

**Clemson University
Clemson, South Carolina**

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

For the year ended June 30, 2025



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Clemson University
Clemson, South Carolina
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Clemson University
Schedule of Expenditures of Federal Awards
For the year ended June 30, 2025

<u>Federal Grantor/Pass-Through Grantor/Program Title</u>	<u>Assistance Listing Number</u>	<u>Pass-Through Entity Identifying Number</u>	<u>Passed Through to Subrecipient</u>	<u>Total Federal Expenditures</u>
RESEARCH AND DEVELOPMENT CLUSTER				
Department of Agriculture				
A Controlled Environment Agriculture Platform for Cultivation of Salt-Tolerant Crops with Integrated Saline Water Irrigation and Salinity Management	10.310	2023-69012-39038	\$ 414,374	\$ 1,442,467
A Multi-state Effort to Contain and Manage the Invasive Guava Root Knot Nematode (GRKN) in Vegetable Crops	10.309	2019-51181-30018	299,654	400,171
A Web App to Combat Harmful Algal Blooms in Livestock Ponds, by Linking Farmers, Agents, and Experts	10.310	2025-67020-44263	-	20,529
Acquisition of a versatile triple quadrupole mass spectrometer to facilitate agricultural and environmental research and training at Clemson University	10.519	2021-70410-35296	-	962
Acquisition of Goods and Services	10.001	58-6082-2-008	-	(326)
Acquisition of Goods and Services	10.001	58-6080-2-005	-	(162)
Acquisition of Goods and Services	10.001	58-6080-3-002	-	(3,728)
Acquisition of Goods and Services	10.001	58-6082-3-015	-	1,219
Acquisition of Goods and Services	10.001	58-6080-4-006	-	16,490
Acquisition of Goods and Services	10.001	58-6082-4-006	-	1,219
Acquisition of Goods and Services	10.001	58-6082-4-005	-	18,035
Acquisition of Goods and Services	10.001	58-6080-4-011	-	23,449
Acquisition of Goods and Services	10.001	58-6082-4-015	-	4,822
Acquisition of Goods and Services	10.001	58-6082-4-008	-	20,331
Acquisition of Goods and Services	10.001	58-6082-4-011	-	21,261
Acquisition of Goods and Services	10.001	58-6082-4-018	-	4,501
Acquisition of Goods and Services	10.001	58-6082-4-014	-	3,873
Acquisition of Goods and Services	10.001	58-6082-4-020	-	5,124
Acquisition of Goods and Services	10.001	58-6082-4-019	-	10,363
Acquisition of Goods and Services	10.001	58-6082-4-021	-	18,141
Acquisition of Goods and Services	10.001	58-6080-5-014	-	56,176
Acquisition of Goods and Services	10.001	58-6082-5-021	-	14,731
Acquisition of Goods and Services	10.001	58-6082-5-022	-	37,834
Acquisition of Goods and Services (58-6082-4-016)	10.001	58-6082-4-016	-	2,342
Adsorption of PFAS by Biochars and Subsequent Regeneration with Microwave Treatment	10.001	58-2020-4-003	-	94,240
Advanced Methods to Sustain Biological Controls for Integrated Turfgrass Disease Management in the Urban Landscape	10.329	2023-70006-40655	70,882	124,925
Advancing Cotton Fiber Quality through High-Throughput Phenotyping Microscopy and Genetic Analysis	10.310	2024-67014-41947	-	129,678
Advancing the ecology of blackberry virus diseases in South Carolina	10.310	2023-67014-39905	-	205,807
ALB Modeling Project	10.025	AP23PPQS&T00C022	-	53,565
An Open-Source, Reproducible Irrigation Scheduling Software to Optimize Water Use for Cotton Crops	10.310	2023-67022-40555	-	64,221
Animal Health	10.207	NI23AHDRXXXXG039	-	1,750
Animal Health	10.207	NI24AHDRXXXXG058	-	17,835
Animal Health	10.207	NI25AHDRXXXXG044	-	3,636
Asian Longhorned Beetle Modeling Project	10.025	AP25PPQS&T00C045	-	32,255
Asian Longhorned Beetle Research Support	10.025	AP22PPQS&T00C002	-	(513)
Asian Longhorned Beetle Research Support	10.025	AP23PPQS&T00C004	-	(5,832)
Asian Longhorned Beetle Research Support	10.025	AP24PPQS&T00C005	7,731	92,887
Asian Longhorned Beetle Research Support	10.025	AP25PPQS&T00C002	-	82,291
Assessing phenotypic diversity of Lima bean (<i>Phaseolus lunatus</i>) accessions	10.001	58-2090-4-025	-	15,514
Assessing the use of environmental DNA as an early detection method for aquatic invasive species	10.714	24-JV-11330101-005	-	109,613
Assessment of an Epizootic Ulcerative Syndrome Outbreak during Forest Harvest Operations, Santee Experimental Forest, South Ca	10.699	22-CS-11330180-070	7,782	22,086
Assisting Specialty Crop Exports, Sustainable Packaging Innovation Lab (ASCE-SPIL)	10.621	FX24AS-10621C005	-	122,698
Bat Monitoring for the Development of Endangered Species Act Consultation Measures and Sikes Act Compliance	10.000	25-JV-11330170-012	-	23,101
Bipartisan Infrastructure Law Invasive Species Eradication	10.680	24-CA-11083150-440	-	95,403
Breeding biofortified organic chickpeas as a winter cash crop for southeastern states	10.303	2024-51300-43057	-	52,486

The accompanying notes are an integral part of this schedule.

(Continued)

Clemson University
Schedule of Expenditures of Federal Awards
For the year ended June 30, 2025

<u>Federal Grantor/Pass-Through Grantor/Program Title</u>	<u>Assistance Listing Number</u>	<u>Pass-Through Entity Identifying Number</u>	<u>Passed Through to Subrecipient</u>	<u>Total Federal Expenditures</u>
RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Agriculture (Continued)				
Building Ecosystem Resiliency Through Innovative Silvopasture Systems on South Carolina Farms	10.912	NR233A750011G005	-	99,414
Building Partnerships for Climate-Smart Commodities in South Carolina	10.937	NR233A750004G049	3,038,624	10,199,983
CAP: Fast selection, assessment, and delivery of HLB-resistant/ tolerant citrus variants as new scion and rootstock cultivars	10.309	2023-70029-41309	300,608	486,726
Carolina Cotton can Conserve Soil with Cover Crops	10.912	NR213A750013G007	50,692	116,504
Chronic Disease Management Within Food Insecurity: Building Capacity In The Rural South	10.516	2024-46100-43169	-	68,250
Clemson Bipartisan Infrastructure Law Early Detection Rapid Response	10.680	24-DG-11083150-107	-	110,240
Clemson Fire Tigers	10.000	20-PA-11081200-276	-	41,669
Climate Adaptation Workshop and Webinars in South Carolina	10.729	23-CS-11330180-113	-	21,916
Climate-smart opportunities awareness and implementation in underserved agricultural communities	10.902	NR243A750003C132	-	193,484
Conduct Five On-Farm Broiler Litter to Demonstrate the Importance of Broiler Litter to Improve Various Soil Health Parameters Including Soil-Test Biological Activity and Promoting the Appropriate Use	10.912	NR224639XXXXC011	-	120,439
Conduct Five On-Farm Broiler Litter to Demonstrate the Importance of Broiler Litter to Improve Various Soil Health Parameters Including Soil-Test Biological Activity and Promoting the Appropriate Use	10.912	NR224639XXXXC012	-	108,615
Consortium of Appalachian Fire Managers and Scientists	10.707	23-JV-11330160-019	-	39,412
Crop Protection and Pest Management Extension Implementation Program for South Carolina	10.329	2021-70006-35508	-	97,300
Crop Protection and Pest Management Extension Implementation Program for South Carolina	10.329	2024-70006-43504	-	72,645
CuCAP 2: Harnessing Genomic Resources for Disease Resistance and Management in Cucurbit Crops - Bringing the Tools to the Field	10.001	58-6080-3-016	-	25,557
Detection and Management of Phytophthora species in Nurseries and Greenhouses	10.001	58-2072-0-058	-	41,829
Develop usable management strategies for invasive bamboo in natural areas	10.902	NR244639XXXXC013	-	7,261
Developing Fusarium Head Blight (FHB) Resistant Wheat for the Coastal Plain	10.001	59-0206-2-097	-	70,082
Developing Soybean Genotypes with High Yield Grown Under Reduced Fertilizer Inputs	10.001	59-6070-4-018	-	65,842
Developing Wheat Genotypes with Reduced Immunogenicity and Enhanced Lysine Content	10.310	2023-67014-39615	35,589	149,352
Development and Implementation of Sanitation Training Tools for Small Growers	10.328	2023-70020-40569	75,577	169,666
Development and Promotion of the Market for Timber in Industrial Facilities	10.674	24-DG-11083150-225	-	20,453
Development of a novel sensor for rapid onsite detection of microcystin in rural livestock ponds: A seed grant to support sensor development	10.310	2023-67022-40623	52,585	81,362
Development of a Regional Southern Pine Beetle Website	10.680	19-DG11083150-038	-	(247)
Development of Cross-linked Starch-Based Barrier Coating Materials for Paper Packaging of Almond	10.621	FX24AS-10621C005	-	35,172

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Agriculture (Continued)				
Development of Genetic Resources for Host-Plant Resistance to Leaf Blight Pseudomonads in Turnip Greens and Spinach	10.310	2020-67014-30868	-	19,328
Development of site-specific, combined water and nutrient management technologies for overhead irrigation systems	10.310	2021-67022-34930	-	62,287
Diversifying organic inputs to improve soils supporting organic vegetable in southeastern USA	10.303	2020-51106-32363	20,230	41,234
DSFAS PARTNERSHIP: High-Dimensional Phenotype Data Management and Analysis Infrastructure for Plant Breeding	10.310	2024-67021-42519	7,371	54,402
DSFAS: Big Data-enabled Real-time Learning and Decision Making for Field-based High Throughput Plant Phenotyping	10.310	2020-67021-40004	61,766	197,264
DSFAS: Harnessing the Power of Artificial Intelligence and Deep Eutectic Solvents to Boost Antioxidant Synergism	10.310	2024-67021-42520	-	31,097
Ecology and Integrated Management of Ambrosia Beetles in Eastern US Orchard and Ornamental Tree Crops-Clemson	10.001	59-5082-1-005	-	85,386
Effects of Field Management on Bats of Big South Fork National River and Recreation Area	10.664	24-JV-11330170-009	-	35,149
Effects of Glyphosate on Decomposer Communities in Invaded Forests	10.680	23-DG-11083150-107	12,149	21,748
El Yunke National Forest: Research to Support Regional Community-Based Tourism and Resilience	10.699	22-PA-11081600-116	-	5,961
Elucidating the processes that regulate the mobilization of heavy metals from soil-applied phosphate rocks and developing rhizobiome-based strategies to sequester these contaminants	10.310	2023-67020-39730	-	187,564
Elucidating The Regulators That Impart The Specificity And Productivity Of Plant- Arbuscular Mycorrhizal Symbiosis	10.310	2022-67014-37145	-	154,724
Enriching the Professional Preparation of Food Science Students	10.310	2020-67038-30654	-	61,930
Establishing the Infrastructure to Develop Prediction Tools for Diseases & Affecting Cotton to Better Inform Mgmt. Decisions (Clemson)	10.001	58-0206-0-195	-	1,552
Establishment of a Southeastern US Regional Hub in Support of the North American Bat Monitoring Program	10.707	22-JV-11330170-021	-	48,965
Evaluating Watermelon Germplasm for Resistance to Reniform Nematode	10.001	58-6080-4-005	-	7,928
Evaluation of Watermelon and Cucumber Genotypes for Tolerance to Biotic and Abiotic Stress	10.001	58-6080-3-013	-	96,436
Evaluation of Watermelon and Cucumber Genotypes for Tolerance to Biotic and Abiotic Stress (Phase 2)	10.001	58-6080-3-014	-	97,370
Expanded Food and Nutrition Education Program	10.514	NI23EFNEPXXG016	-	528,167
Expanded Food and Nutrition Education Program	10.514	NI24EFNEPXXG005	-	1,142,254
Expanding the Limits of Cut Flower Postharvest Longevity	10.001	58-8062-3-017	-	78,892
Exploring African American Wilderness heritage in the Southeast United States	10.699	23-CS-11221639-113	-	31,817
Exploring African American Wilderness Heritage in the Southeast United States	10.707	22-JV-11221639-146	-	17,021
Exploring Alternative Uses for Muscid Antimicrobial Effectors	10.001	58-3020-1-017	-	7,801
Exploring mechanisms of chemical resistance in Xanthomonas arboricola pv. pruni and strategies to mitigate resistance and improve disease control	10.310	2021-67013-33574	12,066	37,100

