

**Clemson University
Clemson, South Carolina**

**Reports Required by *Government Auditing Standards*
and the *Uniform Guidance***

For the year ended June 30, 2020

	<u>Page</u>
Schedule of Expenditures of Federal Awards	1-23
Notes to the Schedule of Expenditures of Federal Awards	24-25
Independent Auditor’s Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with <i>Government Auditing Standards</i>	26-27
Independent Auditor’s Report on Compliance for Each Major Federal Program; Report on Internal Control Over Compliance; and Report on the Schedule of Expenditures of Federal Awards Required by the Uniform Guidance.....	28-30
Schedule of Findings and Questioned Costs.....	31-35
Summary Schedule of Prior Audit Findings	36-37

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER				
Department of Agriculture				
Acquisition of Goods and Services	10.RD	58-6080-0-009	\$ -	\$ 29,316
Acquisition of Goods and Services	10.RD	58-6080-8-008	-	61,992
Acquisition of Goods and Services	10.RD	58-6080-9-002	-	71,111
Acquisition of Goods and Services	10.RD	58-6082-8-013	-	2,823
Acquisition of Goods and Services	10.RD	58-6082-9-001	-	18,313
Acquisition of Goods and Services	10.RD	58-6082-9-008	-	32,864
Acquisition of Goods and Services	10.RD	58-6082-0-002	-	77,841
Acquisition of Goods and Services	10.RD	58-6082-9-009	-	15,237
A Multi-state Effort to Contain and Manage the Invasive Guava Root Knot Nematode (GRKN) in Vegetable Crops	10.RD	2019-51181-30018	179,879	284,719
Adaptation of Intelligent Spray Application Technologies in Peach Orchards	10.RD	59-5082-6-002	-	101,770
Advancing Virus - Treehopper - Host Interactions to Devise and Disseminate Disease Management Recommendations	10.RD	2018-67011-31696	-	2,951
Animal Health	10.RD	unknown	-	20,063
Are Herbivore Induced Volatiles Relevant to Biocontrol of Crop Pests?	10.RD	2017-67012-28615	-	8,847
Areawide Pest Management of the Invasive Sugarcane Aphid in Grain Sorghum- Clemson University, South Carolina	10.RD	58-6048-6-015	-	5,328
Biology of the redbay ambrosia beetle in sassafras at the leading edge of laurel wilt	10.RD	19-CS-11330129-030	-	22,863
Biosensor-Based Assay for the Detection and Quantification of Quorum Sensing Autoinducers (AcyI Homoserine Lactones and Autoinducer-2) Produced in Package Foods	10.RD	2018-67031-27359	-	8,098
Breeding Biofortified Pulse and Cereal Crops for US Organic Cropping Systems	10.RD	2018-51300-28431	-	257,256
Building Entrepreneurial Farm Management and Land Stewardship Capacity for South Carolina New and Beginning Farmers	10.RD	2016-70017-25351	19,895	64,955
Characterize Seasonal Light Response Curves of Ligustrum Sinense (Chinese Privet) in the Understory of Hardwood Forests	10.RD	19-JV-11242311-051	-	8,499
Clean Water3 - Reduce, Remediate, Recycle: Informed Decision Making to Facilitate Use of Alternative Water Resources	10.RD	2014-51181-22372	632,861	737,909
Clemson-South Carolina State CYFAR	10.RD	2018-41520-28750	66,400	128,585
Collaborative Research to Improve Evaluation of Advanced and Diverse Wheat Germplasm for FHB Resistance in the Atlantic Coastal Plain	10.RD	58-6070-8-014	-	29,151
Crop Protection and Pest Management Extension Implementation Program for South Carolina	10.RD	2017-70006-27156	-	136,722
Demonstrating the Influence of Cover Crop Termination Time on Nutrient Provision to Yield of Cash Crop	10.RD	NR184639XXXXG006	-	25,051
Design a Framework for Payments for Ecosystem Service and Analysis of Adoption Behavior in the Santee Basin	10.RD	NR184639XXXXG002	-	4,002
Developing Host Plant Resistance for Thrips in Cotton to Address Emerging Insecticide Resistance	10.RD	2017-70006-27264	2,482	44,890
Developing Resources to Manage the Exotic Root-Knot Nematode Meloidogyne Enterolobii	10.RD	58-6080-8-010	-	3,794
Development and Comparison of Pathogen Viability Tests for Seed Certification and Improved Management of Bacterial Spot of Tomato	10.RD	2017-70006-27206	10,633	64,390
Development and Implementation of Biological Control Tactics for Key Vegetable Insect Pests in the Southeastern US	10.RD	2018-51300-28425	134,730	153,056
Development of a Field Detection Tool for Old World Bollworm, Helicoverpa Armigera	10.RD	AP19PPQS&T00C039	-	5,791
Development of Genomic and Molecular Tools to Accelerate the Identification and Delivery of Durable Genetic Resistance to Fov4 in Upland Cotton	10.RD	2019-67029-29915	110,881	148,873
Development of Technical Tools and Publications to Implement Energy Conservation in Animal Production Facilities (under the Piedmont South Atlantic CESU Umbrella Agreement Number 68-3A75-13-107)	10.RD	68-3A75-18-063	(14,810)	(16,290)
Discover Sources, Genes, and Develop New Varieties and Germplasm with Improved Meal Protein Utilizing Diversity in Cultivated and Wild Soybeans	10.RD	59-6070-0-019	-	8,332
Edge of Field Water Quality Monitoring	10.RD	68-4639-15-527	-	13,539
Effects of Prescribed Fire Intensity and Frequency on Bat Foraging Habitat Use and Roosting Habitat	10.RD	17-JV-11330134-108	-	9,802
Effects of Prescribed Fire Intensity and Frequency on Bat Foraging Habitat Use and Roosting Habitat - Year 2, Phase 2	10.RD	19-JV-11330134-041	-	8,531
Effects of Prescribed Fire on Ips Bark Beetles	10.RD	19-DG11083150-039	-	50,401
Enable the Use of Mass Timber Products for Non-Residential Buildings in High Velocity Hurricane Zone	10.RD	19-DG11083150-015	-	5,765
Enhancing FANH Education Through Sensor-Linked Mobile Applications to Improve Technical Literacy	10.RD	2017-70003-26390	-	11,715
Enhancing the Nutrient Use Efficiency in Crop Plants by Tailoring the Nitrogen and Phosphorous Release Rates from Rendered Animal Materials	10.RD	2016-67020-25264	-	89,442
Evaluating the Net Climate Benefits of Switchgrass Versus Pine Plantations in the Southeast: A Seed Grant to Support Data Collection and Model Development	10.RD	2017-68002-26612	-	1,055
Evaluation of Paper Bags for Pest and Disease Management in Organic Peach Production	10.RD	2016-51300-25726	88,920	165,958
Expanding the Use of Wood Building Products in SC	10.RD	15-CA-11083150-053	-	16,888
Forest Road Soil Stabilization Demonstration Utilizing Native and Non-Native Cover Crops	10.RD	NR184639XXXXG004	-	24,268
FY19BFP Turkey(Uslu) Triple mloGene@Clmsn	10.RD	FX19BF-10777R010	-	27,643
FY2017 NCPN Clemson/Scott Southeastern Budwood	10.RD	AP17PPQS&T00C138	-	5,076
FY2018 NCPN- Clemson University- Southeast	10.RD	AP18PPQS&T00C046	-	56,609
FY2019 NCPN Clemson University Southeast	10.RD	AP19PPQS&T00C105	-	69,854
Genomics, Transcriptomics and Microbiome Analysis of Dipteran Pests Affecting Livestock and Humans	10.RD	58-3020-6-015	-	10,104
Genotypic Specificity in Plant-Herbivore Interactions and its Application to Management of an Invasive Weed	10.RD	2015-67014-22956	-	41,888
Green Salamander Habitat	10.RD	19-PA-11081200-115	-	453
Harvesting Options for Restoration Treatments	10.RD	19-JV-11330132-087	-	12,785
Hatch & Hatch Multistate	10.RD	unknown	-	5,188,855
Horn Fly Antennal and Midgut Transcriptome Analysis	10.RD	58-6205-4-010	-	3,422
Improving the Nutritional Value of Chickpeas	10.RD	58-2090-8-084	-	27,845
Integrated Housing Design and Logistics for Disaster Relief	10.RD	19-JV-11111133-037	-	10,458

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Department of Agriculture, Continued				
Interactive Effects of Temperature and Photoperiod on Flower Initiation and Development	10.RD	58-5082-8-013	-	41,577
Investigating the Plant-Soil Feedback That Maintains the Legacy Effect in Invaded Ecosystems to Formulate Knowledge-Based Restoration Practices	10.RD	2017-67014-26698	-	76,825
Investigation of the Diversity of Phytoseiid Predatory Mites in Watermelons and Tomato and Their Use of Non-Prey Resources	10.RD	2018-67012-27994	-	56,976
Isolation, Identification, and Management of Phytophthora Species in Nurseries and Greenhouses	10.RD	58-8062-8-015	-	30,775
Keeping the Green Heart Healthy: An Ecologically Sound and Economically Viable Conservation Plan for the Cowasee Basin	10.RD	2018-67020-27854	-	53,989
McIntire Stennis	10.RD	unknown	-	998,671
Mitigation Strategies for Ergot Alkaloid-Induced Vasoconstriction and Intrauterine Growth Restricted Muscle Development	10.RD	2020-67016-30816	-	725
Modeling Fire-Induced Tree Mortality for Eastern Hardwood Forests	10.RD	16-JV-11242311-079	-	36,402
Monitoring Fire Effects in the Southern Appalachian: Science Delivery	10.RD	18-JV-11330136-080	-	21,660
Monitoring Fire Effects in the Southern Appalachian: Science Delivery	10.RD	19-JV-11330136-079	-	25,164
National Needs Training in Computationally Intensive Genomic Analysis and Application	10.RD	2016-38420-25299	-	28,901
On-Farm Demonstration and Evaluation of Cloud-Based Soil Moisture Monitoring Technologies for Irrigation Scheduling to Enhance Farm Profitability and Environmental Quality	10.RD	NR203A750013G010	-	3,785
On-Farm Demonstrations to Assist Producers with How Soil Sampling Influences Nutrient Management Decisions	10.RD	69-4639-17-140	-	2,577
Outreach Activities for the Consortium of Appalachian Fire Managers and Scientists	10.RD	18-JV-11330136-079	-	22,507
Outreach Activities for the Consortium of Appalachian Fire Managers and Scientists	10.RD	19-JV-11330136-078	-	46,124
Pine Seedling and Thinning Demonstration Site Development in the Piedmont of South Carolina	10.RD	69-4639-17-145	-	(617)
Potential of Woody Substrate- Based Bioreactors to Remediate Plant Pathogens in Agricultural Runoff for Onsite Water Reuse	10.RD	2018-67011-28074	-	4,156
Promote the Sustainable Carbon Market to South Carolina Forest Landowners	10.RD	69-4639-17-147	-	22,754
Promoting Water, Soil and Nutrient Conservation in Peach Orchards with Trees Planted in Raised Beds	10.RD	NR184639XXXXG005	-	1,120
Quantifying the Cover Crops Nitrogen and Potassium Credit to 3-yr Cotton-Peanut Rotation	10.RD	NR184639XXXXG009	-	41,165
Roles of Microplastics in Reclaimed Water - Altering Persistence and Bioavailability of Antimicrobials in Agricultural Soils	10.RD	2020-67019-31022	-	243
SC FY19 Forest Pest Outreach - Underserved Landowners	10.RD	AP19PPQF0000C259	-	4,288
Seed Grant on Genomics of Prebiotic Carbohydrates Affecting Lentil Nutritional Quality	10.RD	2018-67014-27621	-	61,097
Selection, Molecular and Genetic Analysis of HLB Tolerant/Resistant Variant Citrus Plants	10.RD	2017-70016-26051	311,916	477,510
Soil Health Demonstration at Pee Dee REC	10.RD	NR184639XXXXG012	-	20,385
Solutions to the Armillaria Root Rot Threat Affecting the U.S. Stone Fruit Industry	10.RD	2018-51181-28378	-	6,225
South Carolina Aquaculture Futures -Evaluating Socioeconomic Potentials for Rural Communities and Limitations for Entrepreneurs	10.RD	2019-67024-29671	-	33,728
Storage, Reactivity, and Bioavailability of Mercury in Manage Forests - Balancing Mercury Toxicity and Wildfire Risks Through Effective Fuel Reduction	10.RD	2018-67019-27795	53,526	100,138
The Impact of Leptin Concentrations on the Development of Appetite Regulation in Beef Calves	10.RD	2018-67016-27472	-	18,362
To Evaluate the Potential of Organic Farming Practices in South Carolina	10.RD	69-4639-17-142	-	12,917
Transforming Nanocellulose Into an Advanced Biorenewable Reinforcement with Hyperbranched Polymers	10.RD	2016-67021-25016	1,451	108,478
Transgene Containment and Removal in Important Perennial Grasses	10.RD	2019-33522-30102	-	93,030
Unlocking the Potential of Frozen Grasshoppers	10.RD	AP19PPQS&T00C221	-	3,108
Utilization of Cross Laminated Timber	10.RD	16-DG-11083150-054	-	(21,870)
Utilizing Deep-Rooted Cover Crops to Enhance Water Quality, Soil Health, and Farm Profits While Reducing Soil Compaction in Coastal Plain Region	10.RD	69-3A75-17-274	41,229	141,593
Whole Genome Sequencing of the Face Fly, Musca Autumnalis	10.RD	58-3094-7-018	-	62
Will Use of Alternate Winter Roosts by Tri-Colored Bats Protect Them From White-Nose Syndrome?	10.RD	18-JV-11330134-001	-	17,036
Yield Potential of Commercial Varieties under Drought-Identifying and Overcoming Weaknesses via the Public Breeding Pipeline (South Carolina)	10.RD	59-6070-0-006	-	31,254
Pass-through programs from:				
Cornell University				
Developing an Eastern Broccoli Industry Through Cultivar Development, Economically and Environmentally Sustainable Production and Delivery	10.RD	79598-10781	-	59,964
Emerging Broccoli Cultivar Trials	10.RD	82606-11069	-	1,500
Michigan State University				
RosBREED: Combining Disease Resistance with Horticultural Quality in New Rosaceous Cultivars	10.RD	RC104285B	-	220,855
North Carolina State University				
Cross-Commodity Bt Resistance in Dynamic Row Crop Agroecosystems: Linking the Development of GE Technology at the Landscape-Scale to Resistance in Cotton Bollworm	10.RD	2017-2861-01	-	47,707
Economic Impact of the Foliar Disease Downy Mildew and Fungicide Resistance on Cucumbers in the Southeastern US	10.RD	2018-3200-21	-	20,106
Impact of Refuge Management Tactics On Helicoverpa Zea Population Dynamics And Resistance Risk Implications For Bt Crops	10.RD	2019-0194-02	-	12,446
Moving Regional Food Systems Toward Sustainability: An Adaptive and Interactive Online Course in Local Food System Development for NC, SC, and VA Extension Agents and Other Service Providers.	10.RD	2017-1456-03	-	4,061
Enhancing the Sustainability of United States Cropping Systems through Cover Crops and an Innovative Information and Technology Network	10.RD	2019-1507-10	-	4,002
Growing New Roots: Grafting to Enhance Resiliency in U.S. Vegetable Industries	10.RD	2016-1498-01	-	153,987
Pennsylvania State University				
Regional Approach to Cucurbit Downy Mildew Prevention, Monitoring and Management	10.RD	6061-CU-PDA-7029	-	9,547

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Department of Agriculture, Continued				
Pass-through programs from, continued:				
Pennsylvania Department of Agriculture				
Short and long-term solution for Armillaria Root Rot in Prunus; FY2016 Specialty Crop Block Grant Program and 2015 Specialty Crop Multi-State Program	10.RD	ME#44165761 // 16SCCMPA004	143,854	522,202
Pheasants Forever				
A multi-species approach to managing the effects of weather and land cover on upland game birds	10.RD	LPCI-16-08	-	263
Rutgers, The State University of New Jersey				
Protecting Pollinators with Economically Feasible and Environmentally Sound Ornamental Horticulture	10.RD	0876-PP2018-Tharayil / PO# 1046399	-	211,890
Protecting Pollinators with Economically Feasible and Environmentally Sound Ornamental Horticulture	10.RD	6065-PP2016-Chong / PO#479850	-	87,230
Protecting Pollinators with Economically Feasible and Environmentally Sound Ornamental Horticulture	10.RD	6142-PP2016-Tharayil PO#607871	-	2,386
South Carolina Department of Agriculture				
Are the Gummy Blight Fungi in South Carolina Becoming Resistant to Tebuconazole?	10.RD	19-G013 AM190100XXXXG013	-	13,140
Capture and Reuse of Phosphorus in Specialty Crop Production	10.RD	AM180100XXXXG026	-	19,954
Choosing the Right Fungicides to Prevent Spread of Gummy Stem Blight in Watermelon Fields	10.RD	D033/AM170100XXXXG034	-	2,326
Detecting and Managing the Hypervirulent Nematode Meloidogyne enterlobii on Sweet Potato and Pepper in South Carolina	10.RD	AM180100XXXXG026	14,615	19,613
Detecting and Managing the hypervirulent nematode Meloidogyne enterlobii on Sweet Potato and Pepper in South Carolina	10.RD	19-G013 AM190100XXXXG013	-	144
Developing Strategies to Improve Management of Bacterial Diseases in South Carolina Peach Orchards	10.RD	19-G013 AM190100XXXXG013	-	992
Developing Strategies to Manage Premature Peach Tree Decline from Cytospora Canker in Peach Orchards	10.RD	AM180100XXXXG026	-	27,029
Development of a Website for Weed Control Recommendations in Specialty Crops in South Carolina	10.RD	AM180100XXXXG026	-	36,009
Enabling Breeding of Peach Cultivars for Spring Climate Resilience Traits	10.RD	D039/AM170100XXXXG034	-	2,954
Evaluation of Novel POST-Emergent Herbicide Concepts in Sweet Potato	10.RD	D040/AM170100XXXXG034	-	13,071
Good Agricultural Practices for Field Pea and Kale Nutritional Breeding in South Carolina	10.RD	AM180100XXXXG026	-	10,400
Improving Irrigation Scheduling for Maximum Fruit Size in Peach Orchards in South Carolina	10.RD	AM180100XXXXG026	-	11,778
Managing Cercospora Leaf Spot on Beet Greens with Tolerant Cultivators and Conventional and Organic Fungicides	10.RD	19-G013 AM190100XXXXG013	-	7,206
Reducing the Impacts of Chemical Insect Pest Management in Cucurbit Crops	10.RD	AM180100XXXXG026	-	4,800
Selecting Organic Kale Varieties with Increased Production and Nutritional Quality	10.RD	16-SCBGP-SC-0026	-	759
South Carolina Cantaloupe Disease Survey	10.RD	AM180100XXXXG026	-	10,555
Training Growers in Use of Cover Crops and Reduced Tillage for Organic Vegetable Production	10.RD	AM170100XXXXG034	-	8,149
SC Forestry Commission				
Hemlock Woolly Adelgid	10.RD	17-DG-11083145-001	-	9,997
Ice Storm Impact on Forest Health: Monitoring & Predicting the Growth & Mortality of Ice-damaged Trees in Southern Forests	10.RD	NONE	-	37,459
Tennessee Department of Agriculture - Forestry Division				
Developing a Regional Forest Health and Invasive Species Outreach Program	10.RD	32510-06619	-	158,901
Texas A&M University				
Research and Extension to Address Herbicide Resistance Epidemic in Annual Bluegrass in Managed Turf Systems	10.RD	06-505773-01005-M1900021	-	97,190
The Center for Produce Safety				
Identifying Competitive Exclusion Microorganisms against Listeria monocytogenes from Biological Soil Amendments by Metagenomic, Metatranscriptomic, and Culturing Approaches	10.RD	2019CPS07	-	39,426
Preservation of Stone Fruits by Spray Application of Edible Coatings with Antimicrobial Properties	10.RD	2018CPS01; Grant # SCB17053	-	1,944
Preventive Sanitation Measures for the Elimination of Listeria monocytogenes Biofilms in Critical Postharvest Harboring Sites	10.RD	2019CPS02	-	60,058
Verification and Validation of Environmental Monitoring Programs for Biofilm Control in the Packing House	10.RD	2020CPS02	-	17,216
The Longleaf Alliance				
Education and Outreach to Increase Longleaf Pine Ecosystem Restoration in SC	10.RD	33.2019.02.00	-	626
The Nature Conservancy				
Inspiration and Empowerment: Developing Effective Win-Win Solutions for Aquatic Life and Agriculture	10.RD	Clemson_04_2020_A106203	-	5,752
University of Arkansas				
Development and Implementation of Innovative Food Safety Training Tools for the Production and Distribution of Microgreens	10.RD	91172-01	-	21,208
Environmental Assessments to Customize Food Safety Training for Very Small to Small Berry Producers in the Southeastern United States	10.RD	91163-01	-	39,957
University of Florida				
Evaluate the Efficacy of Various Products Against Ambrosia Beetles on Ornamental Plants	10.RD	PO: 1800632814	-	405
Strategic Management of Multiple Diseases in Strawberry Nurseries and Production Fields in the Eastern United States	10.RD	UFDSP00010493	-	1,953
University of Georgia				
Cover Cropping to Improve Soil Moisture Content for the Following Cash Crop	10.RD	SUB800001798	-	9,737
Cover Cropping to Increase the Sustainability of Cropping Systems by Developing Soil Organic Matter, Improving Soil Health, and Suppressing Weed Growth	10.RD	SUB800001662	-	2,404
Developing Sustainable and Profitable Tools for Producing Tomato in Fields Infested with Soilborne Pathogens, Nematodes, and Weeds	10.RD	SUB800002138	-	30,632
Incorporating Natural, Non-toxic Arthropod Resistant Tomato Varieties into Southern Production Systems	10.RD	SUB800002042	47,311	52,567
Southern Region SARE Professional Development Program - Model State Program Assistant	10.RD	SUB800001769	-	5,500
Sustainable Agriculture and Education (SARE) Program	10.RD	SUB800001696	-	4,915
Utility of Anaerobic Soil Disinfestation and Organic Herbicides for Weed and Disease Management in Organic Solanaceous Vegetable Systems	10.RD	SUB800001973	-	64,736

