the financial statements of the Georgia Tech Research Corporation and the Georgia Tech Applied Research Corporation.

No significant deficiencies in internal control over financial reporting which would be required to be reported in the Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of the Financial Statements Performed in Accordance with *Government Auditing Standards* were reported as a result of the audit.

No instances of noncompliance material to the financial statements of the Georgia Tech Research Corporation and the Georgia Tech Applied Research Corporation, which would be required to be reported in accordance with *Government Auditing Standards*, were reported as a result of those audits.

Financial Statements - Georgia Institute of Technology

The State of Georgia Department of Audits and Accounts' audit report expresses an unqualified opinion on the financial statements of the Georgia Institute of Technology for the year ended June 30, 2019, and has issued reports thereon and reports on internal control structure and compliance with laws and regulations based on its audit of the financial statements dated December 23, 2019.

No significant deficiencies in internal control over financial reporting which would be required to be reported in the Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of the Financial Statements Performed in Accordance with *Government Auditing Standards* were reported by the State of Georgia Department of Audits and Accounts.

No instances of noncompliance material to the financial statements of Georgia Institute of Technology, which would be required to be reported in accordance with *Government Auditing Standards*, were reported as a result of the audit.

Federal Awards

The auditor's report on compliance for the major federal award programs for Georgia Tech Research Corporation, Georgia Tech Applied Research Corporation, and Georgia Institute of Technology expresses an unqualified opinion on all major programs.

No significant deficiencies in internal control over compliance applicable to major federal award programs which would be required to be reported in the Report on Compliance with Requirements Applicable to Each Major Program and on Internal Control over Compliance in Accordance with Section 200.516 of *Uniform Guidance* were reported as a result of the audit.

The audit disclosed no findings required to be reported in accordance with Section 200.516 of *Uniform Guidance*.

SCHEDULE OF FINDINGS AND QUESTIONED COSTS (CONTINUED)

YEAR ENDED JUNE 30, 2019

I. Summary of the Auditor's Results (Continued)

Identification of Major Programs

The programs tested as a major program were:

CFDA#_	Name of Federal Program
Various	Research and Development Cluster
Various	Student Financial Assistance Cluster
11.611	Manufacturing Extension Partnership

The dollar threshold for Type A programs was \$3,000,000.

The auditee did qualify as a low-risk auditee.

II. Financial Statement Findings

<u>Financial Statement Finding – Georgia Research Corporation, Georgia Tech Applied Research Corporation</u>

None

Financial Statement Finding - Georgia Institute of Technology

None

III. Federal Award Findings and Questioned Costs

None