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Agriculture (Continued)				
FLORECE!: Future Leaders Obtaining Research & Extension				
Career Experiences	10.310	2021-68018-34636	-	120,424
FY22 NCPN Clemson Univ./Cieniewicz- The	10.025	AP22PPQS&T00C076	-	2,004
FY23 NCPN Clemson/Cieniewicz Fruit Tree	10.025	AP23PPQS&T00C010	-	69,811
FY24 NCPN Clemson Univ/Cieniewicz Fruit	10.025	AP24PPQS&T00C142	-	239,185
Genetic Basis for Acetaminophen Toxicity in Birds Phase III				
24-74GU-1510-CA	10.028	AP24WSNWRC00C060	-	23,720
Growing Microalgae In Livestock Wastewater - Benefits In Nutrient				
Recycle, Antibiotic Removal, And Potential Biofuel Production	10.310	2022-67019-37177	18,249	181,872
Hatch	10.203	NI23HFPXXXXG022	-	163,988
Hatch	10.203	NI24HFPXXXXG059	-	3,321,335
Hatch	10.203	NI24HMFPXXXXG041	-	1,116,766
Hatch	10.203	NI25HMFPXXXXG025	-	181,123
Herbicide efficacy for management of invasive Callery pear	10.699	20-CS-11330160-086	-	7,285
iCROP: Increasing Coastal Organic Rice Production in South				
Carolina Using Salt Tolerant Cultivars	10.303	2021-51106-35494	23,452	104,567
Identification of Molecular Markers Associated with Root Traits				
that Improve Performance in Cotton	10.001	58-6066-1-033	-	95,475
Identifying Effective Farming Practices To Reduce Risks Of Per-And Polyfluoroalkyl Substances (Pfas) In Food Crop Productions	10.310	2021-67019-33682	24,572	104,975
Immersive Professional Development Experiences for Agriscience				
Teachers to Explore the Floriculture Industry	10.310	2023-67037-39955	56,153	237,939
Impact of litter training strategies on egg-laying, piling, and welfare				
of laying hens in aviaries	10.310	2022-67015-36310	74,409	148,456
Implement community outreach and education initiatives, through				
community educational events aimed at promoting pollinator and				
agricultural awareness among marginalized Gullah Geechee				
descendants	10.902	NR244639XXXXC009	-	31,537
Implementing a Regional Scale Southern Pine Beetle (SPB) Model				
for the Southeastern United States	10.652	22-CS-11330180-066	-	95,683
Improve Hessian Fly Resistance of Southern Soft Red Winter Wheat -				
South Carolina	10.001	58-6070-4-061	-	12,445
Improving Oil Content for Upland Cotton Growers: New Molecular				
Tools and Germplasm	10.310	2023-69008-39861	-	81,893
Improving Organic Vegetable Profitability by Identifying Cost-Effective				
Technologies that Optimize Production and Whole-Farm Planning				
in the Southeast: A Planning Grant	10.307	2023-51300-40949	-	16,774
Improving Profitability of Organic Sweetpotato through Pest Resistant				
Clones and Enhanced Anaerobic Soil Disinfestation	10.303	2022-51106-37922	-	211,239
Improving Soybean's Efficiency for Heat Tolerance with an Integrated				
Metabolic and Genetic Approach	10.310	2022-67013-36173	-	41,544
Improving the Resiliency of Southeast USA Cotton Production Systems	10.001	58-6082-5-020	-	44,048
Incorporating Fire as a Management Tool for the Invasive Callery				
Pear (Pyrus Calleryana)	10.680	24-DG-11083150-105	-	31,956
Increase farmer knowledge about successfully integrating cereal rye				
and annual rye as a CC into a cropping rotation in South Carolina	10.912	NR234639XXXXG002	-	40,686

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Agriculture (Continued)				
Increasing the Concentration of Sulfer Containing Amino Acids (SCAA) in Pulse Crops	10.001	58-2090-2-032	-	57,774
Integrating a Proven Screening and Breeding Strategy with Functional Biology to Deliver FOV4 Resistance to Upland Cotton Growers	10.310	2022-67014-36980	54,710	102,699
Invasive Plants in Southern Forests: Impact on Fuels and Implication to Fire Behavior	10.707	21-JV-11330145-066	-	55,219
Kale Alternatives Leading to Enhanced Economics (KALE): Improving Profitability and Evaluating Marketing Decisions of Organic Kale Farmers Facing Alternaria Leaf Spot in the Southeastern U.S	10.303	2021-51106-35495	-	11,636
Leveraging concentrated organic byproduct materials for higher nutrient use efficiency and anaerobic soil disintegation in organic vegetable production	10.303	2023-51106-40850	-	113,559
Longleaf Pine Restoration for Southern Forest Sustainability and Resilience: Towards a Process-Based Understanding of Ecosystem Services	10.652	22-DG-11330180-025	-	14,417
Maintain the RUSLE2 Interface and to Develop Additional RUSLE2 Technology Programming	10.902	NR233A750008C002	41,070	75,434
Management of Salinity Externalities in an Irrigated Agricultural Region	10.310	2021-67024-34480	13,635	45,225
McIntire Stennis	10.202	NI23MSCFRXXXG009		57,837
McIntire Stennis	10.202	NI23MSCFRXXXG005		997,185
McIntire Stennis	10.202	NI25MSCFRXXXG010		24,692
MicroRNA-mediated transgene containment in important perennial grasses	10.219	2021-33522-35342		177,401
Mitigation Strategies for Ergot Alkaloid-Induced Vasoconstriction and Intrauterine Growth Restricted Muscle Development	10.310	2020-67016-30816	12,122	64,472
Modeling and Valuing the Distributional Impacts of Fuel Treatments	10.000	21-JV-11272131-037	-	6,857
Modernizing the Floriculture Supply Chain: Introducing Novel Postharvest Techniques for Improving Unrooted Cutting	10.001	58-5082-3-025	-	26,652
Multiscale Modeling and Machine Learning Guided Characterization and Design of Chitosan-based Nanocomposites for Active Food Packaging	10.310	2022-67022-36423	-	91,576
Natural Language Processing to Understand Public Comments in USFS Planning	10.699	22-CS-11242309-071	-	2,603
On-Farm Demonstration and Evaluation of Cloud-Based Soil Moisture Monitoring Technologies for Irrigation Scheduling to Enhance Farm Profitability and Environmental Quality	10.912	NR203A750013G010	-	42,858
Outreach Activities for the Consortium of Appalachian Fire Managers and Scientists	10.000	25-JV-11330160-014	-	65,734
Partnership: Nanotech-Enabled Antimicrobial Packaging Materials and Technology for Food Preservation and Safety	10.310	2023-67018-40681	-	43,086
Phytochemical-Mediated Stress Hormesis And Priming As A Mechanism Of Resilience In Weeds And Negating These Stress Adaptations	10.310	2021-67014-33636	-	18,292
PowerSNAP SC - a pilot program for increasing access to affordable vegetables and fruits in a rural, South Carolina grocery store	10.331	2024-70415-43717	-	50,786

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Agriculture (Continued)				
Produce Prescription and Nutritional Education to Improve Health Outcomes of Patients with Type-2 Diabetes Living in a Rural and Medically Underserved County in South Carolina	10.331	2022-70424-38554	-	202,925
Production, Financial, and Legal Risk Management for Aquaculture Producers in Florida and South Carolina	10.460	RMA23CPT0013388	12,509	30,070
Promoting adoption of sustainable nutrient management strategies thru 24 on-farm trials in SC for improved sustainable cropping.	10.912	NR214639xxxxC020	-	31,004
CESU Umbrella Agreement 68-3A75-18-501.	10.912	NR214639xxxxC020	-	31,004
Promoting Climate-Smart and Resilient Forestry in the Southeastern United States	10.310	2023-67022-39531	55,198	149,672
Promoting cyber-learning through technology-enabled modules within FANH education	10.217	2020-70003-32310	-	(903)
Quantifying the Cover Crops Nitrogen and Potassium Credit to 3-yr Cotton-Peanut Rotation	10.902	NR184639XXXXG009	-	118
Renewable Resources	10.515	NI24RREAFXXXG008	-	52,261
Renewable Resources	10.515	NI25RREAFXXXG023	-	17,413
Restore Native Ecosystems to Control Chinese Tallow Invasion in Hurricane-Impacted Slash Pine Plantations in MCRD Parris Island	10.707	22-JV-11242311-108	-	11,866
Roles of Microplastics in Reclaimed Water - Altering Persistence and Bioavailability of Antimicrobials in Agricultural Soils	10.310	2020-67019-31022	20,477	74,972
RUSLE2 Execution Parameters Database Updates	10.001	58-6060-3-010	-	35,063
Sampling For Root-Zone Enrichment of Soil Organic Matter	10.001	58-6070-2-022	-	1,465
SC FY21 Forest Health Invasive Species 5	10.025	AP21PPQFO000C426	-	(3,375)
SC FY23 Forest Health Education	10.025	AP23PPQFO000C393	-	(626)
SC FY24 Congressional Guava Root Knot Nematode	10.025	AP24PPQFO000C411	-	787,636
SC FY24 Invasive Species Videos 5.0439.0	10.025	AP24PPQFO000C060	14,180	55,788
Seed grant on: Genomics of flavor and odor of pulse crops for increased consumer acceptance	10.310	2024-67014-42580	-	82,936
Social, Environmental, and Economic Benefits and Costs of Integrating Controlled Environment Agriculture and Non-Conventional Water	10.310	2025-67024-44288	-	36,402
Social, Environmental, and Economic Benefits and Costs of Integrating Controlled Environment Agriculture and Non-Conventional Water (Collart Dinarte)	10.310	2025-67024-44288	-	18,163
Solutions to the Armillaria Root Rot Threat Affecting the U.S. Stone Fruit Industry	10.309	2020-51181-32142	729,584	1,100,140
South Carolina Cotton Disease Predictive Tool Development	10.001	58-0206-4-016	-	34,197
Southern Heritage Crops: Developing Economic Potential in a Geographically and Culturally Unique Market Niche for Small and Medium Sized Farms.	10.310	2020-68006-31266	-	59,347
Studies of Occupations, Culture, and Innovations toward Agricultural Literacy (SOCIAL): Professional Development for Integrating Agriculture and History Curricula	10.310	2021-67037-34301	2,328	8,316
Supporting Nutrition and Health of South Carolinians following Hurricane Helene	10.310	2025-68016-44398	-	6,889
Sustainable, high-quality organic pulse proteins: organic breeding pipeline for alternative pulse-based proteins	10.307	2021-51300-34895	-	315,052