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Department of Agriculture, Continued				
Pass-through programs from, continued:				
University of Kentucky Measuring And Building On Local Food System Vitality For Communities In The South	10.RD	3200001832-18-311 / PO# 7800004462	-	9,289
University of Minnesota Expanding the Diversity of Farm Financial Benchmarking	10.RD	H006425302	-	23,545
US Endowment for Forestry & Communities A Systems Approach to Design and Manufacture CNC-Enabled Lightweight Automotive Components	10.RD	E17-18	-	53,346
Full-Scale Testing of Cross-Laminated Timber Diaphragm In-Plane Shear and Development of a Design Guide for Practitioners	10.RD	E17-96	936	60,023
Washington State University Genome Database for Rosaceae: Empowering Specialty Crop Research Through Big-Data Driven Discovery and Application In Breeding	10.RD	123519-G003399	-	99,669
Total Department of Agriculture			1,846,709	13,499,756
Department of Commerce				
US Department of Commerce				
Development of a Mini-Ebit for TES X-ray Detector Development	11.RD	70NANB19H162	-	45,741
Highly Charged Tests of Quantum Electrodynamics and the Breit Interaction	11.RD	70NANB19H024	-	145,932
Improving Disaster Resilience by Quantifying WUI community ember exposure	11.RD	70NANB17H213	-	39,511
Novel Time-Dependent Metrology for Precision Spectroscopy of Highly Charged Ions	11.RD	70NANB20H087	-	3,327
Pass-through programs from:				
South Carolina Department of Natural Resources Estimation of Abundance for Age 1 and Adult Atlantic Sturgeon in Two Rivers in the Carolina and Chesapeake Distinct Population Segments (DPSs)	11.RD	SCDNR FY2020-022 P24019487319	-	14,627
SC Research Authority South Carolina Medical Device Alliance	11.RD	CU-2019	-	115,375
SC Sea Grant Consortium A Socioeconomic Evaluation of Stormwater Control Measures to Guide Decision-Making in Coastal South Carolina - Year 1	11.RD	R/CG-2 Year 1	-	26,525
A Socioeconomic Evaluation of Stormwater Control Measures to Guide Decision-Making in Coastal South Carolina - Year 2	11.RD	R/CG-2 Year 2	-	42,154
Economic contribution of coastal nature-based tourism for the state of South Carolina Phase 2	11.RD	A/E-SG7 Phase II	-	20,943
Economic Impact of South Carolina's Coastal Marshes and Wetlands - Phase II	11.RD	A/E-SG10 Phase II	-	14,200
Enabling Terrestrial Omega-3 Production for Aquaculture from Local Natural Resources	11.RD	R/AQUA19-1	-	30,896
Examining the Social Carrying Capacity for Mariculture Development on the South Carolina Coast	11.RD	R/A-36 Year 2	-	58,658
Quantifying Responses of Salt Marsh Productivity to Environmental Variability over Multiple Time Scales using Novel Field Management - Year 1	11.RD	R/ER-50 Year 1	-	32,161
Quantifying Responses of Salt Marsh Productivity to Environmental Variability over Multiple Time Scales using Novel Field Management - Year 2	11.RD	R/ER-50 Year 2	14,781	46,188
Something Very Fishy: A Marine Science STEAM Program for Elementary Schools	11.RD	R/ED-1	-	16,409
University of Delaware At-Bioreactor Trace Metal Quantification and Statistical Process Control in CHO Cell-culture Production (C/I NIMBL)	11.RD	70NANB17H002 / PAA PO 52393	-	83,115
Total Department of Commerce			14,781	735,762
Department of Defense				
2018 and 2019 Clemson Mini-Conference on Discrete Mathematics and Algorithms	12.RD	H98230-18-1-0286	-	9,185
A DIGITAL PLATFORM FOR STUDIES IN LEARNING AND OPTIMIZATION OF LEARNING SYSTEMS	12.RD	N00014-19-1-2610	-	233,039
A Subependymal Giant Cell Astrocytoma (SEGA) Mouse Model	12.RD	W81XWH2010447	-	12,388
A Unified Materials Approach to Mitigating Nonlinearities in HEL Optical Fibers	12.RD	N00014-17-1-2546	256,266	624,065
Abiotic Transformation of Chloroethenes in Low-Permeability Formations	12.RD	W912HQ-16-C-0022	51,672	113,727
Algorithm Design for Optimization in Communication and Navigation	12.RD	FA9453-19-1-0078	-	9,626
Assessing the Impact of Asymmetric Information in Interdiction and Bilevel Games	12.RD	N00014-17-1-2421	-	65,887
Autonomous Agents that Make Contextual-Based Decisions through Associative Learning	12.RD	N00174-19-1-0026	-	113,090
Complete and Resilient Documentation (CARD) for Operational Medical Environments	12.RD	W81XWH-17-C-0238	60,235	413,912
Complex Models on Graph Based Topological Spaces	12.RD	W911NF-17-1-0455	-	119,527
Conic Programming Reformulations and Relaxations for Quadratically Constrained and Quadratic Programs	12.RD	N00014-20-1-2154	-	17,539
Deeply Subwavelength All-Dielectric Nanophotonics in Silicon	12.RD	FA9550-19-1-0057	-	96,728
Discriminatory Transcriptional Response of Environmental Microorganisms and Microbial Communities to Low-Dose Ionizing Radiation	12.RD	HDTRA1-17-1-0002	-	267,717
Exploration of Carbon-Based Hybrid Nanoarchitectures as a Unique Platform for Managing Excited State Energies and Processes	12.RD	FA9550-16-1-0166	-	90,658
High Order Bessel Beams Integrated with Time (HOBBITS)	12.RD	N00014-18-1-2377	-	8,566
High Photon Density Spatiotemporal (OAM+SAM) Vector Beams for Maritime Environment	12.RD	N00014-20-1-2558	-	25,536
HOBBIT Control System Development for Higher Order Bessel Beams Integrated in Time (HOBBIT)	12.RD	N00014-17-1-2779	-	133,772
Hollow-core MWIR Optical Fibers	12.RD	W911NF1910409	-	85,532
Hybrid Integration for Beam Combining on Silicon Photonics Platform-Optoelectronics Program	12.RD	W911NF-18-1-0176	-	93,409
Identifying and Evaluating Impacts to Wetlands from the Savannah River Estuary	12.RD	W912HZ-19-2-0007	-	268,248
Incorporating Matrix Diffusion in the New Modflow Flow and Transport Model for Unstructured Grids	12.RD	W912HQ19C0018	16,976	185,996

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Department of Defense, continued				
Integrated Modal Control and Beam Combining of High Power Diode Arrays for the Next Generation HEL System	12.RD	N00014-17-1-2556	67,251	195,773
Investigating the Range of Response of Auroral Electron Precipitation in High Latitude Electrodynamics	12.RD	FA9550-19-1-0130	-	4,791
Liquid Sampling-Atmospheric Pressure Glow Discharge (LS-APGD) Microplasmas for Elemental, Isotopic, and Molecular Determinations	12.RD	HDTRA1-14-1-0010	-	5,584
Multilevel Hybrid Quantum-classical Algorithms for Combinatorial Optimization	12.RD	W911NF2020075	-	30,229
New Techniques for Network-Coded Multicast Distribution in Wireless Communications Networks	12.RD	N00014-17-1-2418	-	67,113
Non-Destructive Evaluation Precursor Mechanics of Embedded Magnetostrictive Composite Sensor	12.RD	W911NF-17-2-0184	-	79,823
Optimization Under Uncertainty and Conflict: Algorithms for Heterogeneous Quadratic Programs	12.RD	N00014-16-1-2725	-	72,940
Photoacoustic Interactions Using Higher Order Bessel Beams Integrated in Time and Space (Hobbits)	12.RD	N00014-20-1-2037	-	140,191
Pilot Scale Assessment of a Deployable Photocatalytic Treatment System Modified with BiPO4 Catalyst Particles for PFAS Destruction in Investigation-Derived Wastewaters	12.RD	W912HQ-18-C-0085	13,668	32,130
Power Scaling of Combinable Fiber Lasers to Beyond 5kW	12.RD	W911NF-17-1-0454	-	217,078
Predictive Structure-Function Relationships for Enzymes Immobilized on Complex Surfaces	12.RD	HDTRA1-16-1-0023	-	120,549
Preventing Infection by Surface Modification of Orthopaedic Fracture Fixation Implants for Improved Limb Salvage Outcomes	12.RD	W81XWH-14-1-0438	-	30,870
Privacy Support for TLA	12.RD	W911QY-16-C-0105	-	61,294
Pulse-Based Clock Synchronization for Embedded AI	12.RD	W911NF2020054	-	7,494
Reactive Membranes for Rapid Isotopic Analyses of Waterborne Special Nuclear Material	12.RD	HDTRA1-16-1-0016	-	248,334
Southeastern Number Theory Meetings	12.RD	H98230-19-1-0121	-	7,198
Spatially and Temporally Agile Optical Communication Links for Maritime Applications	12.RD	N00014-16-1-3090	-	44,073
Time for Robotics - Technology in Manufacturing Education for Robotics	12.RD	N00014-18-1-2882	12,400	693,386
TrueView Enhancements	12.RD	N6600118P0319	-	67,950
Trust-based Human-Robot Collaboration (HRC) for High-Level Distributed Multi-Robot Motion Planning with Temporal Logic Constraints	12.RD	FA9550-17-1-0050	-	87,496
Pass-through programs from:				
Advanced Robotics for Manufacturing Institution				
Revitalizing Apprenticeships for Small and Medium-Sized Industries	12.RD	ARM-EWD-17-02-02	19,965	71,235
Robotics Workforce Development	12.RD	NONE	-	(36,960)
Auburn University				
Migratory Behavior of Diadromous and Potamodromous Fish at a Rock Arch Rapids Structure in the Cape Fear River, North Carolina	12.RD	20-FAA-360863-Clemson	-	19,238
CFD Research Corporation				
Point of Care Blood Coagulopathy Monitor	12.RD	201905294	-	65,895
Cornerstone Research Group, Inc.				
Phase II SBIR, DHA17-005: Compression Garment with Embedded Electronics for Ambulatory Health and Performance Monitoring	12.RD	2018-1051	-	12,188
Signature Management Textiles	12.RD	PO# 2019-1339	-	35,000
GSI Environmental Inc.				
Development of a Quantitative Framework for Evaluating Natural Attenuation of 1,1,1-TCA, 1,1,1-DCA, 1,1,1-DCE, and 1,4-Dioxane in Groundwater	12.RD	2017-111-CLEMS-01	-	51,493
Massachusetts Institute of Technology				
Virtual Manufacturing Lab (VM-Lab): A Multimedia Design House for Digital Learning in Manufacturing-USA Workforce Education	12.RD	S4916 / PO# 388434	-	124,132
Rowan University				
Advancing Structural Materials for Army Modernization Priorities via Direct Write Approaches	12.RD	51291-4	-	87,698
Scientific Research Corporation				
Joint Mission Environment Test Capability (JMETC) Support	12.RD	SR20181162 // SRC-BOA-0011-16-001	-	(15,374)
Joint Mission Environment Test Capability (JMETC) Support	12.RD	SR20190006/TG07 (2019)	-	106,220
Soar Technology, Inc.				
Mishap Awareness Scenarios and Training for Operational Readiness Responses	12.RD	SC-19-007	-	50,014
Sotera Defense Solutions Inc				
Hydrothermal Cladding of Single Crystal Fibers of Doped YAG. Phase2	12.RD	SC170104	-	14,390
The Johns Hopkins University				
Understanding the Skin Microbiome through the Integration of Metagenomics, Bioinformatics, Spatial Ecology, and Synthetic Biology	12.RD	152174	-	56,467
University of California Santa Barbara				
Highly-Perfect BaSnO3 Thin Films for Electronic Devices	12.RD	KK1905 / N00014-18-1-2704	-	137,382
University of Delaware				
Tailored University Feedstock for Forming (TUFF)	12.RD	42525	-	217,062
University of Illinois				
Internal Cooling of Fiber and Disc Lasers by Radiation Balancing and Other Optical or Phonon Processes	12.RD	084272-16069	-	159,192
University Of Maryland				
Phenology and Phenology Change in the Transmission of Arthropod-Borne Diseases	12.RD	70872-28442102	-	43,024
University of Michigan				
ARC Phase V - An Architectural Framework for Virtual Prototyping of Next Generation Combat Vehicles	12.RD	SUBK00011909 / PO 3005719475	-	98,902
ARC Phase V - Boosting Military Vehicle Hybridization - Developing Modeling, Simulation and Control Tools for Optimal Energy Storage Devices Selection	12.RD	SUBK00011890 / PO 3005661363	35,371	96,248
Automotive Research Center Phase V - Cooperative Agreement: Trust-based Symbolic Motion and Task Planning for Multi-robot Bounding Overwatch	12.RD	SUBK00013068 / PO 3006000781	-	26,018
Heat Rejection Using Advanced Materials - Passive and Active Cooling Strategies	12.RD	3003058759	-	2,948
Optical Control Pairing and Scheduling for Manned-Unmanned Vehicles Teaming Based on RoboTrust Algorithms	12.RD	3003058759	-	(1,930)
Systems Approach to Wheel and Pad Metamaterial Design Including Robustness Issues	12.RD	3003058759	-	401

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Department of Defense, continued				
Pass-through programs from, continued:				
University of Missouri - Columbia				
Site Preparation for Longleaf Pine Restoration on Hydric Sites: Stand Development and Ground Layer Response 15 Years Following Planting	12.RD	C00053591-1	-	5,366
University of Texas at Arlington				
Distributed Autonomy, Resiliency, and Optimality in Naval Microgrids	12.RD	2017GC1264	-	61,949
Virginia Polytechnic Institute				
Chiral Spin Liquids and Other Topological Phases of Cold Atoms and Molecules in Optical Lattices	12.RD	450408-19244	-	8,793
William Marsh Rice University				
Next Generation Teams and Organizational Subsystems Research	12.RD	R1A604	-	40,320
Total Department of Defense			533,804	6,739,754
Department of Interior				
A study on Tree Health and Survival to Determine How Patterns of Tree Decline and Mortality Impact Accumulation of Forest Fuels.				
	15.RD	P19AC01063	-	1,236
Administrative Histories of Fort Sumter National Monument and Charles Pinckney National Historic Site				
CESU - A Study of Visitors Using the Trails and Rivers at Mammoth Cave National Park to Improve Visitor Access and Protect the Park's Resources	15.RD	P14AC01689	-	22,375
Community and Ecosystem-Level Effects of Growing v. Dormant Season Burning in the Southern Appalachians	15.RD	P19AC01168	7,147	28,206
Conservation and Natural History of Northern Pine Snake Across North Georgia	15.RD	L16AC00192	-	28,423
Conservation of Parrott Rifle Tubes, Carriages, and Chassis' at Fort Sumter	15.RD	F18AC00540	-	42,105
Eastern Brown Pelicans: Dispersal, Seasonal Movements and Monitoring of PAH's and Other Contaminants in the Northern Gulf of Mexico	15.RD	P16AC00782	-	648
Fuels Management and Cultural Landscape Restoration, Kings Mountain National Military Park and Other Southeast Region Parks	15.RD	G12AC20367 RWO #91	-	79
Functional Morphology and Physiology of Shortleaf Pine Fire-Adapted Traits JFSP 19-1-01-42	15.RD	P15AC01798	-	34,302
Growing Visitation and Enhancing Visitor Experiences at National Wildlife Refuges (NWRs) Through Better Estimation Techniques	15.RD	L20AC00013	-	139
Monitoring of Rock Gnome Lichen Populations to Determine Population Stability, Priorities for Management and Potential for Change in Listing Status	15.RD	G19AC00438 RWO #104	7,941	29,431
Natural and Anthropogenic Influences on Tidally Influenced Forested Wetlands of the Southeast U.S.	15.RD	G19AC00253 RWO #103	-	20,372
NPS Southeast Region Marine Science Support Center	15.RD	G19AC00208	-	75,467
Research to Evaluate Visitor Use Distributions, Impacts, Crowding, and Conflicting Use at Multi-Use Sites in Katmai National Park and Preserve	15.RD	P15AC01833	-	329
Social Science Research to Support the Implementation of a Visitor Use Management (VUM) Strategy for Commercially-guided, Boat-based Polar Bear Viewing at the Arctic National Wildlife Refuge	15.RD	P17AC01038	-	34,841
Spatial Ecology, Movement Patterns, and At-Sea Habitat use of Brown Pelicans in the South Atlantic Bight Vessel-based Surveys for Pelagic Seabirds in the Gulf of Mexico	15.RD	F17AC00101	2,339	2,339
Investigating Poaching and Human-elephant Conflict in Myanmar	15.RD	G16AC00395 RWO #100	-	235,590
State Water Resources Research Institute Program	15.RD	G17AC00371 RWO #102	19,477	134,019
Pass-through programs from:				
Auburn University				
Improving Southern Flounder Management in Alabama Coastal Waters by Quantifying Habitat Specific Rates of Growth, Sex Determination, and Recruitment to the Commercial and Recreational Fisheries	15.RD	F19AP00779	-	15,804
Improving Southern Flounder Management in Alabama Coastal Waters by Quantifying Habitat Specific Rates of Growth, Sex Determination, and Recruitment to the Commercial and Recreational Fisheries	15.RD	G16AP00082	8,833	40,886
Georgia Department of Natural Resources				
Occupancy and Movement of the Northern Pine Snake (<i>Pituophis melanoleucus melanoleucus</i>) Across North Georgia	15.RD	none	-	9,839
Gulf States Marine Fisheries Commission				
Identifying Drivers of Hybridization Between Endemic and Invasive Black Basses in Georgia	15.RD	FWS-800-037-2018-CU	-	7,743
Kansas State University				
Research to Evaluate Visitor Characteristics Across and Within Seasons at Joshua Tree National Park	15.RD	A00-0751-5001-A02 / S19037	-	71,903
National Fish & Wildlife Foundation				
Identifying Habitat Requirement of the Carolina Heelsplitter in Order to Inform Habitat Restoration and Species Recovery (NC,SC)	15.RD	1906.17.058597	-	70,889
North Carolina State University				
Evaluating the Promise and Potential Impacts of R3 Efforts Targeting College Students	15.RD	2018-0319-01	-	4,899
North Carolina Wildlife Resources Commission				
Eastern Hellbender Reproductive and Larval Ecology	15.RD	WM-0326	15,614	71,799
Ecological Studies and Monitoring Strategies for Eastern Spotted Skunks in North Carolina	15.RD	WM-0322	-	135,077
South Carolina Department of Natural Resources				
Effect of Forest Management on Early-Successional Avian Species in South Carolina	15.RD	SCDNR FY 2020-018	-	12,409
Environmental DNR Determination of the Distribution of the Patch-Nosed Salamander (<i>Ursperperes brucei</i>) in South Carolina	15.RD	SCDNR FY 2020-019	-	37,031
Green Salamander Population Assessment and Connectivity Across a Gradient of Forest Disturbance	15.RD	P24019497520	-	15,312
Impacts of Special Hunting Clinics on the Recruitment and Retention of Young Adult College Student Hunters in South Carolina	15.RD	SC-T-F18AF00973/ SCDNR#P2404406119 SCDNR FY2019-02 P2401LE00118/ P2404LE00118	-	818

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Department of Interior, continued				
Pass-through programs from, continued:				
South Carolina Department of Natural Resources, continued				
Impacts of Special Hunting Clinics on the Recruitment and Retention of Young Adult College Student Hunters in South Carolina for 2019-2020 (SC Hunter Education Program)	15.RD	SCDNR FY2020-001 P24014LE0119	-	21,823
NABat Acoustic Monitoring in South Carolina	15.RD	P24014404619	-	32,178
Response of Bachman's Sparrow to Habitat Management in a Wiregrass-tree Ecosystem	15.RD	SCDNR FY 2020-017 P24019087119	-	19,557
Roosting and Foraging Ecology of Rare and Sensitive Coastal Bats	15.RD	SCDNR FY2017-019/ P24014304618	-	25,288
South Carolina Small River Conservation Planning Project	15.RD	SCDNR FY2018-008/ P24019497415	-	18,758
Southeast Aquatic Resources Partnership				
Aquatic connectivity in the southeastern United States	15.RD	Connectivity_GCPO_2019_003	-	28,164
The Nature Conservancy				
Reptile Surveys of The Talladega-Mountain Longleaf Pine Conservation Local Implementation Team (LIT) Boundary, Northwest Georgia	15.RD	GABU 02182020	-	7,955
University of Central Florida				
Evaluating Mole Skink and Salt Marsh Snake Subspecific Taxonomy in Florida Using Genomics	15.RD	24036114	-	4,886
University of Utah				
Research to Inform Visitor Use Planning at Theodore Roosevelt National Park	15.RD	10044755-CLEMSON / PO# U000125188	-	5,381
Total Department of Interior			<u>61,351</u>	<u>1,416,534</u>
Department of Justice				
Effects of Campus Sexual Assault Prevention Programs on Attitudes and Behavior Among College Students: A Systematic Review and Meta-analysis	16.RD	2019-SI-AX-0004	-	78,792
Total Department of Justice			<u>-</u>	<u>78,792</u>
Department of Labor				
Pass-through programs from:				
South Carolina Department of Employment and Workforce				
SCDEW (SCJRU) Contract Extension	17.RD	13L2E003	-	91
SCDEW (SCJRU) Contract Extension	17.RD	13L2E003	-	20,842
Total Department of Labor			<u>-</u>	<u>20,933</u>
Department of State				
Pass-through programs from:				
Redacted	19.RD	SG-R-XZ1851-0	-	214,869
Total Department of State			<u>-</u>	<u>214,869</u>
Department of Transportation				
University Transportation Center - Center for Connected Multimodal Mobility (C2M2)	20.RD	69A3551747117	-	40,660
University Transportation Center - Center for Connected Multimodal Mobility (C2M2)	20.RD	69A3551747117	175,156	499,193
University Transportation Center - Center for Connected Multimodal Mobility (C2M2) - Richard Brooks	20.RD	69A3551747117	-	40,645
University Transportation Center - Center for Connected Multimodal Mobility (C2M2) - Amy Apon	20.RD	69A3551747117	-	16,624
University Transportation Center - Center for Connected Multimodal Mobility (C2M2) - Burgett	20.RD	69A3551747117	-	33,956
University Transportation Center - Center for Connected Multimodal Mobility (C2M2) - Jennifer Ogle	20.RD	69A3551747117	-	2,393
University Transportation Center - Center for Connected Multimodal Mobility (C2M2) - Pierluigi Pisu	20.RD	69A3551747117	-	33,446
University Transportation Center - Center for Connected Multimodal Mobility (C2M2) - Murray-Tuite	20.RD	69A3551747117	-	41,996
University Transportation Center - Center for Connected Multimodal Mobility (C2M2) - William Ferrell, Jr.	20.RD	69A3551747117	-	27,834
Pass-through programs from:				
Georgia Institute of Technology				
Flash Tracking Implementation Guidelines Complementing Existing Design Build Manual	20.RD	AWD-000182-S1 / PO 5067101	-	35,668
Louisiana State University				
Spatiotemporal Traffic Characteristics of Megaregion Mass Evacuations	20.RD	PO-0000105042	-	15,741
South Carolina Department of Transportation				
Adaptive Signal System Safety Impacts	20.RD	1936; SPR 737	44,277	119,102
Evaluating the Construction Cost and Schedule Impacts of South CarolinaDOT's Traffic Control Restrictions	20.RD	SPR 747	-	29,176
Evaluation of Open Graded Friction Courses: Construction, Maintenance, and Performance, Phase II	20.RD	1781; SPR 725	-	68,142
Midblock Crash Analysis Using Precisely Geocoded Crashes	20.RD	1935; SPR 734	-	(741)
Optimization of Cement Modified Recycled Base (CMRB) Planning, Design and Testing	20.RD	SPR 754	-	1,861
Strategic Deployment of Drone Technology and Software to Support SCDOT Operations	20.RD	SPR 3-20 P039407	-	63,360
Update to SCENARIO_PC	20.RD	2130; SPR 745	131,298	256,519
toXcel, LLC				
Vulnerable and Disabled Road Users: Considerations Inside and Outside the Vehicle	20.RD	2019-006	-	52,076

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Department of Transportation, continued				
Pass-through programs from, continued:				
University of South Carolina				
Assessment of Structural Degradation for Bridges and Culverts	20.RD	18-3551 PO#2000037629/ USC No.15520-FB55	-	86,381
Calibration of the AASHTO Pavement Design Guide to South Carolina Conditions - Phase II	20.RD	17-3296/PO#2000031396/ USC#15520FB40	-	273,999
Strengthening South Carolina's Bridges	20.RD	20-4050 PO#2000052727 USC No.10009919	-	12,576
Total Department of Transportation			350,731	1,750,607
National Aeronautics and Space Administration				
An Investigation of Ion-Neutral Coupling During Active Auroral Conditions	43.RD	80NSSC19K0810	-	28,811
An Investigation of Ion-Neutral Coupling During Active Auroral Conditions	43.RD	80NSSC19K0810	6,531	11,232
An Investigation of Ion-Neutral Coupling During Active Auroral Conditions	43.RD	80NSSC19K0810	-	20,491
AZURE: Auroral Zone Upwelling Release Experiment	43.RD	NNX15AL71G	85,134	220,068
BL, LAC Objects at the Highest Redshifts	43.RD	80NSSC18K1619	-	43,130
Characterizing a Shock-Cloud Interaction on the Western Edge of the Vela Supernova Remnant	43.RD	80NSSC18K1716	-	27,245
Chasing the Most Powerful Blazars (Cycle 3)	43.RD	80NSSC18K0580	-	2,685
Chemical Evolution of the Building Blocks of the Solar System	43.RD	80NSSC20K0338	-	19,204
Compton Thick AGN: The Physics Behind the Obscuration	43.RD	80NSSC17K0635	-	6,139
Compton-Thick AGN: The Final Quest	43.RD	80NSSC19K0531	-	89,438
Control and Modeling of Extensible Continuum Robots - NSTRF for Chase Frazelle	43.RD	80NSSC17K0173	-	51,964
Cosmic Chemical Memory and the Building Blocks of the Solar System	43.RD	NNX17AE32G	-	40,232
Cosmology with Fermi-LAT	43.RD	80NSSC18K1720	-	30,117
CUSP Upwelling and Heating Due to Small Scale Electric Field Fluctuations	43.RD	80NSSC18K0781	38,582	232,389
Full 3D Mapping and Identification of the >10 GE Extragalactic Sky Research Opportunities in Space and Earth Sciences - 2016(ROSES - 2016)	43.RD	80NSSC17K0503	-	7,670
GRBS as Cosmic Probes of the UV and Optical Background	43.RD	80NSSC17K0506	-	125
Heavily Obscured AGN: The Physics Behind the Obscuration	43.RD	80NSSC18K1637	-	9,278
Hunting High-Redshift BL Lacertae Objects	43.RD	80NSSC18K1717	-	19,638
Momentum Resolved Charge Exchange Cross Section Measurements and X-Ray Spectroscopy	43.RD	80NSSC19K0679	47,008	109,586
Response of the Mesosphere/lower Thermosphere/ionosphere to Tidal Variability Caused by the Madden-Julian Oscillation	43.RD	80NSSC19K0258	-	147,444
ROSES 2015/Exoplanet Research Program - Direct Imaging and Interferometry of Proto-planets at the Epoch of Disk Clearing	43.RD	NNX16AJ81G	-	7,662
Synthetic Biology for Recycling Human Waste into Nutraceuticals and Materials: Closing the Loop for Long-Term Space Travel	43.RD	NNX15AU46G	-	219,514
The Guaranteed Contribution of Star-Forming Galaxies to the Neutrino and Gamma-Ray Backgrounds	43.RD	80NSSC18K1718	-	28,037
The Unique Case of PKS11220+0203: a Jetted AGN with a Broad Iron Line	43.RD	80NSSC18K0612	-	16,606
Towards the Full Identification of the 3FHL Catalog	43.RD	80NSSC19K0151	-	34,126
Towards to Full 3D Mapping of the > 10 GEV Extragalactic Sky: A Spectroscopic Follow-up Campaign of Unidentified 3FHL Sources	43.RD	80NSSC18K1719	-	30,192
Vortex - Vorticity Experiment	43.RD	80NSSC19K0776	-	40,305
VortEx - Vorticity Experiment	43.RD	80NSSC19K0776	18,124	53,419
Pass-through programs from:				
Center for the Advancement of South Carolinacience				
Unlocking the Cotton Genome to Precision Genetics	43.RD	GA-2019-007	10,960	52,052
College of Charleston				
2018 South Carolina Space Grant Consortium Graduate Research Assistantship	43.RD	521193-JD	-	12,387
2018 South Carolina Space Grant Consortium Graduate Research Assistantship	43.RD	521193-JW	-	114
Nanomaterials-Based Hybrid Energy Storage Devices and Systems for Space Applications	43.RD	521296-Clemson	-	230,824
PA 2020: Student Participation in Developing Nanomaterials-Derived Technologies for Space Applications	43.RD	521383-PA-CM002	-	9,075
Palmetto Academy 2019: Anaerobic Membrane Bioreactors for Wastewater Treatment During Space Missions	43.RD	521179-PA-CM003	-	7,296
Palmetto Academy 2019: Student Participation in Developing Nanomaterials-Derived Technologies for Space Applications	43.RD	521179-PA-CM001	-	9,454
Palmetto Academy: Synthetic Biology in Space	43.RD	521179-PA-CM002	-	9,436
Peroxide-Producing Microbial Fuel Cells for Space Life Support Systems Applications	43.RD	521365-CM	-	66,696
REAP 2018: Microbial Peroxide-producing Cells for Blackwater and Greywater Treatment During Space Missions	43.RD	521179-RP-CMPopat2	-	4,351
REAP 2019: Development of an In Vitro Organoid Culture Model to Study the Effects of Microgravity and Space Radiation on the Intervertebral Disc	43.RD	521179-RP-CM001	-	12,097
REAP 2019: Next Generation PUFFER for Lunar Pit Exploration	43.RD	521179-RP-CM002	-	17,473
REAP 2020: Rigid-Flex PCB Robots for Extreme Impact Resistance	43.RD	521383-RP-CM002	-	2,785
RockSat-C: Soft Robotic Analysis	43.RD	521179-CM001	-	495
SC Space Grant Campus Director Administrative Budget	43.RD	521179-CD-CM	-	334
Travel Opportunity to NASA JPL for the Technical Interchange Meeting in July 2019	43.RD	521253-CM001	-	1,000
Cornell University				
Waves and Instabilities from a Neutral Dynamo (WINDY)	43.RD	73921-10522	-	181,900
Embry-Riddle Aeronautical University				
Sporadic-E Electrodynamics	43.RD	61559-2	-	18,531
Jet Propulsion Laboratory				
Advanced Stress Analysis of Mars 2020 Sample Tubes	43.RD	1641158	-	49,805
Chasing the Most Powerful Blazars	43.RD	RSA No. 1612924	-	6,316

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
National Aeronautics and Space Administration, continued				
Pass-through programs from, continued:				
National Technology and Engineering Solutions of Sandia				
Add on to - Global Optimization of Large-Scale Ac Power Flow Problems - Year 3	43.RD	PO# 2000640	-	25,580
Nano-Metallurgy Of Grain Boundaries: Atomistic And Mesoscale Simulation Studies	43.RD	2003355	-	19,813
Smithsonian Astrophysical Observatory				
An Experimental Program to Achieve High Accuracy Atomic Rates for the X-ray	43.RD	SV8-88008	-	47,507
Astrophysics Recovery Mission (XARM) and Beyond	43.RD	G08-19083X	-	2,066
Compton Thick AGN: The Hunt Continues (Proposal No. 19700430)	43.RD	DD8-19104X	-	1,385
Witnessing the Birth of a Blazar	43.RD	DD8-19104X	-	1,385
Touchstone Research Laboratory, Ltd.				
Precision heated tooling for OOA curing of thin ply composites	43.RD	80NSSC19C0531-1	-	35,251
University of Alaska - Fairbanks				
In-Situ Measurements of Neutral and Plasma Dynamics Associated with Earth's	43.RD	UAF 18-0025	-	33,574
Cusp-Region Thermospheric Mass Density Anomaly	43.RD	UAF 19-0008 / P0528927	-	14,062
KINET-X: Kinetic-Scale Energy and Momentum Transport Experiment	43.RD	UAF 19-0008 / P0528927	-	14,062
University of California				
The Role of Moist Convection in Titan's Hydrologic Cycle and General Circulation	43.RD	0995 G VB095	-	105
University of Georgia				
Project FUSION: Facilitating Unified Systems of Interdependent Organizational Networks	43.RD	SUB00001668	-	51,969
University of New Hampshire				
TOMEX Plus: Turbulent Oxygen Mixing Experiment Plus	43.RD	L0058	-	114
University of the District of Columbia				
NASA MIRO: Center for Advanced Manufacturing in Space Technology & Applied Research at UDC (CAM-STAR)	43.RD	S08-0012020	-	21,912
Total National Aeronautics and Space Administration			<u>206,339</u>	<u>2,492,506</u>
Institute of Museum & Library Services				
Pass-through programs from:				
Virginia Polytechnic Institute				
Identifying the Drivers of Success in Educational Programs at Nature Centers and National Parks	45.RD	451438-19244	-	32,057
Total Institute of Museum & Library Services			<u>-</u>	<u>32,057</u>
National Science Foundation				
A Family of Diagnostic Models for Evaluating Learning Progressions	47.RD	1921373	-	35,331
A Sustainable ATE Coordination Network for Enhancing Personalized Learning Using Virtual and Augmented Reality- based Technology Innovations in Technical Education	47.RD	1700621	-	256,540
ABI Innovation: Fast Algorithms and Tools for Single-Molecule Sequencing Reads	47.RD	1759856	-	179,839
ABR: Collaborative Research: Computational Jewelry for Mobile Health	47.RD	1619950	-	7,580
ABR: Collaborative research: Smart earpiece for supporting healthy eating behaviors	47.RD	1835974	-	100,609
ADVANCE Institutional Transformation at Clemson University	47.RD	1629934	4,876	475,350
AF: Small: Subdivision Methods: Correctness and Complexity	47.RD	1527193	-	4,035
AIR Option 2: Research Alliance Situational Intelligence for Smart Grid Optimization and Intelligent Control				
AIR-TT: Ultrapore Lignins Recovered from Paper-Mill Black Liquors as Renewable Biopolymers	47.RD	1312260	-	57,214
Algorithm Development and Analysis for Non-Newtonian Fluids Interacting with Elastic and Poroelastic Structures	47.RD	1701128	-	39,765
An Adaptive Partition- based Computational Framework for Stochastic Programs	47.RD	1818842	-	57,047
Broadband microwave flow cytometry: comprehensive nanoparticle sensing and characterization	47.RD	1854960	-	34,571
Capillary Channeled Polymer Structures and Chemistries for High Throughput Measurement of Large Molecules	47.RD	1711463	-	118,642
CAREER: Cross-Layer Power-Bounded High Performance Computing on Emerging and Future Heterogeneous Computer Clusters	47.RD	1608663	-	122,406
CAREER: Electromechanical Transduction of Vibratory Energy Harvesters in Random and Non-Stationary Environments	47.RD	1551511	-	96,353
CAREER: Particle Magnetophoresis in Ferrofluid Microflows for Lab-on-a-Chip Applications	47.RD	1055419	-	(155)
CAREER: Characterizing Nanoparticle Surface Interactions using Dissolution Dynamic Nuclear Polarization-Enhanced Nuclear Magnetic Resonance	47.RD	1150670	-	(1)
CAREER: Collaboratively Perceiving, Comprehending, and Projecting into the Future: Supporting Team Situational Awareness with Adaptive Multimodal Displays	47.RD	1751529	-	16,210
CAREER: Cooperative Control and Decision-Making for Human-Agent Collaborative Teams	47.RD	1750850	-	10,839
CAREER: Detecting Patterned Profiles for Functional and Dysfunctional Teamwork	47.RD	1454139	-	105,878
CAREER: Elastocapillary fluid mechanics: spreading, splashing, and instability	47.RD	1654054	-	93,906
CAREER: Elucidating Fundamental Structure-Property Relationships in Ionomer Nanocomposites for Redox Flow Batteries	47.RD	1750208	-	133,535
CAREER: Empowering Students to be Adaptive Decision-makers	47.RD	1848347	-	87,980
CAREER: Enabling Low-Cost, Maintenance-Free, Long-Term Embedded Sensing Without Batteries	47.RD	1745347	-	61,052
CAREER: Hierarchical Modeling for Rational Catalyst Design in Aqueous Conditions	47.RD	1453607	-	95,130
CAREER: Hybrid Experimental-Computational Modeling Framework for Transformative Research and Multidisciplinary Education in Cardiovascular Biomechanics	47.RD	1554385	-	62,701
CAREER: Innovative Methods for Designing Adaptive Clinical Trials	47.RD	1749017	-	114,725
CAREER: Integrated Studies of Polar Wave and Magnetosphere-Ionosphere-Thermosphere Couplings from New Observations and Whole Atmosphere Modeling	47.RD	1651912	-	21,199
CAREER: Large Scale Simulations Enabled Materials Engineering for Heterogeneous Ice Nucleation	47.RD	1753214	-	59,118
	47.RD	1653352	-	23,186