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Agriculture (Continued)				
Systems approach to impart stress resilience: Enhancing the drought-resilience of crops through cross-inoculation of beneficial rhizobiome and cover cropping	10.000	2022-67014-37053	-	106,160
The Application of MicroRNA to Impact Muscle Growth in Rainbow Trout with Climate Change Implications	10.310	2023-67011-40347	-	51,424
To partially develop science components and code features of the web-based user interface for RUSLE2	10.902	NR233A750008C001	48,900	192,869
To Root or Not to Root? An Integrated Approach to Understanding Adventitious Root Induction in American Chestnut Cuttings	10.310	2023-67014-39539	-	82,594
Training Under-represented Minority Scholars in Sustainable Management of Plant Diseases	10.210	2021-38420-34947	-	77,365
Treatment of Wastewater with Nanobubbles for Safe Reuse	10.001	58-2020-2-020	-	49,903
Truck Bed Tool Kit for Detection of Non-Native Plant Species	10.680	22-DG-11083150-305	35,463	40,879
Pass-Through Programs From:				
Appalachian State Univ.				
Optimization of Hybrid Mass Timber Structure for Carbon Positive Affordable Housing	10.674	23-1149-S0001-00	-	33,212
Brigham Young University				
Engineering for Agricultural Production Systems PARTNERSHIP: The Influence of Leaf Sheath on Greensnap Grain Failure	10.310	22-0581 / PO# PR170670	-	6,117
Carolina Seed Systems, Inc.				
The Incorporation of Novel secondary Metabolites from Sorghum Bicolor to Improve Gut Health and Performance in Non-Conventional Poultry Production Systems	10.212	CSS_001	-	57,672
Colorado State Univ.				
Inferring the Supply of Greenhouse Gas Abatement from US Commodity Producers in The Corn Belt Using Observed Practice Choices: Implications for Carbon Offset Programs	10.310	G-03421-01	-	14,409
Cornell Univ.				
Bringing third generation downy mildew resistant cucumbers to market	10.310	167710-22857	-	18,845
Integrated Weed Management in Hemp: A Multistate Effort to Evaluate Practices and Develop Recommendations	10.329	139252-21126	-	5,719
New Organic Vegetable Approaches (NOVA): Breaking Marketplace Boundaries	10.303	170513-23139	-	5,262
Ducks Unlimited, Inc.				
CRP Soil Carbon Assessment-Wetlands	10.069	US-RS-55-1	-	75,771
Extension Foundation				
EXCITE Bridge Access Program	10.229	EXCB-2024-2524	-	71,274
Health Extension Training and Capacity-Building for Expanding Access to Vaccination in Rural Communities	10.229	EXCIMED-2024B-2596	-	108,940

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Agriculture (Continued)				
SC Clemson University Adult Vaccine Promotion Grant	10.229	EXC3-2023-2416	-	35,578
LEPIDEXT INC				
Potential of a Sterilizing Virus to Suppress or Eradicate Old World Bollworm	10.025	NONE	-	20,590
Louisiana State Univ.				
Modernizing Fertilizer Recommendations for Climate-Smart Crop Production in the Southern Region: The Fertilizer Recommendation Support Tool (FRST)	10.912	PO-0000263043	-	17,867
LSU Agricultural Center				
Climate Resilient Innovations for Sustainable Production of RICE (CRISP-RICE)	10.310	PO-0000246322	-	32,018
Michigan State Univ.				
CucCAP 2: Harnessing Genomic Resources For Disease Resistance And Management In Cucurbit Crops - Bringing The Tools To The Field	10.309	RC111377B	-	81,548
National Bobwhite & Grassland Initiative				
FY25-FY29 NBGI Surveys RCPP	10.932	None	-	12,115
NBGIF FY25-FY28 NBGI Monitoring RCPP	10.932	none	-	619,891
North Carolina State University				
Farm Bill. Development of A Decision Support Tool to Optimize Fungicide Use Against Downy Mildew Pathogens.	10.329	2022-2708-01	-	56,092
Identifying Overwintering and Landscape Features Associated with Stink Bug Risk and Yield Loss in Corn	10.329	2020-2993-01	-	22,175
Enhancing the Sustainability of United States Cropping Systems through Cover Crops and an Innovative Information and Technology Network	10.310	2019-1507-10	-	20,920
Impact Of Blended And Structured Refuge Management Tactics On Helicoverpa Zea Mating Behavior And Resistance Risk Implications For Bt Crops	10.219	PAM-P23-002848-SA01	-	15,520
Restoring the Managed Honey Bee Population in Southern Appalachia Following Historic Flooding	10.310	PAM-P25-001472-SA01	-	26,089
North Dakota State Univ.				
Bridging the gap: training next generation scientists using animal health technologies	10.310	FAR0036981	-	21,060
Rodale Institute				
Quantifying the Potential to Reduce Greenhouse Gas Emissions and Increase Carbon Sequestration by Growing and Marketing Climate-Smart Commodities in the Southern Piedmont	10.937	RI-CS04172023-160-Clemson	-	41,996
SC Dept. of Agriculture				
Air or Soil Temperature: Understanding the Cues for Dormancy Transition in Peach	10.170	AM22SCBPSC1167-00	-	4,085
Assessing Tomato and Watermelon Cultivar Susceptibility to Spider Mites and Potential for New IPM Strategies	10.170	AM22SCBPSC1167-00	-	11,065
Chickpea (<i>Cicer arietinum</i> L.) breeding for emerging high protein plant-based hummus production in SC (P1601SCBGP24-13)	10.170	23SCBPSC1211-00	-	15,431

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Agriculture (Continued)				
Development of a pathogen viability test for brassica seeds to improve management of bacterial blight (P1601SCBGP25-02)	10.170	24SCBPSC1265-00	-	7,311
Development of Novel Preharvest Spray Program to Improve Management of Bacterial Spot on Peach	10.170	AM22SCBPSC1167-00	-	31,191
Development of reduced-risk fungicide mixtures for strawberry disease management (P1601SCBGP25-08)	10.170	24SCBPSC1265-00	-	14,958
Effective Fungicides to Manage Phomopsis Fruit Rot on Eggplant in South Carolina (P1601SCBGP24-12)	10.170	23SCBPSC1211-00	-	10,704
Establishing Clonal Propagation Systems for Golden Camellia, a Valuable Yellow-Flowering Selection	10.170	AM22SCBPSC1167-00	-	2,386
Evaluating and promoting wine grape varieties suitable for South Carolina (P1601SCBGP24-01)	10.170	23SCBPSC1211-00	-	16,848
Evaluation of Low-Input Pecan Cultivars in the Coastal Plain of South Carolina (P1601SCBGP24-07)	10.170	23SCBPSC1211-00	-	3,084
Exploring Novel Armillaria Root Rot Management Strategies in Peach	10.170	21SCBPSC1010-00	-	15,231
Exploring Potential for Breeding Bacterial Canker Resistance in Peach (P1601SCBGP25-03)	10.170	24SCBPSC1265-00	-	7,416
Improving detection of <i>Xylella fastidiosa</i> to protect diversified fruit farms in SC (P1601SCBGP24-02)	10.170	23SCBPSC1211-00	-	32,455
Investigating the role of fungicides in tank mix on managing bacterial spot of peach (P1601SCBGP24-05)	10.170	23SCBPSC1211-00	-	18,354
New Winter Legume Cash Crop: Developing Improved Pea Cultivars for SC Organic Cropping Systems	10.170	21SCBPSC1010-00	-	1,476
Optimization of Nutritional Programs for Stone Fruit in the Southeastern U.S. (P1601SCMP22-1)	10.170	AM21SCMP1013 (P1601SCMP22-1)	174,748	226,821
Price Discovery Tool for Direct Marketed South Carolina Fruits and Vegetables (P1601SCBGP25-04)	10.170	24SCBPSC1265-00	-	1,455
Securing the future by preserving the past: Developing a strategic stewardship plan for South Carolina's heirloom vegetable seed (P1601SCBGP24-08)	10.170	23SCBPSC1211-00	-	1,766
Stakeholder Needs Assessment and Evaluation Trials to Initiate Quality-focused Vegetable Breeding Programs for South Carolina	10.170	AM22SCBPSC1167-00 (Project 8)	-	4,866
Substantial Reduction of Captan Pesticide in Peach Spray (P1601SCBGP24-03)	10.170	23SCBPSC1211-00	-	32,668
Sustainable peach disease management tools with reduced pesticide input in the southeastern USA (P1601SCMSP24)	10.170	23SCMPSC1022	17,386	79,015
Systems approach to manage the fusarium wilt in cucurbits (P1601SCBGP-06)	10.170	23SCBPSC1211-00	-	1,885
The Continued Development and Utilization of the South Carolina Agriwellness Program	10.525	P1601FRSAN22-3	-	50,851
Which Pythium Species Cause Cottony Leak on Pickling Cucumbers in South Carolina	10.170	AM22SCBPSC1167-00	-	1,946
SC Forestry Commission				
Enhanced Pear-spectives: Proactive Sky-scouting to Detect Areas at High-risk from Spread of Invasive Fallary Pear	10.664	21-DG-1108345-001	-	46,060
Replacement trees for ALB affected residents	10.680	None	-	14,999
South Carolina Forestry Commission Invasive Species Mitigation	10.680	none	-	46,553