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
National Science Foundation, continued				
CAREER: Leveraging the Three- Dimensional Multi-Stability from Origami Folding to Synthesize Multi-Functional Material Systems	47.RD	1751449	-	33,359
CAREER: Modeling, Measuring and Controlling Human Comfort in Human-Autonomous-Machine Interaction (HaMI)	47.RD	1845779	-	34,493
CAREER: Multiscale Study of the Structure and Dynamics of Nanoparticle-Protein Corona	47.RD	1553945	-	117,859
CAREER: Perceptually Guided Hand Motion Synthesis	47.RD	1652210	-	83,101
CAREER: Phenotypic and developmental effects of enhancer variation on cichlid craniofacial evolution	47.RD	1942178	-	76
CAREER: Quantifying drought and vulnerability indicators for water security in a changing environment	47.RD	1653841	-	73,256
CAREER: Quantifying the Adaptability of Building Structures, Envelopes, and Foundations	47.RD	1553565	-	64,871
CAREER: Self-Protecting Artificial Implants and Invigorating the STEM Education Pipeline with Biomaterials	47.RD	1555224	-	51,874
CAREER: Structural dynamics of post-translationally modified Calmodulin and its role in target recognition	47.RD	1749778	-	81,478
Career: Towards Engineering Electronic Defects in Inorganic Luminescent Materials	47.RD	1653016	-	100,722
CAREER: Exploring the Unknowns: Responses of Soil Microbial Communities to Increased Plant Functional Trait Diversity in Managed Ecosystems	47.RD	1941714	-	5,931
Carolina Dynamics Symposium 2016-2018	47.RD	1600746	-	265
CC*Data: National Cyberinfrastructure for Scientific Data Analysis at Scale (SciDAS)	47.RD	1659300	511,627	804,619
CCF: EAGER: DeepGreen: Modeling and Boosting Accelerated Computing on Liquid Immersion Cooled HPC Systems	47.RD	1942182	-	1,200
CCSS: Collaborative Research: Towards Privacy-Preserving Mobile Crowd Sensing: A Multi-Stage Solution	47.RD	1949639	-	27,915
Center for Aviation and Automotive Technological Education Using Virtual E-School [CAZVES]: A Resource to Meet Technician Workforce Needs	47.RD	1501695	21,725	137,498
Certification Algorithms for Polynomial System Solving	47.RD	1913119	-	42,561
CHS: Small: Looking Across the Uncanny Valley: Procedural and Data-Driven Methods for Gaze Modeling	47.RD	1423189	-	59,743
CHS: Medium: Collaborative Research: Augmenting Human Cognition with Collaborative Robots	47.RD	1900956	-	7,438
CHS: Small: Investigating the Behavioral Effects of Longitudinal Exposure to Immersive Consumer Virtual Reality	47.RD	1717937	-	136,966
CHS: Small: Towards Next-Generation Large-Scale Nonlinear Deformable Simulation	47.RD	2016414	-	26,326
CICI: Data Provenance: Collaborative Research: Provenance Assurance Using Currency Primitives	47.RD	1547164	-	74,511
CICI: RSARC: Secure Time for Cyberinfrastructure Security	47.RD	1738902	-	158,726
CI-New: Collaborative Research: HomeSHARE - Home-based Smart Health Applications across Research Environments	47.RD	1629437	-	(1)
CNH-L: Coupled Social and Ecological Consequences of Conservation Easements	47.RD	1518455	17,616	68,449
Collaborative Proposal: Response of mercury cycling to disturbance and restoration of low-gradient forested watersheds	47.RD	1852020	-	16,066
Collaborative Research: Halocarbon Biogeochemistry in Coastal Wetland Ecosystems	47.RD	1529927	-	4,102
Collaborative Research: US-Brazil IRES / Analytical Applications of Nanomaterials and Microfluidic Devices	47.RD	1565508	-	2,694
Collaborative Research: A Regularized Poisson Boltzmann Model for Fast Computation of the Ensemble Average Polar Solvation Energy	47.RD	1812597	-	46,828
Collaborative Research: An Intelligent Restoration System for a Self-healing Smart Grid (IRS-SG)	47.RD	1408141	-	41,265
Collaborative Research: Bound-Bound and Bound-Free Opacities of Heavy Lowly-Charged r-Process Ions	47.RD	1815932	-	72,323
Collaborative Research: Branching in RNA Secondary Structures	47.RD	1815832	-	29,484
Collaborative Research: CEDAR - Along-Term Investigation of Auroral and Tidal Forcing of E-Region Thermospheric Winds at High Latitudes	47.RD	1853408	-	30,786
Collaborative Research: CICI: Secure and Resilient Architecture: SciGuard: Building a Security Architecture for Science DMZ Based on SDN and NFV Technologies	47.RD	1642143	-	115,266
Collaborative Research: Combining Operando Spectroscopy and Multi-Scale Modeling to Elucidate the Mechanism of Aqueous Phase Reforming of Oxygenates	47.RD	1764296	-	87,542
Collaborative Research: Comprehensive Investigation of Midlatitude Ionospheric Irregularities	47.RD	1360594	-	23,614
Collaborative Research: Controlling Cellular Physiology and Enzyme Localization for an Enhanced Oleochemical Biosynthesis in Yeast	47.RD	1706134	-	148,488
Collaborative Research: CRISP Type 2: Coordinated, Behaviorally-Aware Recovery for Transportation and Power Disruptions (CBAR-tpd)	47.RD	1822436	92,468	139,846
Collaborative Research: CSSI Frameworks/Software: Future proofing the finite element library deal.II - development and community building	47.RD	2015848	-	12,419
Collaborative Research: Deconvolving the southern South American Pleistocene-Holocene dust production pathways	47.RD	1911340	-	5,387
Collaborative Research: Development and Application of a Framework for Integrated Geodynamic Earth Models	47.RD	1925575	-	11,760
Collaborative Research: Dimensions US-BIOTAQ-Sao Paulo: Scales of Biodiversity-Integrated Studies of Snake Venom Evolution and Function Across Multiple Levels of Diversity	47.RD	1822417	-	110,878
Collaborative Research: Efficient Learning of Process-Structure-Property Models in Value-Driven Materials Design	47.RD	1761136	-	47,545
Collaborative Research: Elucidating the chemical plasticity of fine roots in response to soil heterogeneities and developing a better parameter to forecast fine root decomposition	47.RD	1754679	-	170,669
Collaborative Research: Exploring the Evolution of Design Requirements Throughout the Design Process Using Network Models	47.RD	1463370	-	61,342
Collaborative Research: Feasibility and Fundamentals of Femtosecond-Laser Shock Peening Without Protective Coating in Air Environment	47.RD	1762581	-	100,183
Collaborative Research: Heterogeneous Ice Nucleation in Clouds: A Synergistic Experimental and Simulation Approach	47.RD	1541944	-	36,137
Collaborative Research: High Resolution Spectroscopy and Spectro-Astrometry of Warm Gas in Herbig Ae/Be Stars: A Search for Forming Gas Giant Planets	47.RD	1517014	-	25,110
Collaborative Research: IUSE: EHR: Engaged Student Learning Exploration and Design Tier: Engaging and Enabling Learners to Reason Logically about Code	47.RD	1611714	-	2,600

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
National Science Foundation, continued				
Collaborative Research: Litter Arthropods of High Appalachia	47.RD	1916263	-	102,502
Collaborative Research: Microbicidal Carbon Dots for Combating Anti-Biotic Resistance and Beyond	47.RD	1701424	-	8,672
Collaborative Research: Novel Laser and Nonlinear Properties of Anderson Localization Optical Fibers	47.RD	1808232	-	58,895
Collaborative Research: RAPID: Capturing a critical transition in fungal wood endophyte communities by rapid response sampling post hurricane in Puerto Rico	47.RD	1822081	-	6,390
Collaborative Research: SG: Exploring the effects of UV light on floral pigmentation	47.RD	2003052	-	2,069
Collaborative Research: Student Pathways in Engineering and Computing for Transfer Success	47.RD	1834081	-	208,466
Collaborative Research: Student Perspectives on Researcher Identity and Transformed Epistemologies (SPRITE)	47.RD	1531607	-	50,980
Collaborative Research: Tessellated Structural Architectural Systems for Rapid Construction, Repair, and Disassembly	47.RD	1762899	-	86,426
Collaborative Research: Uncovering the Dynamics and Functionality of Origami Structures and Materials	47.RD	1633952	-	17,762
Collaborative Research: Understanding the Multiscale Behavior of Triboelectric Devices	47.RD	1662587	-	62,970
Collaborative Research: Variational Structure Preserving Methods for Incompressible Flows: Discretization, Analysis, and Parallel Solvers	47.RD	1522191	-	1,423
Collaborative Research: What Do Leaders Want?: Collecting and Coding Issue Positions and Demands in the Militarized Interstate Dispute (MID) Data, 1816-2010	47.RD	1729138	-	27,606
Collaborative Research: Who's Not at the Table? Building Research Capacity for Underserved Communities in Engineering	47.RD	1551605	-	11,336
Collaborative Research: A Long-Term Investigation of Auroral and Tidal Forcing of E-Region Thermospheric Winds at High Latitudes	47.RD	1552214	-	27,890
Collaborative: WARP: Wide Area assisted Resilient Protection	47.RD	1855854	-	15,178
Computational-Experimental Insight across Time and Length Scales of Dynamics in Ionic Polymers	47.RD	1611136	-	189,302
Conductance Variability in Non-Conjugated Polymers: Memristors for Neuromorphic Applications	47.RD	1507266	-	16,407
CPS: Synergy: Collaborative Research: Semi-Automated Emergency Response System	47.RD	1812524	9,891	24,611
CPS: Synergy: Security of Distributed Cyber-Physical Systems with Connected Vehicle Applications	47.RD	1544910	-	146,794
CRII: CHS: Collaboratively Perceiving, Comprehending, and Projecting into the Future: Supporting Team Situational Awareness with Adaptive Collaborative Tactons	47.RD	1566346	-	5,692
CRII: CHS: Recommender Systems for Self-Actualization	47.RD	1565809	-	(261)
CRII: CHS: Redesigning Democratized Technology: The Broadening of Citizen Participation in Bottom-Up Technological Innovation	47.RD	1849718	-	75,709
CRII: CHS: Understanding and Supporting the Use of Self-Driving Vehicles by Persons with Visual Disabilities	47.RD	1849924	-	66,607
CRII: CPS: Bilateral Adaptation Between Models for Human-Perceived Safety/ Comfort and Autonomous Driving Controllers	47.RD	1755771	-	35,283
CRISP Type 1: Data-driven Real-time Simulation for Adaptive Control of Interdependent Infrastructure Systems	47.RD	1638321	-	53,765
CS For All: RPP: A Scalable RPP for Preparing and Supporting Teachers to Teach Culturally Responsive and Rigorous CS Courses in SC High Schools	47.RD	1738760	-	303,178
CSR: Large: Collaborative Research: Smart Earpiece for Supporting Healthy Eating Behaviors	47.RD	1565268	-	100,910
CyberSEES: Type 1: Enabling Sustainable Water Supplies Through Self-Powered Sensor-Based Monitoring	47.RD	1539536	-	16,818
De Branges Spaces as Models for a General Theory of Function Spaces	47.RD	1600874	-	9,915
Digitization TCN: Collaborative Research: The Key to the Cabinets: Building and Sustaining a Research Database for a Global Biodiversity Hotspot	47.RD	1410094	968	1,451
Dimensions: Collaborative Research: Functional Diversity of Chemosymbiosis in Lucinia Bivalves from Coastal Biomes	47.RD	1342763	-	46,107
Disentangling the Ecological Drivers of Teleost Body Form Diversity	47.RD	1830127	-	113,337
DMREF: Collaborative Research: An Integrated Multiscale Modeling And Experimental Approach To Design Fouling-Resistant Membranes	47.RD	1534304	-	212,820
Dynamic Wetting Effects in the Spectrum of the Sessile Drop: Organizing Principles from the Symmetry-breaking Perspective	47.RD	1935590	-	32,490
EAGER CHS: Examining Self-Harm and Suicide Contagion Risks of Viral Social Media Challenges on Youth and Young Adults	47.RD	1832904	2,102	8,747
EAGER: Autonomous Self-Healing of Commodity Acrylic Copolymers	47.RD	1744306	-	42,327
EAGER: Characterization, Prediction, and Management of Latency Variation in Virtualized HPC and Warehouse Scale Systems	47.RD	1642542	-	14,471
EAGER: Evaluating the Feasibility of Estimating Cognitive Load Using Microsaccadic Eye Motion and Oscillation in Pupil Diameter	47.RD	1748380	-	8,375
EAGER: Malicious Behavior Detection in Hybrid Dynamic Spectrum Access	47.RD	1947065	-	28,013
EAGER: SSDIM: Multiscale Methods for Generating Infrastructure Networks	47.RD	1745300	-	53,340
EAGER: Towards a Traffic Analysis Resistant Internet Architecture	47.RD	1643020	-	11,066
EAGERSitS: Quantifying the Value of Information for Sensor Placements to Improve Soil Signals for Agricultural Water Management	47.RD	1841629	-	43,171
Encrypted Control for Privacy Preserving and Securing Cyber-physical Systems	47.RD	1912702	-	33,064
Explaining Choice, Persistence, and Attrition of Black Students in Electrical, Computer, and Mechanical Engineering	47.RD	1734347	60,252	99,267
Exploiting Multi-Stability to Enable Mechanical Intelligence for Versatile and Efficient Control of Soft Robotic Locomotion and Manipulation	47.RD	1933124	-	49,837
Exploring Non-Normative Forms of Capital, Wealth and Knowledge Used by Engineering Students	47.RD	1463808	-	28,678
Fabrication of High Performance Metasurfaces by Nanoimprinting of Refractive Index	47.RD	1825787	-	75,090
Fast Algorithms for Large-Scale Nonlinear Algebraic Eigenproblems	47.RD	1719461	-	3,415
Fluorescent Polymer Nanoparticles for Nano-Imaging and Sensing	47.RD	1412694	-	28,698
Fundamental Study of Nonlinear Electrokinetic Phenomena in Insulator-based Dielectrophoretic Microdevices	47.RD	1704379	-	105,515
FW-HTF-P: Wearable Adaptive Cognitive Assistance to Auditory Situational Awareness for Workers Exposed to Complex and Dynamic Noises	47.RD	1928550	-	38,271
FW-HTF-RM: Collaborative Research: Future of Construction Work at the Human-Technology Frontier	47.RD	1928527	-	48,406
Geometry of Measures and Regularity of Associated Operators	47.RD	1830128	-	5,837
GP-EXTRA: Building An Affective Pathway To The Geosciences Through Experiential Learning Opportunities For Non-Geoscience Majors	47.RD	1540702	-	11,898
Graduate Research Fellowship Program	47.RD	1246875 & 1744593	-	14,793

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
National Science Foundation, continued				
Graduate Research Fellowship Program	47.RD	1246875 & 1744593	-	(6,633)
Guest-Induced Electrical Conductivity and Photovoltaic Activity of Metal-Organic Frameworks	47.RD	1809092	-	65,641
High-Strength Carbon Fibers from Eco-Friendly Processing of Biomass	47.RD	1462804	-	(92)
Hydrothermal Brines: New Media for the Synthesis and Crystal Growth of Materials	47.RD	1808371	-	157,293
I Am a Scientist: Moving African American youth beyond participating in STEM activities to committing to a STEM identity	47.RD	1906708	-	42,743
I/UCRC Phase II: Collaborative Research: Ceramic, Composite and Optical Materials Center	47.RD	1540025	-	56,701
I-Corps: Integrated Strain Sensor for Dynamic Hip Screws	47.RD	1933649	-	32,450
I-Corps: Microwave flow cytometer for real-time monitoring of fermentation	47.RD	1928967	-	50,000
II NEW: Infrastructure to Support Research in Network-Aware Data-Intensive Computing	47.RD	1405767	-	4,125
III: CGV: Medium: Collaborative Research: Computational Design and 3D Printing of Textiles	47.RD	1722997	-	(14,207)
III: Small: Collaborative Research: Privacy-Aware Collaborative Data Sharing in Human-Centered Social Networks	47.RD	1527421	-	2,280
Information-Based Complexity Analysis for Large-Scale Nonlinear Optimization	47.RD	1913006	-	94,772
INSPIRE - Intentional Defaults For More Sustainable Infrastructure: Studying Interventions To Alleviate Biases In Upstream, Multi-Stakeholder Decisions	47.RD	1531041	-	(282)
Interaction of Tool Wear and the Machining Affected Zone in Nickel-Based Superalloys	47.RD	1760809	-	137,341
Investigating Functional Peptides for Asymmetric Hypervalent Iodine Catalysis	47.RD	1664920	-	86,961
IREs: Call Me GLOBER-Under-represented Undergraduate Bioengineering Research in Singapore	47.RD	1460110	-	6,057
IUI Track-2 FEC: The Creation of Next-Generation Tools for Neuroscience-Noninvasive Radioluminescence Approaches to Optogenetics	47.RD	1632881	330,387	815,757
IUSE/ PFE: RED: Clemson University: Learning Teams and Innovation Ventures for Adaptable Training in Engineering (CULTIVATE)	47.RD	1730576	-	312,300
Large Scale Networking (LSN) Workshop on Operationalizing SDN	47.RD	1747856	-	10,331
Material Removal and Ejection Dynamics in Femtosecond Laser Machining of Microchannels in Transparent Materials	47.RD	1563426	-	1,809
MCA-PGR: Spatial and Temporal Resolution of mRNA Profiles During Early Nodule Development	47.RD	1444461	-	247,783
Mechanics of Locomotion with Nonholonomic Constraints in a Fluid	47.RD	1563315	-	75,005
Metal Coordination and DNA Interactions Control Sulfur and Selenium Antioxidant Mechanisms	47.RD	1807709	-	62,664
Methods for improved size resolution for particle impactors	47.RD	1804304	-	111,359
MRI: Acquisition of Leica STED Super resolution and FALCON Microscope System for the Clemson Light Imaging Facility	47.RD	1920095	-	493,330
MRI: Development of Enodia: A Highly Reconfigurable, HPC- Backed Instrument Enabling Multifaceted Interactive Visualization	47.RD	1828611	18,061	48,283
Multi-Point Monin-Obukhov Similarity and Spectral Dynamics in the Convective Atmospheric Surface Layer	47.RD	1561190	-	115,183
New Hierarchies, Cutting Planes, and Algorithms for Mixed Integer Optimization	47.RD	1913294	-	44,573
New Preconditioned Solvers for Large and Complex Eigenvalue Problems	47.RD	1819097	-	90,016
Novel Graphene-based Label-free Biosensor Array for Smart Health and Drug Discovery	47.RD	1606882	27,858	33,735
Novel microcantilever sensor using plasmically enhanced nonlinearity	47.RD	1809891	-	150,304
NRI: FND: 3D Concrete Printing with Macro-Micro Robots	47.RD	1924721	-	104,456
NRI: FND:COLLAB: Drones and the Design of Public Outdoor Spaces	47.RD	1734247	-	65,237
NRT: Technology-Human Integrated Knowledge Education and Research (THINKER)	47.RD	1829008	-	374,803
NRT-DESE: Preparing Resilient and Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)	47.RD	1633608	-	975,540
NSF Graduate Research Fellowship Program	47.RD	1744593	-	51,407
NSF Graduate Research Fellowship Program	47.RD	1744593	-	51,386
NSF Graduate Research Fellowship Program	47.RD	1744593	-	51,407
NSF Graduate Research Fellowship Program	47.RD	1246875 & 1744593	-	(4,147)
NSF INCLUDES DDLP Statewide Consortium: Supporting Underrepresented Populations in Precalculus by Organizational Redesign toward Engineering Diversity	47.RD	1744497	28,277	69,759
On a General Class of Count Time Series Models	47.RD	1407480	-	5,809
Overcoming Impediments to Computer Science Students' Understanding of Code: Scaling Up Automated Methods and Broadening Participation	47.RD	1914667	-	74,537
PFI: AIR-TT: Microwave Flow Cytometer: Monitor Yeast Cell Growth and Microbial Contamination in Fermentation	47.RD	1640578	-	19,453
PFI: AIR - TT: Novel Low-Power III-Nitride Heater Cantilever Based Selective VOC Sensor	47.RD	1602006	-	9,049
PFI: AIR-TT: Translation of Multimodal Membrane Adsorbers for Protein Purifications	47.RD	1640645	-	18,064
Phase I I/UCRC Clemson University Site: Advanced Mammalian Biomanufacturing Innovation Center (AMBIC)	47.RD	1624641	34,314	156,043
Planning Grant: Engineering Research Center for Computer And Network Resiliency and Security for Transportation (CAN-RESIST)	47.RD	1937000	-	20,452
Planning Grant: Engineering Research Center for Exploring Human-Machine Integrated Systems in Digitally Intensive Manufacturing Environments (HMIS-DIME)	47.RD	1936998	-	13,497
Production and Exploration of Rydberg Highly Charged Ions	47.RD	1806494	-	167,495
Quantifying dense gas dispersion in urban areas	47.RD	1703548	-	117,959
RAPID: Airborne Measurements of Black Carbon Aerosol and Its Mixing State Over the Eastern Pacific/Central Coast of California	47.RD	1833008	-	20,838
RAPID: Critical Assessment of Drainage Infrastructure Performance in a Sustained Flooding Event: The Case of Hurricane Florence	47.RD	1855588	-	35,376
RAPID: Reconstruction of Hurricane Florence Flood Hydrographs (HF2Hs) for South Carolina's Critical Infrastructures Using Data Analytics Algorithms and In-situ Field Measurements	47.RD	2035685	-	210
RAPID: Revisiting the compounding storm surge and extreme precipitation events on coastal flooding during hurricane Florence using field data	47.RD	1855374	-	38,390
RCN: Advancing Research and Education Through a National Network of Campus Research Computing Infrastructures - The CaRC Consortium	47.RD	1620695	49,548	130,546
Research: Developing Engineering Experiences and Pathways (D.E.E.P) in Engineering Technology Career Formation	47.RD	1825126	25,459	155,294
REU Site: Undergraduate Research in Collaborative Data Visualization Applications	47.RD	1359223	-	(47)
REU Site: Nature's machinery through the prism of Physics, Biology, Chemistry and Engineering	47.RD	1757658	-	61,460