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Agriculture (Continued)				
South Carolina Forestry Commission Invasive Species Mitigation:				
Invasive Plant Species Removal to restore forested wildlife habitat in the Hunnicutt Creek watershed at the South Carolina Botanical Garden at Clemson University	10.664	Invasive Species Mitigation	-	5
Tennessee State Univ.				
Enhancing the Integration of Insectary Plants for Managing Arthropod Pests in Southern US Vegetable Production	10.329	332.77-23.3837	-	27,783
Flatheaded Borer Management in Specialty Tree Crops	10.309	332.77-21.2177 / PO142885	-	41,045
Texas A&M Univ.				
Climate-Smart Organic Sorghum Partnership for Grain and Silage Production	10.307	M2304949	-	39,944
The Ohio State Univ.				
Environmental, human, and animal health risks from the dissemination of carbapenem-resistant enterobacteriaceae into agricultural watersheds	10.310	SPC-1000007122 GR129592	-	78,604
United Sorghum Check Off Program				
Optimizing sorghum-based diets for value-added egg production: implications for poultry industry and sustainable sorghum market	10.000	MD013-24	-	414
United Soybean Board				
Developing Soybean Genotypes with High Yield Grown Under Reduced Fertilizer Inputs	10.001	59-6070-5-007	-	3,757
Univ of Maryland Eastern Shore				
Smart-Detection and Preventative Controls: Emergent Technologies for Microbial Food Safety in Soilless Leafy Greens Systems	10.216	FHNIFA5208600MCLAMORECU / PO 132276	-	26,332
Univ. of Arkansas				
Developing a Basis for Control Strategies Against Histomoniasis in Poultry	10.001	AWD-102727-01	-	71,933
Development of Educational Climate-Smart Agricultural Resources for Forage-Livestock Systems in South Carolina	10.520	GR021394	-	58,463
Environmental Control of SARS-CoV-2 within Food Service Establishments	10.310	AWD-000210-02	-	29,174
Partnership: Targeting <i>Histomonas meleagridis</i> cysteine proteases for novel chemotherapy and vaccine development to control histomoniasis in poultry	10.310	AWD-104909-01	-	86,879
Through the Grapevine: Developing <i>Vitis</i> x <i>Muscadinia</i> Wide Hybrids for Enhanced Disease Resistance and Quality	10.309	AWD-105210-01	-	15,021
Univ. of Delaware				
Cellulose Nanocrystals as Enablers in Creating 100% Biobased and Non-isocyanate Polyurethane Foams at Commercial	10.674	UDR0000458	-	53,190

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Agriculture (Continued)				
University of Florida				
Dispersal and reproductive potential of <i>Helicoverpa zea</i> in Bt and non-Bt crops and implications for Insecticide Resistance				
Management regulations	10.219	SUB00002839	-	13,675
Integrative Management of Whiteflies for Organic Cucurbit Production in the US Southern Region	10.303	SUB00004579	-	55,058
Plant Safety, Horticultural Benefits, and Disease Efficacy of Essential Oils for Use in Organically Grown Fruit Crops: From the Farm to the Consumer	10.307	SUB00002400	-	16,813
SmartPath: Grower-directed convergence of nanotechnology and smart decision analytics for irrigation water quality management related to pathogens	10.310	SUB00002832	-	25,780
SweetCAP: Integrated technologies to improve sweet corn breeding, production and marketability	10.309	SUB00003558	-	136,074
2024 IR-4 Performance Trials	10.200	PO# 2401260325	-	3,440
Development of Next-Generation Feed Additives Targeting Methanogenesis for Immediate Use in Sustainable Livestock Systems	10.310	SUB00004110	-	18,161
Development of Next-Generation Feed Additives Targeting Methanogenesis for Immediate Use in Sustainable Livestock Systems	10.310	SUB00004110	-	27,903
IR-4 (Biopest) Integrated Solutions trials	10.200	PO 2301045568	-	605
Performance of Cyantraniliprole and Isocycloseram on Greenhouse-Grown Strawberry Against Thrips	10.200	PO 2301128585 / P11679.23-SCP01	-	738
Univ. of Georgia				
Development of Sustainable Strategies for Managing Bacterial Diseases and Improving Tree Health in the Peach Production System	10.215	SUB00002851	-	142,394
Documenting Challenges, Identifying Solutions, and Developing Decision Support Tools for Small and Medium-sized Forest Businesses	10.310	SUB00002538	-	(39)
Identifying and Overcoming Barriers to Increase Participation of Underserved Landowners in the Conservation Reserve Program in the Black Belt of the Southern United States	10.069	SUB00003796	-	90,410
PARTNERSHIP: Accelerating the development of targeted heat tolerance selection in upland cotton	10.310	SUB00003545	-	25,281
SAM: Sustainable Anthracnose Management for Watermelon and Cucumber Growers in the Eastern U.S. (SCRI)	10.309	SUB00003303	-	49,243
Sustainable Agriculture Research and Education (SARE) Program 2020 - Train the Trainers: Reducing Impacts from Harmful Algal Blooms in Livestock Water Resources in South Carolina	10.215	SUB00002595	-	2,036
Sustainable Agriculture Research and Education (SARE) 2022	10.215	SUB00003269	-	9,342
Sustainable Agriculture Research and Education (SARE) 2022	10.215	SUB00003321	-	6,577
Sustainable Agriculture Research and Education (SARE) 2022	10.215	SUB00003339	-	4,779
Sustainable Agriculture Research and Education (SARE) 2023	10.215	SUB00003527	40,139	130,183
Sustainable Agriculture Research and Education (SARE) Program 2021	10.215	SUB00002854	33,619	132,329

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Agriculture (Continued)				
Sustainable Agriculture Research and Education (SARE) Program 2021	10.215	SUB00002852	-	122,710
Sustainable Agriculture Research and Education (SARE) Program 2021	10.215	SUB00002968	-	1,100
Sustainable Agriculture Research and Education (SARE) Program 2021	10.215	SUB00003035	-	1,411
University of Kentucky Research Foundation				
Field Testing of dsRNA Formulations for Controlling ALB	10.025	3200006441-25-199 / PO 7800007852	-	599
Univ. of Nebraska - Lincoln				
ODF: National Agricultural Producers Data Cooperative: A Strategic				
Framework for Innovation	10.233	25-6231-0419-006	-	18,261
ODF: National Agricultural Producers Data Cooperative:				
Expansion through Strategic Development	10.233	25-6231-0439-005	-	7,352
Univ. of Tennessee				
Climate Smart Grasslands - the Root of Agricultural Carbon Markets	10.937	A24-0412-S002	-	33,028
Virginia Polytechnic Institute				
CAFF-I2GROW: Intelligent and Integrated Greenhouse gas				
RemOval With indoor and controlled environment agriculture	10.310	423715-19244	-	7,949
Peanut Variety and Quality Evaluation - Harnessing Multiscale Data				
for Trait Prediction to Support Cultivar Release Decisions	10.310	423714-19244	-	35,669
Washington State University				
Enabling Genomics-Assisted Specialty Crop Breeding and				
Research through Advanced Database Resources	10.309	137740 SPC004735	-	346,137
Total Department of Agriculture			5,970,583	35,653,584
Department of Commerce				
Epidemiology and Reproductive Impacts of the Newly Discovered				
Egg Parasite <i>Carcinonemertes Obrieni</i> on the Caribbean Spiny				
Lobster Fishery in Florida and the Caribbean	11.427	NA20NMF4270197	10,263	37,783
Nuclear sensitivity, metastable levels and level population dynamics				
of highly charged ions	11.609	70NANB24H027	-	75,862
Salient, Interactive, Relevant & Confidence in Actions (SIRCA):				
Using Virtual Reality Storm 1 Surge Simulations to Increase Risk				
Perception and Prevention Behaviors	11.459	NA21OAR4590217	-	41,612
Time-Resolved Spectroscopy of Highly-charged Ions: Probing				
Fundamental Physics and Population Kinetics	11.609	70NANB23H201	-	39,743
Wetlands to Combat Drought: Strengthening Drought Preparedness				
on the Coeur d'Alene Reservation Through Wetland Restoration				
and Monitoring	11.431	NA22OAR4310234	186,370	245,049
Pass-Through Programs From:				
College of Charleston				
SOS (Solutions on Septic): Identifying Resilient Solutions for				
Septic Management in Coastal South Carolina - Year 1	11.417	23-106-SCSG-BI-CU-001	-	12,500

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Commerce (Continued)				
National Estuarine Research Reserve Asso				
Coastal Zone Management Administration Awards	11.419	NMS-002	-	6,117
SC Sea Grant Consortium				
M/PM-2J, Year One (1): South Carolina Space Grant and South Carolina Sea Grant Kathryn Sullivan Earth and Marine Science Fellowship for Tokeia Payton: Utilization of coupled human and natural systems modeling to assess lobster trap removal impacts on...	11.417	M/PM-2J Year One	-	4,672
On Borrowed Time: Age as a Predictor of Phosphorus Mobility in Coastal Stormwater Ponds and Implications for Management (Sahoo)	11.417	R/CG-6 Year 2	-	14,076
Developing a Commercial Seafood Workforce Training Program in South Carolina	11.417	R/WD23-1a	-	2,762
R/HCE-2: Determining bacteria and turbidity sources to inform management and outreach across the Edisto Island Watershed, Year One	11.417	R/HCE-2 - Year 1	819	36,192
P/M-2B: Interaction of biofilms and microplastics in floating vegetation root systems (van den Hurk) - Year 1	11.417	P/M-2B - Year 1	-	5,009
Envisioning the Future of South Carolina's Antebellum Rice Fields: Development of a Decision Support Tool (Year One)	11.417	R/HCE-1 (Year 1)	-	34,224
Elucidating Patterns of Microplastic and PFAS Contamination Using Alligators to Explore Exposure and Fate of Contaminants of Emerging Concern in Wetlands (Anderson)	11.417	R/CEC-1f	-	48,308
The Nature Conservancy				
Passage Success and Post-passage Behaviors of American Shad on the Cape Fear River	11.463	NCBU NOAA A110341	-	28,617
Univ. of Central Florida				
Effectively Communicating Uncertainty in Tropical Cyclone Intensity Forecasts	11.459	GR107065 / PO-UCF-00065108	-	31,023
Univ. of Delaware				
Advanced Bioprocessing Sensor and Analytical Technologies for Induced Pluripotent Stem Cell Culture Online Monitoring and Automation	11.619	PC5.2-127 / UDR0000346	-	71,650
Univ. of South Carolina				
Guiding Successful Applications of Floating Treatment Wetlands in Brackish Coastal Ponds	11.417	23-5268 PO#2000068731/10012775	-	2,154
From Blue-Gray to Blue-Green: Facilitating the Transition to Non-Plastic, Natural Material Use Within the Coastal Zone Economy PO 2000071511/USC 10013223	11.417	24-5453 / PO 2000071511 / USC 10013223	-	150,225
Total Department of Commerce			197,452	887,578

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Defense				
875URE Site: Space-Defense Undergraduate Research Experience	12.800	FA9550-23-1-0448	6,765	6,765
Advanced Visualization, Simulation, and Human Integration through the Digital Design and Simulation Studio (3.22.11) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	175,674
AI-Based Universal and Adaptive Battery Management Algorithms	12.000	W56HZV-21-2-0001	-	86,059
An Integrated Multi-Material Digital Life Cycle Approach for Additive Manufacturing of Ground Vehicle Structures and Components	12.431	W911NF-20-2-0237	161,043	235,987
Anomaly Detection for Resilient Autonomy-Enables Vehicle Systems	12.000	W56HZV-21-2-0001	-	118,467
Characterization of Fallopian Tube-Derived Extracellular Vesicles for Ovarian Cancer Biomarker Discovery	12.420	HT9425-24-1-0318	5,574	12,611
Considerations of Ethical and Unethical Behavior on Trust in Human-Autonomy Teaming	12.800	FA9550-20-1-0342	-	93,621
Control and Evaluation of a Novel Power Split Hybrid Layout for High-Speed Tracked Vehicles	12.000	W56HZV-21-2-0001	-	20,199
Convergent Manufacturing of Multi-materials with Strengthened Metal-Ceramic Interface	12.431	W911NF-23-2-0058	-	138,418
COVIA: Computer Vision based Intelligent Assistant for Mistake Proofing of Complex Maintenance Tasks on Navy Ships	12.300	N00174-21-1-0010	-	(149)
Cross-cutting Tradespace Techniques for Ground Vehicle Systems (3.22.10) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	452,093
Dam Sector Regional Risk Resilience Program (DSR3P)	12.630	W912HZ-22-2-0034	-	(16,632)
Data-Driven Deep Koopman Control-Oriented Learning Framework for Improved Autonomous Off-Road Mobility	12.000	W56HZV-21-2-0001	-	292,290
Deep Orange 16: An Optionally Manned Off-Road Research and Demonstration Platform for Forward-Looking Vehicle Control Algorithms	12.000	W56HZV-21-2-0001	-	245,330
Design, Prototyping, and Digital-Scaling of Inherently-Safe High Temperature Battery Modules	12.000	W56HZV-21-2-0001	-	56,973
Determining Soldiers' Workload while Operating Ground Vehicles (1.22.8) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	277,276
Development of Protocols to Quantify Abiotic Transformation Rates and Mechanisms for Chlorinated Ethenes in Water Supply Aquifers	12.000	2HQ-20-C-0038;CLIN 0001 PO# W74RDV0078	-	37,276
Disinformation & Security Dynamics in Partner States Pakistan and the Philippines	12.024	HQ00342410073	-	146,749
ECO-COATING - Engineering Control of Organic Coatings on Autonomous Navy Gliders (Management)	12.910	HR0011-23-2-0008	1,229,682	1,725,407
Efficient Modeling and Guiding of Experimental Investigations of High-Performance Pistons Leveraging Bayesian and Machine Learning Approaches (3.22.8) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	241,544
Electro-thermal Management Using In-situ Junction Thermal Estimates for Enhanced Device Reliability	12.300	N00014-22-1-2558	46,432	190,605
Facial reduction for semidefinite relaxations of combinatorial problems	12.431	FA9550-23-1-0508	-	173,588
High Photon Density Spatiotemporal (OAM+SAM) Vector Beams for Maritime Environment	12.300	N00014-20-1-2558	860,014	1,394,637
High power compatible photonic integrated circuits for chip-scale directed energy applications	12.431	W911NF-24-1-0034	138,722	319,649
High Power Density Engines and Propulsion Systems 2.23.10 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	396,477
High Temperature Subsurface Borehole Thermal Energy Storage	12.300	W912HQ22C0075	249,250	477,300

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Defense (Continued)				
Hollow-core MWIR Optical Fibers	12.431	W911NF-19-1-0409	-	45,026
HyperVision: Hyperspectral Vision AI for Off-Road Vehicle Day-Night Operation	12.000	W56HZV-21-2-0001	-	147,252
Identifying and Evaluating Impacts to Wetlands from the Savannah River Estuary	12.630	W912HZ-19-2-0007	-	(1,827)
Identifying and Evaluating Impacts to Wetlands from the Savannah River Estuary	12.630	W912HZ-24-2-0021	-	284,746
Impact of Headborne Systems and Vision Impairment on Soldier Performance (S.22.1) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	31,547
Increasing the Output of 2-micron Silicate Fiber Lasers Using Nanoparticle Doping	12.800	FA9550-24-1-0026	-	86,821
Integrated Education and Research in Corrosion GRANT PROPOSAL # GRANT14008777	12.300	N00178-24-1-0014	-	53,369
Integrated Logistics and Operational Planning for Anticipated Threat Mitigation Under a Contested Logistics Environments	12.300	N00014-22-1-2762	-	86,086
Invasive & Exotic Plant Species Survey and Control Method Evaluations; Townsend Bombing Range; Long and McIntosh Counties, GA	12.000	N62470-21-2-9024	-	74,392
Investigation of emulators for Single Photon Lidar to determine its suitability for autonomous vehicle integration (1.22.7) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	246,032
Laser 3D Printing of Highly Compact Mobile Prototypic Ceramic Fuel Cell System for Vehicle Power Supply 2.23.14 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	371,729
Learning agility for single and multiple swimming robots via bioinspired proprioception	12.300	N00014-21-1-2367	-	35,633
Learning from Games: decentralized Control for Autonomous Heterogeneous Multi-Agent Teams	12.000	W56HZV-21-2-0001	-	65,610
Leveraging Adaptive Autonomous Teammates to Enable Resilience and Situational Awareness in Human-Autonomy Teams	12.431	W911NF-24-1-0239	-	137,746
Leveraging Emerging Natural User Interface Technology to Support Optimal Soldier-Vehicle Interaction in Next-Generation Autonomous Vehicles 3.23.13 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	393,241
Mathematical Sciences Program	12.901	H98230-23-1-0024	-	5,052
Minimizing the Impact of Cognitive and Physical Limitations from Humans and Autonomy Through the Development, Training, and Implementation of Human-Autonomy Teaming in Underwater Environments	12.300	N00014-24-1-2154	-	267,519
Monitoring and maintaining trustworthy networked autonomy in a zero trust environment 1.23.10 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	418,529
Multilevel Hybrid Quantum-classical Algorithms for Combinatorial Optimization	12.431	W911NF-20-2-0075	194,067	194,067
Multiscale Modeling of High-Temperature All-Solid-State Battery Cells and Packs (2.22.8) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	414,754
Multistage Stochastic Programs with Dynamic Learning	12.800	FA9550-24-1-0241	-	68,946
Next Generation Soldier-Ground Vehicle Interface Design: Human Digital Twins (HDT) (S.22.14) - University of Central Florida	12.000	W56HZV-21-2-0001	945,238	945,238
Off-Road Obstacle Detection Analysis for Autonomy-Enabled Ground Vehicle Navigation 1.23.14 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	176,453	266,981

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Defense (Continued)				
Online Surrogate Optimization of the Tradespace 3.23.12 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	347,239
Open-Autonomy Verification & Validation (V&V) Framework (1.22.6) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	503,705
Optimal Thermal Management Strategies for Off-Road Hybrid Electric Autonomous Vehicles in Extreme Ambient Conditions 2.23.13 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	212,529
Passive battery pack-level thermal management and energy hybridization for operation in -40 to 70 °C range 2.23.11 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	334,549
Physics guided discovery of electrolytes for low-temperature batteries 2.23.12 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	392,984
Point-of-injury application of hydrogel embedded dexamethasone for severe traumatic brain injury	12.000	W81XWH-20-C-0114	-	20,668
PRECOgnITION: PRobabilistic pREdiction from CONtext determinaTION 1.23.13 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	300,430
Radio-Frequency Detection and Classification of Single-Cell Metabolic State	12.431	W911NF-24-1-0032	-	188,825
REU in Computational Number Theory	12.901	H98230-24-1-0033	-	37,029
RF Bioelectronics: Noninvasive Measurement and Control of Bacterial Bioelectricity	12.431	W911NF-22-1-0044	-	68,974
Securing Autonomous Vehicle Perception Under Adversarial Settings in Off-Road Scenarios	12.000	W56HZV-21-2-0001	-	144,999
Securing Heterogeneous Internet of Battlefield Things (IoBT) via Explainable AI-based RF Sensing	12.431	W911NF-24-1-0044	-	143,652
Spatial-AI Real-Time Mapping for Off-Road Ground Vehicles (1.22.9) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	270,058
Standardized modular secure firmware update framework for military vehicles 1.23.12 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	261,177
Stochastic Powertrain-Mobility Optimal Control for High Dynamic Off-Road Driving (2.22.9) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	495,950
Structured Light Propagation for Remote Photoacoustic Interactions	12.300	N00014-24-1-2288	108,001	211,860
TA_1_Testbed_Gao	12.910	HR0011-23-2-0008	-	240,502
TA_1_Testbed_Latour	12.910	HR0011-23-2-0008	-	30,548
TA_1_Testbed_Nagatomi	12.910	HR0011-23-2-0008	-	516,565
TA1_1_Testbed_Calhoun	12.910	HR0011-23-2-0008	-	43,099
TA1_1_Testbed_Hoover	12.910	HR0011-23-2-0008	-	100,000
TA1_3_Analysis_Karig	12.910	HR0011-23-2-0008	-	5,099
TA2_1_Build_Campbell	12.910	HR0011-23-2-0008	-	293,290
TA2_2_Test_Campbell	12.910	HR0011-23-2-0008	-	1,923
TA2_2_Test_Karig	12.910	HR0011-23-2-0008	-	468,994
TA2_3_Deploy_Karig	12.910	HR0011-23-2-0008	-	9,640
The Spread of Trust and Distrust in Distributed Human-Autonomy Teaming Constellations	12.800	FA9550-21-1-0314	46,146	212,388
Theoretical Study for Infinite-Layer Nickelate Superconductors	12.800	FA9550-23-1-0153	142,063	142,063
Time-efficient Machine Learning (ML)-aided Electric Design Automation (EDA) for Power Electronics Building Block	12.300	N000142412623	-	83,745