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
National Science Foundation, continued				
REU Site: Research Experience for Undergraduates in Advanced Material Sciences	47.RD	1950557	-	36,743
REU Site: Solid-State Devices for Electronics, Photonics, and Magnetics Technology	47.RD	1560070	-	41,296
REU Site: Summer Undergraduate Research Program at Clemson University	47.RD	1560300	-	33,015
REU site: Undergraduate Research in Biological Sciences: From Genomes to Phenomes - Exploring Function Across Scales	47.RD	1460895	-	2,200
Reversible Anion and Ion-Pair Recognition under Electronic Control	47.RD	1660329	-	66,379
RI: Small Dynamic Payload Transport and Manipulation by Teams of Cooperating Mobile Robotic-Cranes	47.RD	1710898	-	(100)
RI: Small: Collaborative Research: A Modular Approach to Robot Systems Incorporating Compliant and Soft Elements	47.RD	1718075	-	65,254
RI: Small: Vine-Like Continuum Robots	47.RD	1527165	-	34,706
RII Track-2 FEC: Advanced Biomufacturing: Catalyzing Improved Host Development and High Quality Medicines through Genome to Phenome Predictions	47.RD	1736123	-	76,184
RII Track-2 FEC: Advanced Biomufacturing: Catalyzing Improved Host Development and High Quality Medicines through Genome to Phenome Predictions	47.RD	1736123	693,071	1,269,483
RII Track4: Event Based Approach to Model Indoor Airflow Patterns	47.RD	1832971	-	60,771
RII Track-4: Exploring Ferromagnetism in Two-Dimensional Van Der Waals Materials	47.RD	1929138	-	35,783
RTG: Coding Theory, Cryptography, and Number Theory	47.RD	1547399	-	356,991
SCH: INT: Collaborative Research: Crowd in Action: Human-Centric Privacy-preserving Multi-scale Data Analytics for Environmental Public Health	47.RD	1949640	-	1,393
SDI-CSCS: Collaborative Research: SZOS: Enabling Infrastructure-Wide Programmable Security with SDI	47.RD	1700499	-	108,069
SHF: Small: Using Error-Bounded Lossy Compression to Improve High-Performance Computing Systems and Applications	47.RD	1910197	-	98,827
Southeastern Number Theory Meetings	47.RD	1902170	-	6,595
Structure Regulation of Ionic Copolymers: Unlocking Ionic Clusters through Solvent Shear Adaptation, a Computational-Experimental Insight	47.RD	1905407	-	80,302
SusChEM: Sustainable Chemistry from Combined Inorganic and Organic Waste Precursors	47.RD	1708844	-	35,086
The Geometry of Measures and Analytic Properties of Associated Operators	47.RD	1800015	-	41,727
Tigers Teach Noyce Scholarship	47.RD	1136293	-	15,530
Topics in Algebraic Geometry Codes	47.RD	1403062	-	4,978
Transforming the Kirigami Art into a Design Framework for Multi-functional Adaptive Composites	47.RD	1760943	-	230,456
Uncertainty Principles in Reproducing Kernel Hilbert Spaces	47.RD	2000236	-	19,437
Uncovering Fundamental Transport Principles in Novel, Ultraclean Lignin-Based Hydrogels for Bioseparations	47.RD	1915787	-	113,911
Understanding Particle Scale Motion Initiation Physics for Loose-laid Building Rooftop Aggregates in Severe Windstorms	47.RD	1760999	-	53,279
UNS: Formation and Toxicity of Disinfection Byproducts in Desalinated Waters	47.RD	1511051	20,324	31,698
UNS: High-performance Membranes for Engineered Osmosis	47.RD	1510790	-	16,823
Unveiling The Cosmic History of Light	47.RD	1715256	-	140,131
Urbanization and Rural Land Rights Negotiations	47.RD	1918352	-	18,227
US Ignite: Track 1: Enabling Connected Vehicle Applications through Advanced Network Technology	47.RD	1531127	-	13,553
What leads to better outcomes in informal STEM-based environmental education programs for youth? Pass-through programs from:	47.RD	1906610	55,026	224,367
Carnegie Mellon University				
Learning to See Seeing to Learn: A Sociotechnical System Supporting Taxonomic Identification Activities in Volunteer-Based Water Quality Biomonitoring	47.RD	1122371-358369	-	10,541
Learning to See Seeing to Learn: A Sociotechnical System Supporting Taxonomic Identification Activities in Volunteer-Based Water Quality Biomonitoring	47.RD	1122372-373033	-	3,619
Cornell University				
SCH: EXP: Home+, An Intelligent and Interoperable Suite of Robotic Furnishings, Learning and Evolving with Their Users	47.RD	81402-10758	4,113	127,226
East Carolina University				
IUSE: EHR: Assessing Virtual Reality Field Experiences for Enhanced Learning in the Geosciences	47.RD	A19-0220-S001-A01	-	138,162
GATS, Inc.				
Life-Cycle of the Quasi Two-Day Wave in the Southern Hemisphere	47.RD	GATS_SC_160003	-	345
HT CrystalSolutions LLC				
Hydrothermal Growth Strontium Beryllium Borate (SBBO) for Deep UV Nonlinear Optical Applications	47.RD	HTCS1819738	-	10,972
Iowa State University				
CPS: Medium: Data-driven Causality Mapping, System Identification and Dynamics Characterization for Future Power Grid	47.RD	021700A	-	16,487
Johns Hopkins University				
AMBIC Reference Cell, Product, Media, Feeds (CLEMSON)	47.RD	PO# 2003603375	-	51,548
JHU I/UCRC for advanced mammalian biomanufacturing	47.RD	2004168266	-	77,769
JHU I/UCRC for advanced mammalian biomanufacturing - Enhancing Stability in CHO cells: The linkages between culture stress, chromatin, and gene expression	47.RD	2004594243	-	8,426
JHU I/UCRC for advanced mammalian biomanufacturing: Changes in Metal Speciation Within AMBIC 1.1 Culture Media	47.RD	2004615676	-	11,710
Understanding & Controlling ER Stress in Highly Secreting CHO Cells	47.RD	PO# 2003683366	-	24,444
Michigan Technological University				
Driving Forces in Aqueous Two-Phase Systems for Vaccine Development	47.RD	171107622 / PO102203	-	15,441
New Mexico State University				
iCREDITS: interdisciplinary Center of Research Excellence in Design of Intelligent Technologies for Smartgrids	47.RD	Q02121	-	79,803
Northern Arizona University				
Digitization TCN: Lepidoptera of North America Network: Documenting Diversity in the Largest Clade of Herbivores	47.RD	1003017-02	-	2,170

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
National Science Foundation, continued				
Pass-through programs from, continued:				
Pennsylvania State University				
Simulation-Based Design of Polymer Nanocomposites for Structural Applications	47.RD	6091-CU-NSF-4438	32,368	72,778
Purdue University				
Collaborative Research: Digitization TCN: Digitizing collections to trace parasite-host associations and predict the spread of vector-borne disease	47.RD	10001564-004	-	1,503
Expanding Access to and Participation in the Multiple-Institution Database for Investigating Engineering Longitudinal Development	47.RD	4101-77545	-	12,790
Hazards Sees: Bridging Information, Uncertainty, and Decision-Making in Hurricanes using and Interdisciplinary Perspective	47.RD	10000900-008	-	88,761
SC EPSCoR/IDeA				
Computational Modeling Guided Biomaterials Development for Therapeutic Vascularization	47.RD	20-GE06	-	14,436
Computationally Directed Synthesis of Substituted Ferrites for Enhanced Energy Transfer	47.RD	20-GE04	-	7,238
SC State University				
Louis Stokes South Carolina Alliance for Minority Participation (SCAMP): A Senior Alliance Enhancing Opportunities to Transition Students into Success STEM Pathways	47.RD	18-581065-SCAMP-CU-SC	-	15,508
SRI International				
Energetic Particle Precipitation Mechanisms in the Inner Magnetosphere	47.RD	36318	-	17,897
The Samuel Roberts Noble Foundation				
Research - PGR Function Genomics of Beneficial Legume Microbe Interactions	47.RD	2017-G04-003	-	139,556
University of Arizona				
PIRE: Dust Stimulated Draw-Down of Atmospheric CO2 as a Trigger for Northern Hemisphere Glaciation	47.RD	467895	-	21,163
University of California Davis				
Computational Infrastructure for Geodynamics	47.RD	201504240-01 / A17-0253-S002	-	91,970
University of Kentucky				
RII Track-2 FEC: A Multiscale, Multiphysics Modeling Framework for Genome-to-Phenome Mapping via Intermediate Phenotypes	47.RD	3200002098-19-053 / PO 7800004458	-	634,427
University of North Carolina - Chapel Hill				
FABRIC: Adaptive Programmable Research Infrastructure for Computer Science and Science Applications	47.RD	5115814	-	51,073
University of San Diego				
Collaborative Research: Military Veteran Students' Pathways in Engineering Education	47.RD	140065-U2015-001 / PO# 26339	-	11,231
University of South Carolina				
RII Track 1: Materials Assembly and Design Excellence in South Carolina: MADE in SC	47.RD	18-3494 22000-FB02/ PO#2000036759	-	1,295,357
University of Texas				
RESEARCH-PGR: Genomic and Epigenomic Analyses of Fiber Development in Allotetraploid Cottons	47.RD	UTA-18-001133	-	44,920
University of Utah				
CloudLab Phase II: Community Infrastructure to Expand the Frontiers of Cloud Computing Research	47.RD	10045119-CLEM PO# U000099152	-	202,511
CNH-L: Adaptation, Mitigation, and Biophysical Feedbacks in the Changing Bonneville Salt Flats	47.RD	10040652-CU / PO # U000094568	-	67,683
University of Rochester				
RAISE - EQulP: A high-speed, reconfigurable, fully integrated circuit platform for quantum photonic applications / URF (AWD0002483)	47.RD	417415G / UR FAO GR510842	-	29,920
Virginia Polytechnic Institute				
Collaborative Proposal: Multi-Perspective Evacuation Performance Measurement	47.RD	479463-19244	-	77,477
Total National Science Foundation			<u>2,040,331</u>	<u>21,819,745</u>
Department of Veterans Affairs				
Targeted Delivery of Antioxidant Drugs Following Cerebral Ischemic Injury	64.RD	PO# 673-D85004	-	47
Total Department of Veterans Affairs			<u>-</u>	<u>47</u>
Environmental Protection Agency				
Destruction of PFAS in Leachate and Groundwater	66.RD	83963001	-	142,199
Forest Watershed Management Practices & DW Quality	66.RD	CR-83586401	-	28,963
Pollution Prevention Incentives States	66.RD	00D41717	-	38,518
Pollution Prevention Incentives States	66.RD	00D84518	-	36,636
Pass-through programs from:				
South Carolina Department of Health and Environmental Control				
Developing a Watershed Based Plan for Edisto Island and the Town of Edisto Beach	66.RD	EQ-0-548	-	1,318
Development and Implementation of the Tidal Saltwater SC Adopt-a-Stream Program	66.RD	None	-	4,363
South Carolina Volunteer Stream Monitoring Program (SC Adopt-a-Stream)	66.RD	None	-	53,294
Upstate Forever				
Septic System GIS Analysis for Subwatersheds of Lake Keowee	66.RD	FS-98431218-0	-	3,000
Total Environmental Protection Agency			<u>-</u>	<u>308,291</u>
Nuclear Regulatory Commission				
Clemson University Nuclear Engineering and Radiological Science Scholarship Program	77.RD	31310018M0013	-	28,097
Nuclear Faculty Development at Clemson University	77.RD	31310018M0037	-	68,872

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Nuclear Regulatory Commission, continued				
US NRC Fellowship Education Grant at Clemson University	77.RD	31310018M0006	-	61,747
Total Nuclear Regulatory Commission			-	<u>158,716</u>
Department of Energy				
Additive Manufacturing of Circumferentially Embedded Optical Probe Modules for In Situ Monitoring of Coal-Fueled Steam Turbines	81.RD	DE-FE0031826	-	89,779
All-Digital Plug and Play Passive RFID Sensors for Energy Efficient Building Control	81.RD	DE-EE0007683	52,075	367,225
Fleets via Anticipative and Cooperative Vehicle Guidance	81.RD	DE-EE0008232	4,000	153,508
Breeding High Yielding Bioenergy Sorghum for the New Bioenergy Belt	81.RD	DE-AR0000595	-	6,546
Crystal Growth and Quantum Phases of Frustrated Rare Earth Oxides	81.RD	DE-SC0020071	62,306	93,865
Dynamic Stochastic Optimal Power Flow (DSOPF)	81.RD	DE-AR0001079	-	134,866
Electrocatalytically Upgrading Methane to Benzene in a Highly Compacted Microchannel Protonic Ceramic Membrane Reactor	81.RD	DE-FE0031871	-	243
Energyize: An Interactive Evaluation Tool for Engaging the General Public with Energy Decision Making	81.RD	DE-NE0008568	-	105,911
Energy Efficiency for the Growing South Carolina Manufacturing Industries	81.RD	DE-EE0007727	-	282,000
Fellowship and Scholarship Support - Nicole Hostetter	81.RD	DE-NE0000125	-	52,050
Fully Integrated High Speed Megawatt Class Motor and High Frequency Variable Speed Drive System	81.RD	DE-EE0007254	-	296,044
Functionally Designed Ultra-Lightweight Carbon Fiber Reinforced Thermoplastic Composites Door Assembly	81.RD	DE-EE0007293	117,350	277,799
High Speed Medium Voltage CHP System with Advanced Grid Support	81.RD	DE-EE0008409	29,916	195,588
Hydrogen Isotope Fractionation Using Graphene and Related 2-D Materials	81.RD	DE-SC0018151	-	41,001
Integrated Process Optimization for Biochemical Conversion	81.RD	DE-EE0008255	-	90,566
Integrated TBC/EBC for SiC Fiber Reinforced SiC Matrix Composites for Next Generation Gas Turbines	81.RD	DE-FE0031281	-	150,260
Ionic Polymers Under Dynamic Conditions	81.RD	DE-SC0019284	-	81,075
Laser 3D Printing of Highly Compacted Protonic Ceramic Electrolyzer Stack	81.RD	DE-EE0008428	-	532,523
Lignin Fractionation and Valorization: Focusing on both Value and Quality	81.RD	DE-EE0008502	184,592	481,493
Nacelle Testing for Offshore Wind Turbines with Hardware-In-the-Loop	81.RD	DE-EE0008962	-	87,350
Nano-structured Ceramic Membranes for Enhanced Tritium Management	81.RD	DE-NE0008703	-	271,329
Proof of Feasibility of Using Well Bore Deformation As A Diagnostic Tool To Improve Co2 Sequestration	81.RD	DE-FE0004542	(2,936)	(2,936)
Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities	81.RD	DE-SC0012530	185,017	782,567
Robust Extractive Scintillating Resin and Adsorptive Membranes for Plutonium Isotopic Analyses of Aqueous Media	81.RD	DE-NA0002920	-	36,744
Robust in Situ Strain Measurements to Monitor Carbon Dioxide (CO2) Storage	81.RD	DE-FE0028292	-	471,644
Sampling Rare Events In Aqueous Systems Using Molecular Simulations	81.RD	DE-SC0015448	-	89,068
Self-healable Copolymer Composites for Extended Service of H2 Dispensing Hoses	81.RD	DE-EE0008827	-	123,913
Test and Validate Distributed Coaxial Cable Sensors for in situ Condition Monitoring of Coal-Fired Boiler Tubes	81.RD	DE-FE0031765	39,902	230,458
The 3P Program: Phenotyping x Prediction = Productivity	81.RD	DE-AR0001134	1,677,502	2,390,595
Pass-through programs from:				
Applied Engineering Concepts, Inc.				
1b Physical layer Authentication of Wired Networks (PAWN)	81.RD	None	-	6,001
Battelle Memorial Institute-PNNL				
DAE solver interface development For GridPACK Task Under DOE Advanced Grid Modeling	81.RD	469502	-	47,961
Detroit Diesel Corporation				
Thermal Barrier Coatings for Improving Thermal Efficiency of a Heavy-Duty Engine	81.RD	PO#1590029839	130,151	276,329
Georgia Institute of Technology				
Demonstration of a 5 MVA Modular Controllable Transformer for a Resilient and Controllable Grid	81.RD	AWD-103072-G1 / PO 5058541	-	3,075
Handix Scientific LLC				
A Microfluidic Ice Nucleating Particle Counter for Continuous Measurements	81.RD	1801 // Prime # DE-SC0018474	-	133,779
Lawrence Livermore National Laboratory				
Characterization of Actinide Migration in Field Lysimeter Experiment	81.RD	B626646	-	335
Characterization of Plutonium Migration under Field Conditions	81.RD	B633477	-	47,155
Lexington Technology Center				
Lexington Technology Center 2018-19 Faculty Professional Development	81.RD	None	-	3,659
Los Alamos National Laboratory				
Autonomous Monitoring of Wellbore Integrity Applying Time Reverse Nonlinear Elastic Wave Spectroscopy (TR NEWS) and Fiber Optic Sensing and Communication	81.RD	476893	-	79,025
National Technology and Engineering Solutions of Sandia				
Adaptive Protection and Control for High Penetration PV and Grid Resilience	81.RD	2143420	-	9,471
Experimental Investigation of Additive Manufactured Materials in Various Loading Conditions	81.RD	PO# 1908748	-	8,269
Global Optimization of Large-Scale AC Power Flow Problems	81.RD	PO# 1787843	-	1,881
NaSOW p.r. 1886058	81.RD	1678873	-	30,980
Protection of Inverter-Dominated Islands With PV and Storage in Microgrid	81.RD	PO# 2004274	-	29,494
Protection of Inverter-Dominated Islands With PV and Storage in Microgrid Continued	81.RD	PO# 2004274	-	71,787
New Mexico State University				
Protection Design and Coordination of Microgrids as Applied to Regional Distribution	81.RD	Q01960	-	70,497
Oak Ridge National Laboratory				
Go! Program: Controlling Quantum Interactions at Interfaces Over Low Dimensional Materials for Photocatalytic Reactions	81.RD	TO# 4000171652/ PO#4200000754	-	48,512
Pennsylvania State University				
Maximizing Vehicle Fuel Economy Through The Real-Time, Collaborative, And Predictive Co-Optimization Of Routing, Speed, And Powertrain Control	81.RD	5989-CU-EARPA-0801	-	86,636