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Defense (Continued)				
Tradespace Exploration for Multiple Collaborative Vehicles				
Using Digital Strategies	12.000	W56HZV-21-2-0001	-	122,987
Trust Engineering	12.800	FA9550-24-1-0348	92,982	144,279
UCONN DREAM PROGRAM CENTER 2022/23	12.000	W56HZV-21-2-0001	809,158	859,256
Understanding Nano-Engineered Optical Fibers for Power-Scaled Fiber Lasers	12.800	FA9550-25-1-0104	-	214,680
US Synchronizing Collaborations for Human-Autonomy Teaming and Ethical Autonomy Use	12.800	FA9550-23-1-0624	-	19,655
VANTAGE: Vehicular Aerial Navigation of Tethered Autonomous Ground Systems 1.23.11 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	246,809
Vehicle Propulsion Digital Twins and Hardware Integration in the Virtual Environment (HIVE) (2.22.7) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	570,105
Vehicle Propulsion Digital Twins: High-Performance Computing (HPC)-based Next Generation High-Fidelity Powertrain Co-Simulation for Ground Vehicle Systems (2.22.6) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	248,385
Virtual and Physical Prototyping Aided by Continuous Experimental Feedback: Deep Orange 15 Project (3.22.9) (VIPR-GS)	12.000	W56HZV-21-2-0001	-	468,412
Virtual Prototyping and Physical Validation of Extreme Terrain Traversibility for Off-Road Vehicles via Autonomy and AI	12.000	W56HZV-21-2-0001	-	92,659
Virtual Prototyping of Ground Systems (VIPR-GS)	12.000	W56HZV-21-2-0001	-	332,367
Virtual Prototyping of Ground Systems (VIPR-GS)	12.000	W56HZV-21-2-0001	-	2,608,111
Virtual Prototyping of Ground Systems (VIPR-GS)	12.000	W56HZV-21-2-0001	-	43,985
Virtual Prototyping of Ground Systems (VIPR-GS)	12.000	W56HZV-21-2-0001	-	10,352
Virtual Prototyping of Ground Systems (VIPR-GS)	12.000	W56HZV-21-2-0001	-	45,125
Virtual Prototyping of Ground Systems (VIPR-GS)	12.000	W56HZV-21-2-0001	-	4,787
Virtual Prototyping of Ground Systems (VIPR-GS)	12.000	W56HZV-21-2-0001	-	19,143
Virtual Prototyping of Ground Systems (VIPR-GS)	12.000	W56HZV-21-2-0001	-	265,447
Virtual Prototyping of Ground Systems (VIPR-GS)	12.000	W56HZV-21-2-0001	-	375,263
Virtual Prototyping of Ground Systems (VIPR-GS)	12.000	W56HZV-21-2-0001	80,362	80,362
Virtual Prototyping of Ground Systems (VIPR-GS) (Seed - Razi)	12.000	W56HZV-21-2-0001	-	84,624
Virtual Sensor Reconstruction for offroad autonomous vehicle 1.23.15 - Zoran Filipi (VIPR-GS)	12.000	W56HZV-21-2-0001	-	374,194
Pass-Through Programs From:				
Applied Research Associates, Inc.				
(MACRO) Mission Awareness Capabilities Ramp-Up and Optimization (2017541- 2017550)	12.000	S-G30002-108-CLEM-TO1	-	32,855
(MACRO) Mission Awareness Capabilities Ramp-Up and Optimization	12.000	S-G30002-108-CLEM-TO1	-	99,658
(MACRO) Mission Awareness Capabilities Ramp-Up and Optimization	12.000	S-G30002-108-CLEM-TO1	-	137,181
(MACRO) Mission Awareness Capabilities Ramp-Up and Optimization	12.000	S-G30002-108-CLEM-TO1	-	61,869
(MACRO) Mission Awareness Capabilities Ramp-Up and Optimization	12.000	S-G30002-108-CLEM-TO1	-	41,730
(MACRO) Mission Awareness Capabilities Ramp-Up and Optimization	12.000	S-G30002-108-CLEM-TO1	-	267,310
(MACRO) Mission Awareness Capabilities Ramp-Up and Optimization	12.000	S-G30002-108-CLEM-TO1	-	203,410
(MACRO) Mission Awareness Capabilities Ramp-Up and Optimization	12.000	S-G30002-108-CLEM-TO1	-	40,516
(MACRO) Mission Awareness Capabilities Ramp-Up and Optimization	12.000	S-G30002-108-CLEM-TO1	-	112,328
(MACRO) Mission Awareness Capabilities Ramp-Up and Optimization	12.000	S-G30002-108-CLEM-TO1	-	239,935

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Defense (Continued)				
Brockington and Associates, Inc.				
Conservation Assessment and Preservation Services on 1942-1943				
Prisoner of War (POW) Map	12.000	NONE	-	19,112
Cornerstone Research Group, Inc.				
Signature Management Textiles	12.000	PO # 2021-0525 / W911QY-21-C-0046	-	96,473
Compression Garment with Embedded Electronics for Ambulatory				
Health & Performance Monitoring	12.000	2023-0331	-	53,747
Georgia Institute of Technology				
First-Order Optimization Methods for Stochastic Dynamic Programming	12.800	AWD-003884-G1 / PO-5296502	-	23,597
GSI Environmental Inc				
G-6303 AFCEC PFAS REMChlorMD Modeling	12.000	2017-111CLEMS-01 (GSI Job No. G-6303)	-	26,812
Leidos, Inc				
Leidos IARPA SMART ePANTS- Phase 1	12.000	P010292564	-	727,312
Leidos IARPA SMART ePANTS- Phase 2	12.000	P010292564	-	213,590
Massachusetts Institute of Technology				
IBAS National Imperative for Industrial Skills Full Proposal:				
Advanced Manufacturing Technologist Training for the				
Aerospace & Defense Industry of Massachusetts	12.420	S6219 / PO 1013748	-	48,919
Northern Arizona University				
Dynamic Data-Driven Decision Making, Planning and Communications				
in Autonomous Unmanned Aerial Vehicle Networks for Disaster				
Management	12.800	1004437-01	-	(1)
Purdue Univ.				
Theory and Algorithms for Two-Stage Decision-Making under				
Conflict and Uncertainty	12.431	13001354-003	-	76,633
Rice University				
Next Generation Teams and Organizational Subsystems Research	12.630	R1A604	-	58,592
Rowan University				
Advancing Structural Materials for Army Modernization				
Priorities via Direct Write Approaches	12.431	51291-4	-	38,224
TDA Research, Inc.				
Optimal Rewarming Solutions for Cryopreserved Tissue Systems	12.000	GS.1403.021.CLEM.22.01	-	63,483
Univ of North Carolina Wilmington				
Re-evaluation of Fish Passage at the Nature-like Rock Ramp				
Fishway on the Cape Fear River	12.300	58649A-23-0311-CLEMSON-SUB-INT	-	17,994

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Defense (Continued)				
Univ. of Arkansas				
Inferring network models from spatial snapshots for systems and synthetic biology applications	12.431	UA2023-373 / SPC-006909	-	106,401
Univ. of Cincinnati				
Space Robotics Technologies Enabling a Servicing Team to Service a Cooperative of Non-cooperative Client Involving Contact Operations	12.800	015843-00002	-	40,450
Univ. of Michigan				
A Novel Strategy to Prevent Central Auditory Disorders After Blast Exposure	12.420	SUBK00020190 / PO# 3007913861	-	8,453
Automotive Research Center (ARC) A Center of Excellence In Modeling and Simulation of Ground Vehicles U.S. Army Ground Vehicle System Center, Detroit Arsenal, Michigan	12.910	SUBK00021898 / PO 3008069614	-	73,018
University of Rochester				
Enhancing Quantum Sensor Technologies with Rydberg Atoms (EQSTRA) Chip-scale Integrated III-V/LN Lasers for Rydberg Atom Quantum Sensors / URF AWD00007227	12.351	SUB00001153 / UR FAO GR536014	-	24,311
Univ. of Tennessee				
Edge Deep Learning Optimal Control (EDLOC) for Distributed Naval Energy Management with Advanced Performance Feedback Metrics	12.300	A23-1222-S001	-	164,507
Virginia Polytechnic Institute				
Topology and Emergence with Ultracold Atoms and Molecules	12.431	450910-19244	-	67,575
West Virginia Research Corporation				
Testing the viability of Majorana-based platforms for topological quantum computation through theoretical and numerical modeling	12.300	23-178-CU / MM000487614	-	107,371
Zoological Society of San Diego				
New Monitoring Tools to Understand Drivers of California Least Tern Reproductive Success	12.005	57-6000254	-	9,360
New Monitoring Tools to Understand Drivers of California Least Tern Reproductive Success- Year 2	12.005	57-6000254	-	20,966
Total Department of Defense			5,291,952	28,573,865
Department of Interior				
Assessing Nesting Status of Black-capped Petrels Following Acute Disturbance Events	15.812	G22AC00122	-	(1,865)
CESU - Visitor Use Research to Inform Visitor Use Management at Joshua Tree National Park	15.945	P24AC02168-00	-	49,172
Conservation and Life History of the Northern Pine Snake (Pituophis melanoleucus) Across North Georgia	15.664	F21AC00507-00	-	(173)

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Interior (Continued)				
Ethnographic Overview and Assessment of Congaree National Park	15.945	P23AC01808-00	-	58,514
Investigating Impediments to Recruitment of the Carolina Heelsplitter (<i>Lasmingtona decorata</i>)	15.657	F20AC11776	-	1,134
Migration Routes and Stopover Sites of Red Knots in the Southeastern U.S.	15.655	F24AC03168-00	-	77,259
Movement Ecology of Black-capped Petrels in the Western North Atlantic: Informing Planning for Offshore Energy	15.655	F24AC03179-00	-	26,672
National Wildlife Refuge Visitor Survey	15.654	F24AC02100-00	-	50,043
Primary: 24-2-03-19 The Reduction of Nitrogenous Disinfection Byproducts	15.232	L24AC00317-00	-	38,003
South Carolina Water Resources Center Program Management	15.805	G21AP10579-01	12,177	90,770
Spatial Ecology, Movement Patterns, and At-Sea Habitat use of Brown Pelicans in the South Atlantic Bight	15.812	G16AC00395 (RWO #100)	-	(852)
USFWS Toolkit: Capacity Building for Visitor Estimation	15.654	F23AC01345-00	-	10,005
Pass-Through Programs From:				
NC Wildlife Resources Commission				
Allegheny Woodrat Camera Surveys	15.611	WM-0370	-	51,043
Developing a proactive conservation planning tool for stream fishes of greatest conservation need in the Carolinas	15.634	IF-0053	-	287
Old Dominion University				
NCR Visitor Use Surveys	15.945	22-110-300541-004	-	1,507
SC Dept. of Natural Resources				
Edisto River Flow Effects on Summer Water Temperatures: Are Thermal Tolerances of SWAP Fishes Exceeded at Low Flows?	15.634	P24019483623 SCDNR FY2023-015	-	14,025
SC-Assessing occurrence and habitat associations of the six priority small mammal species in high elevation Appalachian forests of South Carolina	15.634	SCDNR FY2024-017 / P24019483823	-	38,875
SC - Conservation of South Carolina Coastal Plain Reptiles and Amphibians II	15.634	SCDNR FY2024-016 / P24014406022	7,449	35,486
SC-Developing a proactive conservation planning tool for stream fishes of greatest conservation need in the Carolinas	15.634	SCDNR FY2024-038 / P24019487824	-	93,837
SC - National Bobwhite and Grasslands Initiative - South Carolina	15.611	P24014400122	-	22,955
Southeast Aquatic Resources Partnership				
DISTRIBUTION AND HABITAT ASSOCIATIONS OF SPECIES OF GREATEST CONSERVATION NEED AND ASSESSMENT OF AQUATIC ORGANISM BARRIERS IN THE FRESHWATERS OF THE US VIRGIN ISLAND	15.634	USVI-SARP-CSWG-2024	-	91,798
Incorporating Fish Species Swimming Speed into Barrier Removal Prioritization - Swim	15.608	none	-	(19,799)
State of Mississippi Dept of				
MS - National Bobwhite and Grassland Initiative FY25	15.611	None	-	29,102