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Department of Energy, continued				
Pass-through programs from, continued:				
Research Foundation for the SUNY				
ARPA-E: Hybrid Electrochemistry-Advanced Combustion for High-Efficiency Distributed Power (HE-ACED)	81.RD	82595/2/1149460	-	35,438
Savannah River Nuclear Solutions				
Controller Hardware in the Loop Support for Transformer Protection (Requisition No. 0000492006)	81.RD	PO:0000409270 / TOA:0000492006/BOA521	-	50,988
H-CANYON PROCESS MODEL DEVELOPMENT	81.RD	PO#0000402031/ BOA 521	2,610	2,610
Joint Appointment (JA) - Support of Laboratory Research and Development	81.RD	TOA/PO # 0000359811 // NSCB00013 // BOA 521	-	17,972
LDRD Chemical Fingerprint Clemson Collaboration	81.RD	TOA# 461641 // G-SOW-A-02191/BOA 521	-	25,927
Silicon Carbide Permeation Project	81.RD	0000422001/BOA 521	-	13,869
Solid State Ionics & Advanced Manufacturing	81.RD	BOA: 0521/ TOA: 0000453661	-	26,584
Solid State Ionics & Multiscale Modeling	81.RD	BOA:0521/TOA:0000455686	-	43,365
Spark Plasma Sintering for Transformation and Deposition of Special Nuclear Materials	81.RD	000384848 TOA#CEB00021/BOA 521	-	6,596
Task Order Proposal Request (TOPR) No. 429856 - Controller Hardware in the Loop Support for Transformer Protection	81.RD	E-SOW-A-00097// BOA0521//PO#0000409270	-	17,917
Task Order Proposal Request 0000472288 - Securing a Large Power Transformer	81.RD	TOA/PO: 0000444090/BOA 521	-	345,676
Tritium Supply Chain Modeling	81.RD	PO 317010 // TOA# NSCB00011 // BOA 521	-	62,955
NSCB00011				
SCUREF				
SRR Technical Support Provided by Clemson University	81.RD	SRRA001/SRRA021685	-	143,471
Solution Spray Technologies, LLC				
Novel Thermal Barrier Coatings for Gasoline Spark Ignition Engines	81.RD	Prime: DE-SC0019865	-	49,811
Symplectic Research, Inc				
Direct Tomography Simulation for Combustion Flows	81.RD	Prime: DE-SC0019532	-	50,577
Tetramer Technologies				
Development of a New Class of Plastic Scintillator Materials	81.RD	Prime: DE-SC0019612	-	16,000
Reduced Graphene Oxide for Scalable Flexible Transparent Electrodes	81.RD	TET 18002	-	(641)
University of Arkansas				
Integrated Process Optimization for Biochemical Conversion	81.RD	UA2020-191	-	4,812
University of Connecticut				
In-situ Measurement and Validation of Uranium Molten Salt Properties at Operationally Relevant Temperatures	81.RD	PO# 317174 / KFS# 5649590	-	12,753
University Of Maryland				
Low-cost Vacuum Insulated Glass (VIG) for Retrofit of Single Pane Windows	81.RD	76494-27044201	-	83
University of Minnesota				
Energy Frontier Research Center for Inorganometallic Catalyst Design	81.RD	A004527501	-	95,885
Energy Frontier Research Center for Inorganometallic Catalyst Design	81.RD	A004527501	-	(6,876)
Energy Frontier Research Center: Inorganometallic Catalyst Design Center	81.RD	A004527501	-	31,159
University of North Carolina - Charlotte				
Optimal Reconfiguration and Resilient Control Framework for Real-Time Photovoltaic Dispatch to Manage Critical Infrastructure (REDIS-PV)	81.RD	20190382-01-CLE	-	38,907
University of Nebraska - Lincoln				
Systems Analysis of the Physiological and Molecular Mechanisms of Sorghum Nutrient Use Efficiency, Water Use Efficiency and Interactions with the Soil Microbiome	81.RD	25-1215-0123-006	-	257,281
University of South Carolina				
Center for Hierarchical Waste Form Materials (CHWM)	81.RD	17-3256/USC#13020-FC78/ PO#2000030148	-	130,786
UT-Battelle, LLC				
Scoping Study: Ambient Sampling of Particulate Deposits from Solid Surface with a Portable Mass Spectrometer	81.RD	PO# 4000171291	-	31,500
Total Department of Energy			2,482,485	10,373,325
Department of Education				
GAANN: Molecular Engineering in Sustainability and Health	84.RD	P200A180076	-	308,816
GAANN-Leadership development for Ph.D. students in Electrical and Computer Engineering	84.RD	P200A180009	-	194,675
Graduate Fellowship in Electrical & Computer Engineering	84.RD	P200A150107	-	21,385
Total Department of Education			-	524,876
Department of Health and Human Services				
Advanced Nursing Education Workforce (ANEW)	93.RD	5T94HP32896-02-00	31,544	574,264
Building the Evidence Base for Vomit Clean-Up Procedures in Long-term Care Facilities	93.RD	5R01HS025987-02	187,121	292,518
CanSim: A Novel Simulator for Training Cannulation Skills in Dialysis Care	93.RD	5K01DK111767-04	-	136,258
Cell and matrix interactions in diabetic vascular tissue engineering models	93.RD	5R01HL133303-02	-	322,338
Center of Biomaterials for Tissue Regeneration (CBTR)	93.RD	5P20GM103444-08	-	(2,649)
Center of Biomaterials for Tissue Regeneration (CBTR)	93.RD	5P20GM103444-09	63,567	400,725
Center of Biomaterials for Tissue Regeneration (CBTR) - A Simionescu	93.RD	5P20GM103444-08	-	5,020
Center of Biomaterials for Tissue Regeneration (CBTR) - Y. Mei	93.RD	5P20GM103444-08	-	(3,071)

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Department of Health and Human Services, continued				
Center of Biomaterials for Tissue Regeneration (CBTR) (D Simionescu, Z Gao, & T Bruce)	93.RD	5P20GM103444-08	-	5,848
Center of Biomaterials for Tissue Regeneration (CBTR) (J Mercuri)	93.RD	5P20GM103444-08	-	8,864
Center of Biomaterials for Tissue Regeneration (CBTR) (J Nagatomi & C Webb)	93.RD	5P20GM103444-08	-	19,365
Center of Biomaterials for Tissue Regeneration (CBTR) (JS Lee)	93.RD	5P20GM103444-08	-	3,936
Center of Biomaterials for Tissue Regeneration (CBTR) (Richardson)	93.RD	5P20GM103444-08	-	954
Center of Biomaterials for Tissue Regeneration (CBTR)(A. Foley)	93.RD	5P20GM103444-08	-	(106)
COBRE:EPIC - YR4 Ingram-Smith	93.RD	5P20GM109094-04	-	165,195
COBRE:EPIC - YR4 Whitehead	93.RD	5P20GM109094-04	-	36,467
COBRE:EPIC - YR4 Admin Core	93.RD	5P20GM109094-04	-	195,559
COBRE:EPIC - YR4 Core 1	93.RD	5P20GM109094-04	-	124,609
COBRE:EPIC - YR4 Core 2	93.RD	5P20GM109094-04	-	144,343
COBRE:EPIC - YR4 J. Morris	93.RD	5P20GM109094-04	-	163,877
COBRE:EPIC - YR4 K. Paul	93.RD	5P20GM109094-04	-	146,549
COBRE:EPIC - YR4 L. Kozubowski	93.RD	5P20GM109094-04	-	188,213
COBRE:EPIC - YR4 M. Morris	93.RD	5P20GM109094-04	-	159,792
COBRE:EPIC Admin Core - Temesvari & Smith	93.RD	5P20GM109094-03	-	7,500
COBRE:EPIC Year 03 Carryover-ERosowski Pilot	93.RD	5P20GM109094-04 REVISED	-	64,525
COBRE:EPIC Year 03 Main Carryover	93.RD	5P20GM109094-04 REVISED	-	97,836
COBRE:EPIC-YR5 Admin	93.RD	5P20GM109094-05	-	112,001
COBRE:EPIC-YR5 C Ingram-Smith	93.RD	5P20GM109094-05	-	54,256
COBRE:EPIC-YR5 Core 1 (CUGBF)	93.RD	5P20GM109094-05	-	40,430
COBRE:EPIC-YR5 Core 2 (CLIF)	93.RD	5P20GM109094-05	-	39,963
COBRE:EPIC-YR5 J Morris	93.RD	5P20GM109094-05	-	25,794
COBRE:EPIC-YR5 K Paul	93.RD	5P20GM109094-05	-	44,805
COBRE:EPIC-YR5 L Kozubowski	93.RD	5P20GM109094-05	-	72,057
COBRE:EPIC-YR5 M Morris	93.RD	5P20GM109094-05	-	46,313
Craniofacial Dysmorphology Associated with Phelan-McDermid Syndrome using Three-Dimensional Morphometrics	93.RD	5R03DE027497-02	10,000	63,457
Critical functions of the gut microbiota that mediate recovery from recurrent Clostridium difficile infection	93.RD	5K01DK111794-03	-	165,625
Defining and harnessing macrophage pathways for Aspergillus clearance in vivo	93.RD	5K22AI134677-02	-	83,450
Detecting and Monitoring Implant Infection Using X-ray Excited Luminescence Chemical Imaging (XELCI)	93.RD	5R01AR070305-05	6,546	233,285
Enabling Plant Natural Product Biosynthesis by Debugging Heterologous Protein Expression in Yeast	93.RD	1R35GM133803-01	-	221,933
Entamoeba Metabolism: The Role of Acetate Kinase and ADP-Forming Acetyl-CoA Synthetase	93.RD	1R15GM114759-01A1	-	69,750
Exploration of the hypothesis-generation process as guided by secondary data analysis in clinical research: Can the process be more efficient?	93.RD	7R15LM012941-02	-	76
Genetics of Cocaine and Methamphetamine Sensitivity in Drosophila	93.RD	5U01DA041613-04	-	898,149
Human Factors Considerations in the Design and Implementation of Telemedicine-Integrated Ambulance-based Environments for Stroke care	93.RD	1R03HS026809-01	-	20,302
Identification of kinetoplastid parasite glucose uptake and subcellular localization inhibitors as therapeutic leads	93.RD	1R21AI127575-01	5,972	5,972
Improving hiPSC Cardiomyocyte Engraftment and Integration with Nanowired Human Cardiac Organoids-Fellowship for Robert Coyle	93.RD	1F31HL145979-01	-	44,997
Inhibition of Human Islet Amyloid Polypeptide Aggregation	93.RD	5R35GM119691-05	-	387,514
Integrating Biomechanics & Cell Biology to Understand TMJ Pathology	93.RD	4R01DE021134-05 revised	350	70,308
Intensive Models of HCV Care for Injection Drug Users	93.RD	7R01DA034086-07	22,624	22,624
Mechanisms of Fluconazole-Induced Aneuploidy in Cryptococcus Neoformans	93.RD	1R15 AI119801-01 Revised	-	57,973
Mechanisms of Long-term Arsenic Exposure on Stem Cells	93.RD	1R15ES027651-01	-	57,649
Medial Arterial Calcification: Mechanisms and Therapy	93.RD	R01HL145064	263,953	539,789
MENTOR: Medical Enrichment Through Opportunities in Research	93.RD	5T35AI134643-03	-	6,163
Multiplexed, Quantitative Fluorescence Imaging in Tumor Sections	93.RD	7R21CA196418-04 Revised	-	100,482
Nanowired Human Cardiac Spheroids for Heart Repair	93.RD	5R01HL133308-04	172,708	348,878
Neuron-Specific Nanotherapeutics for Spinal Cord Injury Repair	93.RD	5R01NS111037-02	64,609	314,802
New Enzymes for DNA Demethylation	93.RD	1R15GM121997-01	-	76,151
New Generation DelPhi: large systems and beyond electrostatics	93.RD	5R01GM093937-09	-	18,502
Oral Microbiomes and Dental Caries in a Human Immunodeficiency Virus Infected Population	93.RD	5R01DE028154-03	176,585	295,279
Predicting the Heterogeneity of Cell-Fate Decisions	93.RD	7R01GM104184-05	-	124,458
Project EMPOWER - Engaging Medicine Providers On Ways to Enhance Recovery	93.RD	5H79TI081664-03	73,541	116,075
Realizing Improved Patient Care Through Human-Centered Design in the OR	93.RD	5P30HS024380-04 Revised	62,522	526,896
Reducing Disparities in Birth Outcomes: A Randomized Controlled Trial on Centering Pregnancy	93.RD	5R01HD82311-05	249,772	329,702
Regulation of the Physiology and Function of the Digestive Vacuole in Toxoplasma Gondii	93.RD	RAI143707A	980	118,047
Reverse Engineering Quantitative Genetic Variation	93.RD	5R01GM128974-03	-	720,428
Rural Communities Opioid Response (Planning)	93.RD	4G25RH32414-01-05	165,940	165,940
SC BioCRAFT Phase III-BET Core	93.RD	1P30GM131959-01	-	225,232
SC BioCRAFT Phase III-CTMA	93.RD	1P30GM131959-01	-	75,055
SC BioCRAFT Phase III-Pilot (Alexander)	93.RD	1P30GM131959-01	-	21,242
SC BioCRAFT Phase III-Pilot (Bhattacharya)	93.RD	1P30GM131959-01	-	14,927
SC Bioengineering Center for Regeneration and Formation of Tissues (SC BioCRAFT) Phase III	93.RD	1P30GM131959-01	29,317	331,975
SC COBRE for Translational Research Improving Musculoskeletal Health (SCTRIMH)	93.RD	5P20GM121342-02 Revised	23,303	81,302
SC COBRE for TRIMH - Admin	93.RD	5P20GM121342-02 Revised	49,025	437,320
SC COBRE for TRIMH - AFT	93.RD	5P20GM121342-02 Revised	-	367,887
SC COBRE for TRIMH - Foley A. Pilot Project	93.RD	5P20GM121342-02 Revised	-	17,864
SC COBRE for TRIMH - Harman	93.RD	5P20GM121342-02 Revised	-	207,976
SC COBRE for TRIMH - MCM	93.RD	5P20GM121342-02 Revised	-	265,945
SC COBRE for TRIMH - Peng	93.RD	5P20GM121342-02 Revised	-	211,224
SC COBRE for TRIMH - Powder K. Pilot Project	93.RD	5P20GM121342-02 Revised	-	18,752
SC COBRE for TRIMH - Richardson	93.RD	5P20GM121342-02 Revised	-	93,317
SC COBRE for TRIMH - Sanabria	93.RD	5P20GM121342-02 Revised	-	259,439

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Department of Health and Human Services, continued				
SC COBRE for TRIMH - Ye	93.RD	5P20GM121342-02 Revised	-	208,537
SC County Health Extension: High Obesity Prevention and Elimination	93.RD	5NU58DP006562-02	-	904,132
SLC6A8 mutant zebrafish as a high throughput screening tool to identify candidate therapeutics of Creatine Deficiency Syndrome	93.RD	R03MH115354	-	45,244
SLC7A5-MTOR Regulation of Neural Development	93.RD	1R15NS096562-01A1	-	70,411
Strategies for continuous biologics purification with new affinity membranes	93.RD	1R15GM131341-01	-	94,661
Supplement - Medial Arterial Calcification: Mechanisms and Therapy	93.RD	5R01HL145064-02 REVISED	7,182	7,182
SutureCoach: Examining Vascular Suturing Skills Assessment, Training, and Transfer of Training via Objective Metrics	93.RD	1R01HL146843-01	-	76,817
Systems Mechanobiology Modeling for Patient-Specific Cardiac Fibrosis Predictions	93.RD	R01HL144927	21,325	420,374
Targeting flagellar motility in the treatment of kinetoplastid diseases	93.RD	1R15AI137979-01A1	-	127,377
The Role of CAR and PXR in Gender Predominant P450 Expression and Induction	93.RD	2R15ES017321-03	-	80,303
Theranostic Approach to Treat Abdominal Aortic Aneurysms	93.RD	5R01HL133662-04	150,916	339,309
Undergraduate Education and Device Innovation Through Clinical and Translational	93.RD	5R25EB016589-05 REVISED	-	9,396
Understanding and Addressing Racial Disparities in Guideline-Indicated Management of Symptomatic Peripheral Artery Disease	93.RD	1K01HL146900-01A1	-	55,014
Pass-through programs from:				
Albert Einstein College of Medicine				
Comprehensive Pediatric Hypertension Diagnosis and Management	93.RD	311386 / PO 720024	-	4,603
Comprehensive Pediatric Hypertension Diagnosis and Management	93.RD	311546 / PO 755442	-	11,855
Pediatric Ambulatory Healthcare-Associated Infections	93.RD	311229 / PO 720023	-	11,333
Centers for Disease Control and Prevention				
Multi-level modeling to inform interventions for control of multidrug-resistant organisms within healthcare networks	93.RD	1843-03-CLE	-	29,916
CiceroDx				
SIRT1 and BCL6: Dual Biomarkers of Endometriosis and Endometrial Receptivity	93.RD	R44HD097750	15,952	15,952
Circa Bioscience, LLC				
Development of a Novel Bio-Adhesive Mesh System for Abdominal Hernia Repair	93.RD	C120168-1	-	36,294
Coastal Carolina University				
Southeast Xlerator Network	93.RD	31-2083 SXN-2	-	1,650
Southeast Xlerator Network	93.RD	31-2083 SXN-2-Yr2	-	1,650
Colorado State University				
Merging Yoga and Self-Management to Develop Skills (MY-Skills)	93.RD	G-40408-01	-	15,471
Cornell University				
Quantifying Molecular Consequences of Human Missense Variants with Large-scale Interactome Perturbation Studies	93.RD	82513-11007	-	164,738
Duke University				
Inflammasomes Mediate Inflammation in Bladder Outlet Obstruction	93.RD	2037268	-	15,584
Elastrin Therapeutics				
Targeted Chelation for Reversal of Vascular Calcification	93.RD	R41HL147653	-	16,818
Icahn School of Medicine				
Drug Combination Signatures for Prediction and Mitigation of Toxicity	93.RD	0255-8869-4609	-	67,963
Medical University of South Carolina				
Identifying and Reducing Errors in Perioperative Anesthesia Medication Delivery	93.RD	A00-3876-S001/ MUSC18-134-8D662	-	163,222
Impact of Integrated HIV/NCD Screening on HIV Testing Uptake and Engagement in HIV Care: an RCT in Kisarawe, Tanzania	93.RD	A00-2861-S001 MUSC16-104-8C312/ PO#296562	-	11,010
Multi-site Study of Dyslexia	93.RD	A00-0250-S001 (MUSC19-19-89225)	-	20,742
South Carolina Cancer Disparities Research Center (SC CADRE)	93.RD	A00-3431-S002 PO#399813	-	34,462
South Carolina Clinical and Translational Research Institute (SCTR)	93.RD	A00-2219-S004/ MUSC18-038-8B122	-	17,719
South Carolina Clinical and Translational Research Institute (SCTR)	93.RD	A00-2219-S005	-	21,223
Using Connectomics to Characterize Risk for Alzheimer's Disease	93.RD	A00-3356-S001/ MUSC17-119-8D017	-	42,431
NUBAD, LLC.				
Aminoglycosides with Reduced Ototoxicity	93.RD	CLEM-004	-	53,618
Aminoglycosides with reduced ototoxicity via miRNA targeting	93.RD	CLEM-005	-	14,589
Nucleobase Aminosugars with Reduced Ototoxicity	93.RD	NARO	-	36,713
Screening the Ribosome for new Target Sites	93.RD	CLEM-003	-	34,709
Oregon Health & Science University				
Extrinsic Perturbations of Cell Physiology and Associated Regulatory Networks	93.RD	1004937_Clemson	-	15,250
Pennsylvania Department of Health				
PA Department of Health, Olweus Bullying Prevention Program for Community Youth Organizations	93.RD	SAP#: 4100080792	12,854	281,502
Prisma Health Upstate				
Project TRANSFORM (Teaching Recovery-informed Addiction Care and Negating Stigma FOR Medical Professionals)	93.RD	5219-1	-	31,626
Purilogs, LLC				
Affinity membrane for rapid, high recovery purification of gene therapy viral vector	93.RD	SI0006	-	15,040
High-capacity Multimodal Anion-exchange Membranes for Purification of Biologics	93.RD	PSI0003	-	34,144
Protein A Membrane Columns for Rapid Protein Purification SBIR Phase I	93.RD	PSI0002	-	(3,517)
SBIR Phase II: Protein A membrane Adsorbers for Rapid Protein Purification	93.RD	R44GM125429	-	61,655
Research Foundation for the SUNY				
Single Molecule Analysis of MAGUK Structure and Ligand Binding	93.RD	81534/2/1147013	-	36,953
South Carolina Department of Health & Human Services				
Quality Assurance Services for the Bureau of Long Term Care Services (Federal) - Year 3	93.RD	A202111999A (Federal) - FY19	-	(1,366)
Quality Assurance Services for the Bureau of Long Term Care Services (Federal) - Year 4	93.RD	A202111999A (Federal) - FY20	-	629,554
Quality Assurance Services for the Bureau of Long Term Care Services (FFP Federal)	93.RD	A201611999A (FFP)	-	(615)

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
RESEARCH AND DEVELOPMENT CLUSTER, Continued				
Department of Health and Human Services, continued				
Pass-through programs from, continued:				
South Carolina Department of Social Services				
ICSS Employment and Training - Year 4	93.RD	4400011567 Year 4	-	628,034
ICSS Employment and Training - Year 5	93.RD	4400011567 Year 5	-	1,279,367
ICSS Employment and Training Institute (CQI) - Year 4	93.RD	4400011567 Training Inst (CQI) Year 4	-	151,984
ICSS Employment and Training Institute (CQI) - Year 5	93.RD	4400011567 Training Inst (CQI) Year 5	-	265,387
TGen Tech LLC				
Xenograft pulmonary valved conduit with regeneration potential	93.RD	1R41HL147771-01	-	62,564
Tissue Testing Technologies, LLC				
Ice-free vitrification and nanowarming technology for banking of cardiovascular structures.	93.RD	1-R44-HL142455-01A1	-	6,388
University of Colorado - Denver				
Mechanisms of Mast Cell Directed Carbon Nanotube Toxicity	93.RD	FY16.714.002 / FY20.714.001_AMD6 / FY17.347.005 / FY20.347.006_AMD3	-	68,910
Rocky Mountain Center for Total Worker Health				
University of Florida	93.RD	UFDS00011201 00125985	-	12,696
University of Kentucky				
Southeast Center for Agricultural Health and Injury Prevention - CROPS	93.RD	3210001069-19-257 / PO# 7800004846 / 3210001070-20-040 / PO 7800004922	-	2,115
Southeast Center for Agricultural Health and Injury Prevention - PILOTS	93.RD	PO 7800004922	-	14,699
University of Missouri - Columbia				
Influenza Host Specific Glycan Motif Identification Through Systems Biology	93.RD	C00066265-1	-	13,540
University of Nebraska - Lincoln				
Group Testing for Infectious Disease Detection: Multiplex Assays and Back End Screening	93.RD	24-0548-0008-002	-	54,921
University of South Carolina				
Carolina Center on Alzheimer's Disease and Minority Research (CCADMR)	93.RD	20-4035 PO# 2000052006	-	25,396
Carolina Center on Alzheimer's Disease and Minority Research (CCADMR) - Admin Core	93.RD	19-3748/PO#2000043650	-	(44)
Carolina Center on Alzheimer's Disease and Minority Research (CCADMR) - Admin Core	93.RD	20-3952 PO#2000050319	-	11,952
SC INBRE Administrative Supplement to Support Collaborative INBRE/COBRE Research	93.RD	20-3997 10009649 / PO#2000050804	-	44,299
South Carolina IDeA Network of Biomedical Research Excellence (SC INBRE)	93.RD	19-3736 PO #2000042911/ USC No.18020-FB66	-	16,149
South Carolina IDeA Networks of Biomedical Research Excellence (SC INBRE) Year 5 - Administrative Core	93.RD	20-3943 PO #2000049450/ USC No.10009215	-	115,192
University of Texas El Paso				
BUILDing Scholars-Research Enrichment Core	93.RD	226141271E	-	2,240
University of Virginia				
Systems Analysis of Social Pathways of Epidemics to Reduce Health Disparities	93.RD	GB10641, PO# 2187699	-	13,231
University of California-Merced				
Focused x-ray Luminescence at uCT Resolution and uM-level of Sensitivity	93.RD	SA29066	-	205,832
Upstate Affiliate Organization d/b/a				
Managing Abstinence in Newborns (MAIN) 2.0, Expansion	93.RD	A202212651A-01CU; GHS Grant # G001217	-	125,232
Total Department of Health and Human Services			1,886,710	20,286,028
Corporation for National and Community Service				
National Service and Civic Engagement Research Cooperative Agreement	94.RD	17REHSC001	-	42,897
Total Corporation for National and Community Service			-	42,897
Agency for International Development				
Pass-through programs from:				
Cornell University				
Feed the Future Innovation Lab for Crop Improvement (CIIL)	98.RD	89915-11295	-	409,249
Total Agency for International Development			-	409,249
Total Research and Development Cluster			9,423,241	80,904,744
Department of Education				
Student Financial Assistance Cluster				
Federal Supplemental Educational Opportunity Grants				
Federal Work Study Program	84.007	Unknown	-	926,983
Federal Work Study Program - Federal Job Location and Development	84.033	Unknown	-	1,124,968
Federal Perkins Loan Program Federal Capital Contributions	84.033	Unknown	-	60,000
Federal Pell Grant Program	84.038	Unknown	-	6,042,486
Federal Direct Loans	84.063	Unknown	-	15,196,928
Teacher Education Assistance for College and Higher Education Grants (TEACH Grants)	84.268	Unknown	-	115,630,996
	84.379	Unknown	-	12,230
Post Secondary Education Scholarships for Veteran's Dependents (Iraq and Afghanistan Service Grant)	84.408	Unknown	-	5,830
Total Student Financial Assistance Cluster			-	139,000,421

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
Special Education Cluster				
Pass-through programs from:				
South Carolina Department of Education			-	-
SC CREATE: Centers for the Re-Education and Advancement of Teachers in Special Education and Related Services Personnel	84.027	SC CREATE	-	2,574
SC CREATE: Centers for the Re-Education and Advancement of Teachers in Special Education and Related Services Personnel	84.027	SC CREATE	-	976
South Carolina Educational Interpreter Center	84.027	Funds Reservation #4000037496	-	237,458
Total Special Education Cluster			-	241,008
Total Department of Education			-	139,241,430
Department of Agriculture				
SNAP Cluster				
Pass-through programs from:				
South Carolina Department of Social Services				
SNAP-ED: CATCH (Coordinated Approach to Child Health)	10.561	4400019920	-	46,736
SNAP-ED: CATCH (Coordinated Approach to Child Health)	10.561	4400022980	-	118,450
SNAP-ED: Cooking Matters	10.561	4400019913	-	42,594
SNAP-ED: Cooking Matters	10.561	4400022911	-	122,387
SNAP-ED: Go-NAP SACC Community Partnership	10.561	4400019924	-	48,657
SNAP-ED: Go-NAP SACC Community Partnership	10.561	4400022920	-	140,744
SNAP-ED: Implementation of Formative Research and Evaluation	10.561	4400022910	-	134,342
SNAP-ED: Implementation of Sesame Street Healthy Habits for Life	10.561	4400019930	-	42,812
SNAP-ED: Implementation of Sesame Street Healthy Habits for Life	10.561	4400022878	-	126,625
SNAP-ED: Implementation of Walk with Ease	10.561	4400019931	-	47,356
SNAP-ED: Implementation of Walk with Ease	10.561	4400022879	-	126,446
SNAP-ED: Policy, System, Environment (PSE) Strategies and Outreach	10.561	4400019912	-	52,550
SNAP-ED: Policy, System, Environment (PSE) Strategies and Outreach	10.561	4400022909	-	125,089
Total SNAP Cluster			-	1,174,789
Total Department of Agriculture			-	1,174,789
Department of Transportation				
Highway Planning and Construction Cluster				
Pass-through programs from:				
South Carolina Department of Transportation				
State Work Zone Safety Training Program	20.205	CBSA-002	-	302,160
Transportation Technology Transfer Service (T3S) 2019	20.205	2113	-	195,948
Transportation Technology Transfer Service (T3S) 2020	20.205	SPR 1-20	-	170,750
Total Highway Planning and Construction Cluster			-	668,858
Total Department of Transportation			-	668,858
OTHER PROGRAMS				
Department of Agriculture				
2019 Imported Fire Ant	10.025	AP19PPQF0000C080	-	49,961
Business Acumen Training, Professional Networking, and Innovation Support for Emerging Agricultural and Food System Entrepreneurs in Rural South Carolina	10.351	Case #841224685	-	54,695
CAPS-Tier 1 Infrastructure	10.025	AP19PPQF0000C079	-	49,460
Development and Promotion of Mass Timber Noise Barriers for Highways	10.674	19-DG11083150-014	-	19,166
FY19 D1 SC ADT	10.025	AP19VSSPRS00C018	-	98,878
FY20 D1 SC LPAI	10.025	AP20VSSPRS00C076	-	25,560
FY20 D1 SC UMB	10.025	AP20VSSPRS00C071	-	5,186
Improving Energy Efficiency in South Carolina Animal Facilities and Greenhouses:				
A Partnership for Education, Outreach and Technology Adoption	10.054	68-4639-15-0002	30,956	75,544
National Animal Disease Preparedness and Response Program - 2019 Training and Exercise	10.025	AP20VSCFAH00C003	-	266
National Surveillance and Response for Animal Health Activities (Umbrella) (FY19 D1 SC UMB)	10.025	AP19VSSPRS00C002	-	248,323
Phytophthora Ramorum Nursery and/or Environs Survey	10.025	AP19PPQF0000C081	-	25,000
Production and Marketing Risk Management Education for South Carolina Livestock Producers	10.460	RM18RMEPP522C055 (FMMI #: 4500081841)	-	64,313
SC FY18 Forest Pest Outreach FB Goal 5.0	10.025	AP18PPQF0000C367	-	23
SC FY18 Junior Invasive Inspectors FB Go	10.025	AP18PPQF0000C368	-	5,472

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
OTHER PROGRAMS, Continued				
Department of Agriculture, continued				
SC FY19 CAPS Survey	10.025	AP19PPQF0000C083	-	22,318
SC FY19 Cogongrass Survey, Outreach and Education	10.025	AP19PPQF0000C471	-	28,786
SC FY19 Exotic Wood Borer Beetle Survey	10.025	AP19PPQF0000C241	-	20,828
SC FY19 Forest Pest Outreach PPA Goal 5.0	10.025	AP19PPQF0000C248	-	16,760
SC FY19 Honey Bee Survey PPA 1S.0563.29	10.025	AP19PPQF0000C242	-	13,368
SC FY19 Jr. Invasive Inspectors PPA Goal	10.025	AP19PPQF0000C249	-	19,562
SC FY19 Level 2 Member Lab Agreement	10.025	AP19VSNVSL00C025	-	137,000
SC FY19 Palm Commodity Survey PPA Goal 1	10.025	AP19PPQF0000C244	-	22,515
SC FY19 Pathways Survey PPA Goal 1S.0312	10.025	AP19PPQF0000C243	-	35,312
SC FY20 CAPS Infrastructure	10.000	AP20PPQF0000C029	-	30,810
SC FY20 CAPS Survey	10.025	AP20PPQF0000C028	-	13,728
SC FY20 Grape Commodity Survey 1S.0213.	10.025	AP20PPQF0000C149	-	3,336
SC FY20 IFA Survey	10.025	AP20PPQF0000C164	-	21,997
SC NAHLN FY 19 LIMS Agreement	10.025	AP19VSNVSL00C002	-	61,000
South Carolina Farm Financial Benchmarking Project	10.319	2018-38504-28734	-	163,722
South Carolina Meat-Poultry Inspection Department - (All Other)	10.475	BASE19 (12-37-A307)	-	80,854
South Carolina Meat-Poultry Inspection Department - (Compliance)	10.475	BASE19 (12-37-A307)	-	33,382
South Carolina Meat-Poultry Inspection Department - (Laboratory)	10.475	BASE19 (12-37-A307)	-	6,244
South Carolina Meat-Poultry Inspection Department - Cross Utilization '18	10.475	Cross Utilization '18	-	43,137
South Carolina Meat-Poultry Inspection Department - Cross Utilization 2019	10.475	FY19 Cross Utilization (12-37-A-4	-	162,018
South Carolina Meat-Poultry Inspection Department - Cross Utilization FY20	10.475	Cross Utilization - FY20	-	241,752
South Carolina Meat-Poultry Inspection Department - In-Plant	10.475	BASE19 (12-37-A307)	-	322,915
South Carolina Meat-Poultry Inspection Department - PHDCIS19	10.475	PHDCIS19 (12-37-A307)	-	827
South Carolina Meat-Poultry Inspection Department-In-Plant	10.475	12-37-A-307	-	939,953
South Carolina Meat-Poultry Inspection Department - Compliance	10.475	12-37-A-307	-	95,422
South Carolina Meat-Poultry Inspection Department - Laboratory	10.475	12-37-A-307	-	16,288
South Carolina Meat-Poultry Inspection Department - All Other	10.475	12-37-A-307	-	247,189
Web Based Nutrition Education and Evaluation Reporting System (WebNEERS)	10.500	2017-41510-26791	11,614	184,265
Cooperative Extension Service	10.500	Unknown	-	2,439,486
Smith-Lever Funding	10.511	Unknown	-	3,680,701
Expanded Food and Nutrition Education Program	10.514	Unknown	-	739,883
Renewable Resources Extension Act and National Focus Fund Projects	10.515	Unknown	-	57,346
Pass-through programs from:				
Hub City Farmers Market				
Greenville/Spartanburg Food System Assessment and Plan	10.172	None	-	16,497
Kansas State University				
2019 4-H Military Partnerships and Outreach Support Program	10.500	S19105	-	19,190
2020 4-H Military Partnerships and Outreach Support Program	10.500	A00-0983-5053	-	1,661
The Longleaf Alliance				
Education and Outreach to Increase Longleaf Pine Ecosystem Restoration in SC	10.902	33.2019.01.00	-	467
University of Arkansas				
Developing a Successful Farm Transition Plan Educational Program	10.500	31000-08	-	12,286
University of Florida				
Southern Plant Diagnostics Network	10.304	UFDSP00011536 / P0019073	-	35,658
Southern Regional Center for Food Safety Training, Outreach and Technical Assistance Continuation, and Lead Regional Coordination Center	10.328	P0099377 / UFDSP00012355	-	2,904
University of Georgia				
Southern Region SARE Professional Development Program - Model State Program Assistant	10.001	SUB00001747	-	28,946
Advanced Soil Health Training for South Carolina Agriculture Professionals	10.215	SUB00001983	1,024	33,811
Southern Region SARE Sustainable Agriculture Training Program - 2019-2020 Model State Program - Program Assistant	10.215	SUB00001991	-	8,251
University of Illinois				
Integrating Established and Novel Strategies for Forest Health and Invasive Species Education and Extension Programing in the Eastern United States	10.500	093214-17205-00	-	662
Total Department of Agriculture			<u>43,594</u>	<u>10,784,884</u>
Department of Defense				
Exploiting Structural Information in Algorithm Designs for Large-Scale Nonlinear Optimization	12.300	N00014-20-1-2089	-	9,055
Total Department of Defense			<u>-</u>	<u>9,055</u>
Department of the Interior				
Digitize and Transcribe Historical Documents, Oversized Documents, Video Tapes, Audio Tapes, and Photographic Materials	15.945	P17AC01647	-	9,383
Digitize Photographic Materials for Everglades and Biscayne National Parks	15.945	P16AC01406	-	2,480
Total Department of the Interior			<u>-</u>	<u>11,863</u>
Department of Justice				
Clemson University Police Department Justice and Mental Health Collaboration Program (JMHP) Initiative	16.745	2019-MO-BX-0035	-	18,116

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
OTHER PROGRAMS, Continued				
Department of Justice, continued				
Pass-through programs from:				
National 4-H Council				
4-H Health Rocks! Mentoring Program	16.726	2019-JY-FX-0026 (from RISK)	-	917
South Carolina National Mentoring Program	16.726	2019-MU-FX-0002	-	7,397
South Carolina 4-H Mentoring Project	16.726	15474/ NMP9	-	35,695
Total Department of Justice			-	62,125
National Endowment for the Arts				
Call My Name: African Americans in Early Clemson University History	45.130	ZR-256734-18	-	2,666
Call My Name: Digitizing African American Heritage in the Greater Clemson, South Carolina Community	45.149	PY-263730-19	-	7,342
Reconstructing Civil War Memory in American Literature after Brown v. Board of Education (1954)	45.160	FEL-263129-19	-	60,000
Pass-through programs from:				
South Carolina Humanities				
Preservation Across the Disciplines, 2019-2020 Clemson Humanities Hub	45.129	19-1940-1	-	319
Total National Endowment for the Arts			-	70,327
Small Business Administration				
Pass-through programs from:				
University of South Carolina				
Small Business Development Center - Federal Operating Grant 2019	59.037	Federal 2019/SBAHQ19B0036	-	97,034
Small Business Development Center - Federal Operating Grant 2020	59.037	Federal 2020 SBAHQ20B0059	-	289,571
Total Small Business Administration			-	386,605
Department of Veterans Affairs				
US Department of Veterans Affairs				
Clemson University-VA-SPORTS-19	64.034	SPORTS-19-094	-	31,744
Grants for Adaptive Sports Programs for Disabled Veterans and Disabled Members of the Armed Forces	64.034	2019-ASG-25	-	31,468
Total Department of Veterans Affairs			-	63,212
Environmental Protection Agency				
Consolidated Pesticide Certificate and Training	66.700	98463820	-	59,091
Consolidated Pesticide Compliance Monitoring - Certification and Training	66.700	E-98463817	-	125,236
Consolidated Pesticide Compliance Monitoring - Enforcement	66.700	E-98463617	-	130,749
Consolidated Pesticide Compliance Monitoring - Special Programs	66.700	E-98463717	-	120,505
Consolidated Pesticide Enforcement Cooperative Agreements - Enforcement	66.700	98463620	-	60,758
Consolidated Pesticide Enforcement Cooperative Agreements - Special Programs	66.700	98463720	-	54,159
Pass-through programs from:				
eXtension Foundation				
Category 1A: Agricultural Plant Pest Management	66.716	SA-2020-46	-	15,181
Pesticide Safety	66.716	SA-2019-17	-	17,635
Tennessee Valley Authority				
Establish a Landscape Conservation Fellowship for the Tennessee River Basin Biodiversity Network	66.000	13373 / PO# 5918533	-	67,328
Total Environmental Protection Agency			-	650,642
Department of Energy				
All-digital Sensor System for Distributed Downhole Pressure Monitoring in Unconventional Fields	81.089	DE-FE0031781	24,450	76,462
Pass-through programs from:				
Cummins, Inc.				
Advancing Platooning with ADAS Control Integration and Assessment--Cummins--AOI 3d	81.086	none	-	134,268
Total Department of Energy			24,450	210,730
Department of Education				
Education Stabilization Fund				
COVID 19 - Higher Education Emergency Relief Fund (HEERF) - Student Portion	84.425E	Unknown	-	6,761,900
COVID 19 - Higher Education Emergency Relief Fund (HEERF) - Institutional Portion	84.425F	Unknown	-	6,770,700
Total Education Stabilization Fund			-	13,532,600