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Interior (Continued)				
Virginia Polytechnic Institute What Leads to Better Outcomes in National Park Service Interpretation?	15.945	462773-19244	-	180,020
Total Department of Interior			19,626	937,818
Department of Justice				
GIS Application for Building a Nationally Representative Forensic Taphonomy Database	16.560	2020-DQ-BX-0025	-	35,431
An Evaluation of De-Escalation Training to Understand the Links between Training and Outcomes	16.560	15PNIJ-21-GG-02719-RESS	63,792	82,706
Networks and Pathways of Violent Extremism: Effectiveness of Dis/ Misinformation Campaigns	16.560	15PNIJ-23-GG-01381-DOMR	34,014	235,184
Clemson University Police Behavioral Health Crisis Response Program	16.745	15PBJA-22-GG-03012-MENT	-	50,489
Pass-Through Programs From:				
Allendale County School District Allendale County Schools STOP School Violence Program	16.839	2023001995	-	50,877
Allendale County Schools STOP Violence Program	16.839	2023001995	-	20,853
Beaufort County School District Beaufort County School District Promising Students Program	16.839	2024002217	-	24,117
Eluna Network Mentoring Youth Affected by Opioid and Other Drug Misuse through Camp Mariposa	16.726	None	-	8,635
Greenville County Bureau of Justice Assistance FY2022 Comprehensive Opioid, Stimulant, and Site-Based Program Grant	16.838	none	-	113,170
Oconee County Oconee County (SC) Justice and Mental Health Planning & Implementation Initiative	16.745	001/ 2020-MO-BX-0045	-	74,190
Oconee County Sheriff's Office Evaluation of the Oconee County Sheriff's Office COSSUP Initiative	16.745	001	-	56,843
SC Dept. of Alcohol and Drug Abuse Svrs. Evaluation of the South Carolina COSSUP Initiative - Year 1	16.838	OJP24-TX-EVAL-CLM-20231001-20240930	-	34,555
Evaluation of the South Carolina COSSUP Initiative - Year 2	16.838	OJP25-TX-EVAL-CLM-20241001-20250930	-	164,473
Univ. of North Florida Missouri 29th Judicial Circuit Co-Occurring Treatment Court Enhancement Initiative	16.585	022-002	-	14,761
The Missouri 29th Judicial Veterans Treatment Court (VTC) Enhancement Initiative	16.585	022-003	-	13,554

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Justice (Continued)				
Total Department of Justice			97,806	979,838
Department of Transportation				
A Software Tool for Securing Deep Learning against Adversarial Attacks for CAVs - Mashrur Chowdhury (Main PI) of main CU#2021810.	20.701	69A3551747117	-	37,925
A Web-Based Tool for Cross Dock Trailer Scheduling - Mashrur Chowdhury (Main PI) of main CU#211-2021810.	20.701	69A3551747117	-	10,270
Experimental Evaluations and Analysis of the Impacts of Denial-of-Service (DoS) Cyber Attacks on the Performance of Connected and Automated Vehicles (CAVs) Mini project of 211-2026310/11	20.701	69A3552344812	-	15,174
Intelligent River® Bridge Flood Monitoring System to Improve Transportation Mobility - Main PI Chowdhury,Mashrur A	20.701	69A3551747117	-	42,689
Investigating Driver Behavior Under Cyber-attacks in Connected Vehicle Environments Mini project under 211-2026310	20.701	69A3552344812	-	32,068
National Center for Transportation Cybersecurity and Resiliency (TraCR)	20.701	69A3552344812	1,815,140	2,574,201
National Center for Transportation Cybersecurity and Resiliency (TraCR) - Main PI - Chowdhury 211-2026310	20.701	69A3552344812	-	23,209
National Center for Transportation Cybersecurity and Resiliency (TraCR) - Main PI - Chowdhury 211-2026310	20.701	69A3552344812	-	19,618
National Center for Transportation Cybersecurity and Resiliency (TraCR) - Main PI - Chowdhury 211-2026310	20.701	69A3552344812	-	7,134
National Center for Transportation Cybersecurity and Resiliency (TraCR) - Main PI - Chowdhury 211-2026310.	20.701	69A3552344812	-	14,076
National Center for Transportation Cybersecurity and Resiliency (TraCR) - Main PI - Chowdhury-211-2026310	20.701	69A3552344812	-	67,872
Resilience-Enhanced Intrusion Monitoring against Emerging and Uncertain Threats in V2X Networks Mini project under 211-2026310	20.701	69A3552344812	-	59,835
Resilient Autonomous Vehicle Perception under Adversarial Settings Mini project under 211-2026310	20.701	69A3552344812	-	17,641
Secure and Fair Machine Learning for Autonomous Driving Systems (Main 211-2026310 Chowdhury)	20.701	69A3552344812	-	44,159
Towards Deployment-Ready Post-Quantum Cryptography Enabled Vehicle-to-Everything Communication	20.701	69A3552344812	-	43,003
Transfer of Technologies for Performance Degradation Prediction and Channel Switching in Vehicular Networks under Harsh Weather Conditions and Integration with State-of-the-Art Products-Mashrur Chowdhury (Main PI) of main CU#2021810.	20.701	69A3551747117	-	20,003
Transfer of Unmanned Aircraft Systems Technology to SCDOT for Enhanced Bridge Inspections-Chowdhury,Mashrur A (Main PI) of main CU#2021810.	20.701	69A3551747117	-	29,044
University Transportation Center - Center for Connected Multimodal Mobility (C2M2)	20.701	69A3551747117	1,168,948	1,225,003
Vulnerability Assessment of Sensor Fusion for Transformer-based End-to-End Autonomous Driving Models (Mini project under 211-2026310.)	20.701	69A3552344812	-	78,456
WE AIM: A VR/AR Hybrid Approach to Aviation Maintenance Technician General Curriculum in High School Programs	20.112	NG-AWM-0009-24-01-0 (69A3352450021)	-	456,775

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Transportation (Continued)				
Pass-Through Programs From:				
Auburn Univ.				
Use of Recycled Materials in Pavement Preservation	20.205	24-NCAT-222076-CLEMSON	-	10,021
North Carolina A&T State Univ.				
Center for Regional and Rural Connected Communities	20.701	270204A	-	375,318
SC Dept. of Transportation				
Investigation of Current and New Generation Cementitious and Supplement Cementitious Materials for SC DOT Concrete	20.205	SPR 774 SC DOT Project No. P043135	-	78,012
Update to SCENARIO_PC	20.205	2130; SPR 745	43,355	110,388
A Preliminary Cost Estimating Model for Transportation Projects	20.205	SPR 757	-	(18)
Ultra-High-Performance Concrete (UHPC) Used as a High Friction Surface Treatment (HFST) on Pavements and Bridges	20.205	SPR 762	-	68,814
Develop or Improve Construction Scheduling Methods and Model for Construction Projects	20.205	SPR 764	-	7,380
Safety Analysis of Highway Curves Where Crashes Occur in South Carolina	20.205	SPR 771 - SC DOT P042962	-	162,433
Cost-effective Screening, Assessment, and Repair of Timber Piles	20.205	SPR 772 - SC DOT P042963	84,346	200,828
Transfer of Unmanned Aircraft Systems Technology to SC DOT for Enhanced Bridge Inspections	20.205	SPR 2-24 / P043027	-	10,382
Data driven decision making for consultant scope of services and fee development, update, and maintenance	20.205	SPR 770 / P042638	-	136,623
Transportation Technology Transfer Service (T3)	20.205	SPR 2-25 , P043831	-	321,662
Synthesis of Feasible Scheduling Software to Support Project Development Planning	20.205	SPR 777 , P044046	-	50,185
SC State Univ.				
Data-driven Models for Vision-Based Commercial Motor Vehicle Safety Work Zone	20.237	23-570058-ENG-CU-SC	-	134,958
Univ. of South Carolina				
Field Trials for Cost-Effective Strengthening of SC Load Posted Bridges	20.205	22-4618 PO#2000060577 USC 10011050	-	119,806
Durability and Cost-Benefit Assessment of Innovative Materials for Brick Deck Maintenance and Construction PO# 2000077233/ USC#10014091	20.205	25-5873 USC 10014091 PO 2000077233	-	4,786
National Academy of Sciences				
Augmenting the Hearing of Safety-Critical Sounds for Highway Workers Using Artificial Intelligence	20.200	NCHRP-247	5,230	119,322
UAS Operations Practical Skills Pilot Program for State DOTs	20.200	SCON-10001018 Unit # 912 (HR 20-447(047))	18,091	97,097
toXcel, LLC				
Additional Considerations for Making ADS Vehicles Accessible for All Road Users	20.000	TO# 693JJ921F000157/ 2019-006	-	29,275
Total Department of Transportation				
			<u>3,135,110</u>	<u>6,855,427</u>

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Aeronautics and Space Administration				
21-FERMI21-0011, THE COSMIC HISTORY OF LIGHT	43.001	80NSSC22K1579	-	58,616
21-NUSTAR21-0007 PROBING AGN OBSCURATION VARIABILITY WITH NUSTAR AND NICER	43.001	80NSSC23K0484	-	737
21-NUSTAR21-0008, Unveiling Masquerading Bl Lac Objects	43.001	80NSSC22K1807	-	5,889
21-SWIFT21-0001, SWIFT CHARACTERIZATION OF PERIODIC-EMISSION BLAZARS	43.001	80NSSC23K0294	-	11,392
21-SWIFT21-0002, THE LEGACY OF SWIFT-BAT: THE HARD X-RAY SKY	43.001	80NSSC22K1469	-	938
22-2FIRE22-0020 AI-enabled Drone Swarms for Fire Detection, Mapping, and Modeling	43.001	80NSSC23K1393	66,083	196,572
22-ASTRO22-0214, Simulating the electromagnetic signatures of accreting unequal mass black hole binaries	43.001	80NSSC23K1443	-	44,188
22-FERMI22-0017, THE EVOLUTION OF BLAZARS ACROSS COSMIC TIME	43.001	80NSSC24K0284	-	65,731
22-FERMI22-0020, GAMMA-RAY EMISSION FROM PROTOSTELLAR JETS	43.001	80NSSC24K0283	-	11,808
22-FERMI22-0021, STUDYING THE ORIGIN OF HISTORICAL GALACTIC TRANSIENTS WITH FAVA	43.001	80NSSC24K0631	-	51,374
22-FERMI22-0022 PHOTOMETRIC REDSHIFTS FOR FERMI BL LACS	43.001	80NSSC24K0629	-	65,614
22-NICER22-0002, NICER Characterization of OJ 014: A Periodically Emitting Blazar	43.001	80NSSC23K1040	-	6,844
22-NUSTAR22-0004, DISCOVERING COMPTON-THICK AGN WITH A.I.	43.001	80NSSC23K1611	-	16,188
22-NUSTAR22-0005, UNCOVERING THE MOST POWERFUL JETS THROUGH COSMIC TIME	43.001	80NSSC23K1612	-	15,268
22-SWIFT22-0010, Swift Characterization Of Three Very High Energy Galactic Sources With Bright Rosat Counterparts - Cycle 19	43.001	80NSSC23K1149	-	9,915
22-SWIFT22-0011, Photometric Redshifts with Swift/UVOT - Cycle 19	43.001	80NSSC23K1150	-	705
23-ADAP23-0111, Unveiling Obscured Accretion in the Local Universe	43.001	80NSSC24K0633	-	154,064
23-ADAP23-0124, QUASI-PERIODIC OSCILLATION IN BLAZARS	43.001	80NSSC24K0635	-	212,118
23-UI-0004 Revolutionizing the Future of Aviation Maintenance: A Workforce Development Plan to Navigate the Complexities of a New Aviation Maintenance Ecosystem	43.002	80NSSC24K0201	26,285	172,532
24-XMMNC23-0003, Probing the structure of NGC 1142s torus with XMM-Newton	43.001	80NSSC24K1850	-	32,378
An Investigation of Ion-Neutral Coupling During Active Auroral Conditions	43.001	80NSSC19K0810	31,976	75,763
An Investigation of Ion-Neutral Coupling During Active Auroral Conditions	43.001	80NSSC19K0810	-	10,331
BRIDGING THE GAP: A SENSITIVE CATALOG OF MEV SOURCES	43.001	80NSSC23K1491	-	33,032
Characterizing New Galactic Accelerators with XMM-Newton	43.001	80NSSC23K1463	-	8,828
Experimental and Theoretical Investigation of Velocity Dependent Ion-Atom Charge Exchange with Coincident X-ray Spectroscopy	43.001	80NSSC24K0182	151,277	211,753
Exploring the Causes of Water Vapor Variability in the Mesosphere, Derived Residual Mean Circulation and Implications for the	43.001	80NSSC20K1353	4,865	48,663
Composition of the Thermosphere Using SABER and GOLD	43.001	80NSSC22K1010	59,234	206,412
Exploring the Response of the Ionosphere/Thermosphere to the Madden Julian Oscillation	43.001			