See Notes to Financial Statements

Clemson University, Clemson, South Carolina

Schedule of Expenditures of Federal Awards

For the year ended June 30, 2020

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Pass-through Entity Identifying Number	Passed through to Subrecipient	Total Federal Expenditures
OTHER PROGRAMS, Continued				
Department of Education, continued				
Exemplary Personnel for Education, Research, and Teaching in Special Education (EXPERTISE)	84.325	H325D140044	-	112,080
Pass-through programs from:				
Monaview Elementary		1st PO #203214 // 2nd PO #211132// 3rd PO# 221447	-	8,822
Monaview Magic Initiative	84.287		-	8,822
National Writing Project				
NWP 2018-2019 13 Scale-up C3WP AI&PD Grant	84.411	01-SC11-2018I3C3WP	-	14,953
NWP 2018-2019 13 Scale-up C3WP AI&PD Grant	84.411	01-SC11-2018I3C3WP	-	3,303
NWP 2019-2020 Year 3 I3 Scale-Up C3WP Professional Development	84.411	01-SC11-2019I3C3WP	-	194,521
SEED: High Need PD for Orangeburg 05	84.367	01-SC11-SEED2018-C3WPPD	-	1,334
South Carolina Department of Education				
21st CCLC After-School Program at Chastain Elementary and Liberty Elementary	84.287	H63010006918/19 21st CCLC-50	260	260
21st CCLC After-School Program at Palmetto Elementary & Cedar Grove Elementary	84.287	H63010006918/19 21st CCLC-41	-	4,541
21st CCLC After-School Program at Spearman Elementary and West Pelzer Elementary	84.287	H63010006918/19 21st CCLC-20	-	1,791
21st Century Community Learning Centers - Summer Bridge Program at Chastain Elementary and Liberty Elementary Schools	84.287	19 21st CCLC Summer Bridge-91	25,570	31,057
21st Century Community Learning Centers - Summer Bridge Program at Spearman Elementary and West Pelzer Elementary Schools	84.287	19 21st CCLC Summer Bridge-90	32,065	39,972
Agriculture Education Professional Development	84.048	19ClemsonAgEd-42	-	2,000
Agriculture Teacher Education and Professional Development	84.048	20Clemson Agriculture Educator	-	33,995
Future Farmers Association (FFA) Program Assistant	84.048	20ClemsonFFA Program Assistan	-	20,796
Nita M. Lowey 21st CCLC After-School Program at Cedar Grove Elementary and Palmetto Elementary	84.287	20 21st CCLC-41 H63010006920	42,831	99,464
Nita M. Lowey 21st CCLC After-School Program at Chastain Road Elementary and Liberty Elementary	84.287	20 21st CCLC-50 H63010006920	42,070	84,337
Nita M. Lowey 21st CCLC After-School Program at Spearman Elementary and West Pelzer Elementary	84.287	20 21st CCLC-20 H63010006920	50,073	100,714
The Ohio State University				
Refining and Expanding HEROES: A Literacy Intervention for Young Students with IEPs	84.411	60073281 / PO# RF01590246	-	19,974
Total Department of Education			<u>192,869</u>	<u>14,306,514</u>
Department of Health and Human Services				
Advanced Nurse Education-Sexual Nurse Assault Examiner program	93.247	6 T96HP325020101	201,296	324,283
Mental Health Awareness Training	93.243	5H795M081359-02M001	148,831	148,831
Pass-through programs from:				
Fact Forward				
Accelerating Progress: Strengthening Teen Pregnancy Initiatives Among High Need South Carolina Populations (Tier IA)	93.297	1 TP1AH000133-05-00	-	17,554
South Carolina Department of Agriculture				
Food Safety Modernization Act (FSMA) Position - Year 3	93.103	P16010PSR17-1	-	884
Food Safety Modernization Act (FSMA) Position Year 4 - Implementation of the Produce Safety Rule in South Carolina to Enhance Safety in Growing, Harvesting, Packing, and Storing Fresh Fruits and Vegetables	93.103	P16010PSR17-1	-	60,881
South Carolina Department of Health and Environmental Control				
Academic Detailing	93.354	CY-19-018 FR#4000043462/ LR-2020-06	115,000	115,000
Total Department of Health and Human Services			<u>465,127</u>	<u>667,433</u>
Total Other Programs			<u>726,040</u>	<u>27,223,390</u>
Total Federal Expenditures			<u>10,149,281</u>	<u>249,213,210</u>

See Notes to Financial Statements

Clemson University**Clemson, South Carolina*****Notes to the Schedule of Expenditures of Federal Awards******June 30, 2020***

Note 1. Basis of Presentation

The accompanying schedule of expenditures of federal awards (the Schedule) includes the federal award activity of Clemson University (the University) and is presented on the accrual basis of accounting. The information in the Schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Because the Schedule presents only a selected portion of the operations of Clemson University, it is not intended to and does not present the financial position, changes in net position, or cash flows of the University.

Note 2. Summary of Significant Accounting Policies for Federal Award Expenditures

Expenditures in the schedule are determined using the cost accounting principles and procedures set forth in either OMB Circular A-21, *Cost Principles for Educational Institutions* or in Uniform Guidance, as applicable, wherein certain types of expenditures are not allowable or are limited as to reimbursement.

Negative amounts shown on the Schedule represent adjustments or credits made in the normal course of business to amounts reported as expenditures in prior years.

Expenditures for student financial aid programs include the federal share of students' Federal Supplemental Educational Opportunity Grant (FSEOG) program grants and Federal Work Study (FWS) program earnings, certain other federal financial aid for students and administrative cost allowances, where applicable.

Expenditures for nonfinancial aid awards include indirect costs, related primarily to facilities operation and maintenance and general, divisional and departmental administrative services, which are allocated to direct cost objectives (including federal awards) based on negotiated formulas commonly referred to as facilities and administrative cost rates. Facilities and administrative costs allocated to such awards for the year ended June 30, 2020, were based on predetermined fixed rates negotiated with the University's cognizant federal agency. The University has elected not to use the 10-percent de minimis indirect cost rate as allowed under the Uniform Guidance.

Note 3. Federal Perkins Loan Program (CFDA Number 84.038)

The Federal Perkins Loan Program is administered directly by the University and balances and transactions relating to the program are included in the University's financial statements. Federal expenditures reported on the face of the schedule include loans outstanding at the beginning of the year, loan cancellations, interest subsidies and administrative expenses. Due to the expiration of the Federal Perkins Loan Program on September 30, 2017, the University did not disburse any Perkins loans to students during the year ended June 30, 2020. The balance of loans outstanding under the Federal Perkins Loan Program was \$4,958,056 as of June 30, 2020. Schools have the option of continuing to collect on outstanding loan balance or can voluntarily liquidate the program. The University has no current plans to begin the Perkins liquidation process. However, the University is required to periodically return excess cash on hand from the program to the Department of Education.

Clemson University**Clemson, South Carolina***Notes to the Schedule of Expenditures of Federal Awards**June 30, 2020*

Note 4. Federal Direct Student Loans Program (CFDA Number 84.268)

The University participates in the Federal Direct Student Loans (Direct Loans) program of the U.S. Department of Education (USDE), which includes subsidized and unsubsidized Federal Stafford Loans and Federal PLUS Loans. Under the Direct Loans program, the University is responsible only for certain administrative duties, accordingly, the disbursements under the program and the outstanding loan balances are excluded from the financial statements of the University.

Note 5. Contingencies

The University receives funds under various federal grant programs and such awards are to be expended in accordance with the provisions of the various grants. Compliance with the grants is subject to audit by various government agencies which may impose sanctions in the event of non-compliance. Management believes that they have complied with all aspects of the various grant provisions and the results of adjustments, if any, relating to such audits would not have any material financial impact.

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

Members of the Board of Trustees
Clemson University
Clemson, South Carolina

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 discretely presented component units of Clemson University (the University), as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise the University's basic financial statements, and have issued our report thereon dated September 28, 2020. Our report includes a reference to other auditors who audited the financial statements of the Clemson University Foundation, the Clemson University Land Stewardship Foundation and IPTAY, as described in our report on Clemson University's financial statements. This report does not include the results of other auditors' testing of internal control over financial reporting or compliance and other matters that are reported on separately by those auditors. The financial statements of the Clemson University Foundation, the Clemson University Land Stewardship Foundation and IPTAY were not audited in accordance with *Government Auditing Standards*.

Internal Control over Financial Reporting

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

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

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

Compliance and Other Matters

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

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

A handwritten signature in black ink that reads "Elliott Davis, LLC". The signature is written in a cursive style with a large, sweeping initial "E".

Greenville, South Carolina
September 28, 2020

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

Members of the Board of Trustees
Clemson University
Clemson, South Carolina

Report on Compliance for Each Major Federal Program

We have audited Clemson University's (the University) compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on each of the University's major federal programs for the year ended June 30, 2020. The University's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

Management's Responsibility

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

Auditor's Responsibility

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

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

Opinion on Each Major Federal Program

In our opinion, the University complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2020.

Other Matters

The results of our auditing procedures disclosed instances of noncompliance which are required to be reported in accordance with the Uniform Guidance and which are described in the accompanying schedule of findings and questioned costs as items 2020-001 and 2020-002. Our opinion on each major federal program is not modified with respect to these matters.

The University's response to the noncompliance findings identified in our audit is described in the accompanying schedule of findings and questioned costs. The University's response was not subjected to the auditing procedures applied in the audit of compliance and, accordingly, we express no opinion on the response.

Report on Internal Control Over Compliance

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

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

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that have not been identified. We did not identify any deficiencies in internal control over compliance that we consider to be a significant deficiency or material weakness for the year ended June 30, 2020.

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

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

We have audited the financial statements of the business-type activities and the aggregate discretely presented components of the University, a component unit of the State of South Carolina, as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise the University's basic financial statements. We issued our report thereon dated September 28, 2020, which contained unmodified opinions on those financial statements. We did not audit the financial statements of the Clemson University Foundation (a discretely presented component unit), the Clemson University Land Stewardship Foundation (a discretely presented component unit), and IPTAY (a discretely presented component unit). Those statements were audited by other auditors whose reports have been furnished to us, and our opinions, insofar as they relate to the amounts included for these discretely presented components units, are based solely on the reports of the other auditors. Our audit was conducted for the purpose of forming opinions on the financial statements as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the 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 expenditure of federal awards is fairly stated in all material respects in relation to the basic financial statements as a whole.



Greenville, South Carolina
February 1, 2021

Clemson University
Clemson, South Carolina
Schedule of Findings and Questioned Costs
For the year ended June 30, 2020

Section I. Summary of Auditor's Results

Financial Statements

Type of report the auditor issued on whether the financial statements were prepared in accordance with GAAP: Unmodified

Internal control over financial reporting:

- Material weakness identified? _____ yes X no
- Significant deficiency identified? _____ yes X none reported

Noncompliance material to financial statements noted? _____ yes X no

Federal Awards

Internal control over major federal programs:

- Material weakness identified? _____ yes X no
- Significant deficiency identified? _____ yes X none reported

Type of auditor's report issued on compliance for major federal programs: Unmodified

Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516 (a)? X yes _____ no

Identification of major federal programs:

<u>CFDA Numbers</u>	<u>Name of federal program or cluster</u>
84.007; 84.033; 84.038; 84.083; 84.268; 84.379; 84.408	Student Financial Assistance Cluster
84.425E	Higher Education Emergency Relief Fund (HEERF)

Dollar threshold used to distinguish between Type A and Type B Programs \$3,000,000

Auditee qualified as low-risk auditee? X yes _____ no

Section II. Financial Statement Findings

None reported

Section III. Federal Award Questioned Costs and Findings

Finding 2020-001 Disbursement Reporting

Federal Agency: Department of Education

Program: Student Financial Assistance Cluster

Criteria or Specific Requirement: Under 34 CFR section 690.83(b)(1) for the Federal Direct Pell Grant Program, “An institution shall report to the Secretary any change in the amount of a grant for which a student qualifies including any related Payment Data changes by submitting to the Secretary the student's Payment Data that discloses the basis and result of the change in award for each student. The institution shall submit the student's Payment Data reporting any change to the Secretary by the reporting deadlines published by the Secretary in the Federal Register.”

Federal Register Volume 84, Number 212, published November 1, 2019 states, “An institution must submit Pell Grant, Iraq and Afghanistan Service Grant, Direct Loan, and TEACH Grant disbursement records to COD [Common Origination and Disbursement], no later than 15 days after making the disbursement or becoming aware of the need to adjust a previously reported disbursement. In accordance with 34 CFR 668.164(a), title IV, HEA [Higher Education Act] program funds are disbursed on the date that the institution: (a) Credits those funds to a student’s account in the institution’s general ledger or any subledger of the general ledger; or (b) pays those funds to a student directly. Title IV, HEA program funds are disbursed even if an institution uses its own funds in advance of receiving program funds from the Department”

Condition/Context: In a sample of 20 Pell Grant Awards, we found one award’s Disbursement Record was not reported to the COD within the 15 day requirement detailed within Federal Register Volume 84, Number 212. The sample was not intended to be and was not statistically valid. The University completed an internal review and found a total of 38 students that were not reported to the COD within 15 days. These 38 disbursements were reported between 18 and 26 days after the Pell grants were disbursed to the students, resulting in exceeding the 15-day reporting requirement by 3 to 11 days.

Questioned Costs: None

Effect: The University was not in compliance with COD reporting deadline requirements for Pell Grant disbursements made to students.

Clemson University
Clemson, South Carolina
Schedule of Findings and Questioned Costs
For the year ended June 30, 2020

Finding 2020-001, continued

Cause: The University has in place scheduled reporting software that is integrated with the Student Financial Aid Awarding System. The scheduled reporting software automatically reports Pell Grant Award disbursements to the COD to ensure timely reporting and compliance with regulatory reporting requirements. During the year ended June 30, 2020, the University underwent an upgrade of the integrated scheduling software that is utilized for the automatic reporting of Pell Grant Award disbursement records to the COD. At the time of the software upgrade, the scheduled reporting of Pell Grant Award disbursements to the COD was deactivated by IT, without the knowledge of the job owner, to allow for proper implementation of the software upgrade. Upon final completion of the software upgrade, the scheduled reporting of Pell Grant Award disbursements was not reactivated resulting in the delayed reporting of 38 Pell Grant Award Disbursements.

Identification as a repeat finding, if applicable: Not a repeat finding.

Recommendation: We recommend the University review its current process in place to ensure software upgrades are functioning post implementation for compliance with regulatory requirements.

Views of Responsible Officials: Student Financial Aid (SFA) agrees with this conclusion, and considers it to be an isolated event. The error was discovered by SFA as part of their regular disbursement review processes and corrected in 11 days. It is standard procedure for the IT staff to notify the job owner when offline maintenance occurs on the scheduler (UC4/Automic). The IT staff has been advised that there should be no exceptions to this rule, including same day changes. IT staff will notify the job owner when maintenance on the scheduler (UC4/Automic) is complete and the owner will verify that all jobs are back online.

Finding 2020-002 **Special Tests and Provisions – Disbursements: Financial Student Aid Credit Balance Payment**

Federal Agency: Department of Education

Program: Student Financial Assistance Cluster

Criteria or Specific Requirement: Under 34 CFR section 668.164(h),
“(1) A title IV, HEA [Higher Education Act] credit balance occurs whenever the amount of title IV, HEA program funds credited to a student’s ledger account for a payment period exceeds the amount assessed the student for allowable charges associated with that payment period as provided under paragraph (c) of this section.

Finding 2020-002, continued

(2) A title IV, HEA credit balance must be paid directly to the student or parent as soon as possible, but no later than –

- (i) Fourteen (14) days after the balance occurred if the credit balance occurred after the first day of class of a payment period; or
- (ii) Fourteen (14) days after the first day of class of a payment period if the credit balance occurred on or before the first day of class of that payment”

Per the Student Financial Aid (SFA) Handbook for 2019-2020, Volume 4, Chapter 1 – Requesting and Managing FSA (Federal Student Aid) Funds, “A school is permitted to hold credit balances if it obtains a voluntary authorization from the student.”

Condition/Context: In a sample of 38 FSA credit balances tested, we found one FSA credit balance that was not paid to a study abroad student within the 14 day regulatory requirement noted above. The student did not voluntarily authorize a credit balance hold. The sample was not intended to be and was not statistically valid. As a result of our testing, the University performed an internal review of 198 study abroad students and identified an additional 17 FSA credit balances that were not refunded within the required 14 day time frame discussed above.

Questioned Costs: None

Effect: The University was not in compliance with the FSA credit balance requirements discussed above. The student did not receive the funds awarded to them in excess of their charges in a timely manner.

Cause: Students enrolled in a study abroad program through the University are required to submit a Verification of Enrollment form prior to the payment of FSA credit balances to ensure the students are attending classes at their respective study abroad institutions. In the case of the FSA credit balance discussed above, a FSA credit balance was created on the student’s account on 1/22/2020, and the student’s first day of class for the payment period at the study abroad institution was 1/28/2020. Per the regulatory requirements noted above, the FSA credit balance was due to the student within 14 days of 1/28/2020 (the first day of class) or by 2/11/2020. However, the University did not receive the student’s completed Verification of Enrollment form until 2/13/2020; the FSA credit balance due to the student was subsequently paid by the University on 2/18/2020, or 21 days after the first day of class of the payment period.

Identification as a repeat finding, if applicable: Not a repeat finding.

Recommendation: We recommend the University review its current process over the hold of study abroad student FSA credit balances for compliance with regulatory requirements.

Clemson University
Clemson, South Carolina
Schedule of Findings and Questioned Costs
For the year ended June 30, 2020

Finding 2020-002, continued

Views of Responsible
Officials:

Student Financial Aid (SFA) agrees with this finding after clarification from the US Department of Education. SFA considered the period to begin upon receipt of the Verification of Enrollment (VOE), after which refunds were paid in a timely manner. SFA notes that the error was the result of having an additional check in place, and not the result of negligence or poor internal controls. Because funds were drawn down in arrears, the University did not benefit in any way from this error. SFA will create a disbursement rule for all Title IV funds to prevent disbursement of aid until the VOE is received to prevent a credit balance.



Clemson University Clemson, South Carolina *Summary Schedule of Prior Audit Findings For the year ended June 30, 2019*

In accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States, the following is the status of known material findings and recommendations from prior year audits:

Finding 2019-001 Procurement, Suspension and Debarment

Federal Agency: Various

Program: Research and Development Cluster

Condition:

The University did not have sufficient controls in place in place to verify whether all vendors contracted for covered transactions were suspended or debarred, nor was there a certification, clause or condition meeting the requirements of 2 CFR section 180.300 included in the University's standard contracts executed under covered transactions.

Current Action

Taken/Current Status:

In August of 2019, a screening solution; Visual Compliance (VC) powered MSR Customs Corporation was integrated into the e-procurement platform, BuyWays, which is powered by Jaggaer. Upon go-live all active and approved suppliers were exported, and a batch screening was performed. The results were reviewed and cleared through the supplier screening workflow. Upon completion of this workflow process the supplier record was synchronized with our ERP system, People Soft.

When a new supplier registers with Clemson, the supplier's individual record is sent to VC for screening via the registration workflow. Upon completion of the registration workflow process the supplier record is sent thru a second vetting step in the workflow, and the record is synchronized with the ERP system, People Soft

The results of all screenings are noted on the supplier's record and full results housed on the VC site in Clemson's account. Suppliers are re-screened each day using VC's Dynamic Screening process which automatically re-screens records whenever the government updates denied parties lists, or when there are any changes to a previously screened supplier's status. Clemson is then alerted to any potential changes in compliance status.

Controller's Office

Clemson University
Pearman Blvd. Box 345313
Clemson, SC
29634-5313

P 864-656-2000

F 864-656-5600

TDD 864-656-7453

Additionally, the University's Standard Terms of Purchase was updated, effective August 2019, the "Contractor certifies its organization or principals are not debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency from doing business with the Federal Government or by the State of South Carolina. If Contractor or principal becomes debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded during this contract, then University may, at its option, terminate the contract."

Finding 2019-002 Period of Performance

Federal Agency: National Science Foundation

Program: Research and Development Cluster

Condition:

Expenditures occurred outside the period of performance on two grants as the result of an individual manually overriding the preventative system controls in place to ensure expenses could not be charged to an award after the period of performance had ended. At the time the errors occurred, there was no process in place for secondary review of award expenditures to ensure none were posted after the period of performance ended.

Current Action Taken/Current Status:

Existing system controls are in place within the PeopleSoft Financial System to prevent charges from posting to a sponsored project after its end date unless manually overridden and approved by a Central University-Level Grants Administrator. To strengthen the control processes, internal procedures were updated in March 2019 to include secondary reviews to be performed on all final reports and invoices. Its purpose is to verify that a review of expenditures had been properly performed to be within the awarded project dates and improve the overall accuracy of the report.