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Aeronautics and Space Administration (Continued)				
Finding massive BH binaries with gravitational waves and electromagnetic surveys	43.001	80NSSC24K0440	242,758	339,061
GRBs as Cosmic Probes of the Ultraviolet and Optical Background	43.001	80NSSC25K7892	-	10,946
New Fermi GBM Analyse of Bright Sources and the Isotropic Diffuse Background	43.001	80NSSC25K7218	-	64,002
Probing AGN Obscuration Variability With NUSTAR POLARIMETRIC SIGNATURES OF ACCELERATION	43.001	80NSSC25K7079	-	4,460
MECHANISMS IN HIGH SYNCHROTRON PEAKED BLAZARS	43.001	80NSSC24K1745	-	72,181
PROBING THE STRUCTURE OF THE TORUS USING MULTI-EPOCH OBSERVATION OF OBSCURED AGN	43.001	80NSSC24K1403	-	92,981
PROBING THE TORUS OF NGC 4945 WITH IXPE	43.001	80NSSC25K7524	-	16,263
Role of Lower Atmosphere Waves in Preconditioning the Ionosphere-Thermosphere Responses to Geomagnetic Storms Using ICON and GOLD	43.001	80NSSC22K0018	-	8,496
Uncovering The Most Powerful Jets Through Cosmic Time	43.001	80NSSC25K7074	-	4,982
VortEx - Vorticity Experiment	43.001	80NSSC19K0776	155,016	225,163
Vortex - Vorticity Experiment	43.001	80NSSC19K0776	-	172,533
Pass-Through Programs From:				
Boston University				
Understanding the origin and evolution of the solar system: coordinated microanalyses of underexplored types of presolar silicon carbide	43.001	4500005273	-	15,311
California State University				
Spacelgnite Center for Advanced Research-Education in Combustion (SPARC Center)	43.008	S-8328-CLEMSON	-	14,380
Center for the Advancement of Science				
Unlocking the Cotton Genome to Precision Genetics	43.002	GA-2019-007	231,037	234,212
College of Charleston				
Augmented Reality Framework for Automated Fiber Placement Rework	43.008	20-013-GRF-CU-020	-	3,854
Better Models for Space Research on Earth	43.008	20-013-GRF-CU-018	-	14,003
Characterizing the Protoplanetary Disks around CL Tau, V892 Tau and AB Aur from their CO Ro-Vibrational Spectra	43.008	20-013-GRF-CU-016	-	16,000
ClemsonR3-Brumaghin-H-003: Development of Screening Methodologies to Quantify Radioprotection of DNA from HZE Ion Damage	43.008	521583-CM	-	20,432
Development of Physics-based Computational Models for NASA's ISRU Pilot Excavator	43.008	521563-NE-RID-CM-005	-	19,684
Electrochemical Cell Integration for In-situ Utilization of Captured Carbon Dioxide 15-	43.008	521383-PA-CM-020	-	13,292
Electrochemical process for stabilization of urine for recovery of urea and water for long-term space missions and settlements	43.008	20-013-GRF-CU-015	-	12,968
Electrochemical Process for Stabilizing and Lowering the pH of Urine for Water Recovery During Space Missions	43.008	521383-GRF-CM-012	-	1,766

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Aeronautics and Space Administration (Continued)				
Estimating and Reconstructing the Frequency and Magnitude of Fluvial Flooding from Tropical Cyclones	43.008	21-117-RID RGP-CU-007	-	2,781
Flight Qualification for Rocket-Borne Mass Spectrometry Instruments	43.008	21-117-RID RGP-CU-008	-	9,239
Frequency-Based Dynamic Topology Optimization for Design of Rigid-Flex PCB Robotics	43.008	20-013-GRF-CU-017	-	14,017
HackRF One for Ionospheric Research	43.008	20-013-UG-CU-011	-	7,500
Ionospheric Ray Tracing	43.008	20-013-UG-CU-010	-	7,500
Mechanistic interactions between pre-stain and creep deformation in Ti-5553	43.008	20-013-GRF-CU-019	-	16,000
Microstructure Texture Optimization for Creep via Heaviside Function-Based Algorithm	43.008	521383-GRF-CM-013	-	(366)
Peroxide-Producing Microbial Fuel Cells for Space Life Support Systems Applications	43.008	521365-CM	-	(1,243)
Pulsed Operations of Dual-Atom Alloy for Catalysts for Electrochemical Carbon Dioxide Capture and Utilization	43.008	25-073-PA-CU-001	-	24,965
Electricity into Carbon	43.008	521434-CM	76,145	102,562
REAP: Research Facilitation	43.008	20-013-REAP-CU016	-	19,658
REAP: Research Facilitation	43.008	20-013-REAP-CU015	-	5,859
REAP: Research Facilitation	43.008	20-013-REAP-CU018	-	10,623
REAP: Research Facilitation	43.008	20-013-REAP-CU017	-	8,801
REAP: Research Facilitation: Wide Band Gap Semiconductors for Space Applications	43.008	20-013-REAP-CU019	-	4,669
RFA-010, Integrating Bipolar Membrane Electrochemical Cell with PdCu Dilute Alloy Cathodic Catalysts for One-Unit CO2 Capture and Utilization, STMD. MingYang	43.008	25-020-NE-R3-CU-001	-	76,978
RGP 2023-24: Experimental and Theoretical Investigation of Quantum Effects in the Electrochemistry of Advanced Li-ion Li-S Energy Storage Systems	43.008	521563-NERID-CM-004	-	10,093
SC Space Grant Campus Director Administrative Budget	43.008	521383-CD-CM	-	2,204
Tabletop Experiments of Tsunami Generation in Ice-Choked Fjords Using Poly-Disperse Granular Particles	43.008	20-013-GRF-CU-014	-	16,000
Undergraduate research experience in electrochemical technology to generate fuel and food from CO2 and urine to support life on Mars	43.008	521383-PA-CM-019	-	15,500
Unveiling Lunar Regolith Properties from Rover Tracks	43.008	25-073-PA-CU-002	-	8,000
Wood wasp-inspired dual-reciprocating drilling into lunar regolith	43.008	521383-PA-CM-018	-	17,614
Embry-Riddle Aeronautical University				
Sporadic-E ElectroDynamics	43.001	GC61559-2	-	80,863
KBR Wyle Services, LLC				
Mitigating Headward Fluid Shifts with Veno-Constrictive Thigh Cuffs During Spaceflight	43.000	SMS0011602/ Natasha Long	-	53,095
Michigan State Univ.				
NASA Research and Technology Development to Support Crew Health and Performance in Space Exploration Missions	43.003	RC115943CU	-	90,302
Prairie View A&M University				
Research on High Pressure Combustion in Microgravity	43.008	M2401076	-	84,879

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Aeronautics and Space Administration (Continued)				
Smithsonian Astrophysical Observatory				
A Spatially Resolved X-ray Analysis of an Extreme Candidate				
Pulsar Wind Nebula	43.001	GO1-22066X	-	(1)
Chandra TOO's For Fermi Galactic Plane Transients (Proposal				
No. 24300401)	43.001	G03-24013X	-	28,113
Compton-Thick AGN: The Hunt Continues (Proposal No. 25700267)	43.001	G04-25065X	-	61,041
The Aerospace Corp.				
Conductivity Across Space and Time as Informed by Particle				
Precipitation	43.001	4400000907	-	6,974
Univ. of California				
The Compton Spectrometer and Imager (COSI)	43.001	00011769 / BB01956522	-	25,801
Univ. of New Hampshire				
TOMEX Plus: Turbulent Oxygen Mixing Experiment Plus	43.001	L0058 / P0199502	-	2,081
Univ. of South Carolina				
Augmenting Physics-Based Design and Multi-Physics Based				
Manufacturing with Data Driven Models to Manufacture				
Advanced Composites Structures with Automated Fiber				
Placement PO 2000073750 USC 10011516	43.008	24-5668 PO # 2000073750 USC 10011516	-	54,912
University of Alaska - Fairbanks				
Auroral Waves Excited by Substorm Onset Magnetic Events				
(TOTALLY AWESOME)	43.001	UA 22-0108 / P0560920	-	216,228
Auroral Waves Excited by Substorm Onset Magnetic Events				
(TOTALLY AWESOME)	43.001	UA 22-0108 / P0560920	-	797
University of Colorado Boulder				
Exploring Day-to-Day Variability of the Ionosphere - Thermosphere				
System Driven by Planetary Wave - Tide Interactions	43.001	1565225 / PO 1001980572	-	33,246
Total National Aeronautics and Space Administration				1,044,676 4,221,908
National Science Foundation				
ABR: Collaborative research: Smart earpiece for supporting healthy eating behaviors	47.070	1835974	-	4,994
ACED: Accelerating Optical Resonator Innovation via Computational				
Hardware-Software Co-Design	47.070	2435833	-	2,137
Addressing Student Skills Gaps in Water Treatment Operator				
Education Utilizing Virtual Reality Enabled Curriculum Resources	47.076	2202051	-	144,954
Advancing Flood Analytics and Forecasting through Flood				
Computing and Engineered System (FloodEngine)	47.041	2429082	-	18,601
AIMing: Interactive Conjecture Proving	47.049	2434704	-	66,707
An Integrated Housing Design and Logistics Operations				
Modeling and Analysis Framework for Hurricane Relief	47.041	2053660	-	77,448

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
ART: STRIDE - Stimulating Translation of Research via Intentional Development and Ecosystem	47.084	2331364	156,819	1,281,334
Aazole Antifungals Coordinate Metals and Create Reactive Oxygen Species That Damage DNA and Cause Chromosomal Instability	47.049	2203847	-	75,594
BoCP Design: US-China-Sao Paulo: Functional Biodiversity in Streams on a Changing Planet in Tropical, Subtropical, and Temperate Climates	47.074	2325925	-	84,691
Building Leadership among Science Teachers in Rural Regions: Designing, Developing, and Implementing a Science Teacher Leadership Academy	47.076	2243496		655,959
CAREER: A Multi-phase Biosensing Approach towards Point-of-Care Evaluation of <i>Pseudomonas aeruginosa</i> Virulence in Infected Chronic Wounds	47.083	2340867	-	96,480
CAREER: A Multi-phase Biosensing Approach towards Point-of-Care Evaluation of <i>Pseudomonas aeruginosa</i> Virulence in Infected Chronic Wounds	47.083	2340867	-	2,500
CAREER: A Task-Invariant Customization Framework for Lower-Limb Exoskeletons to Assist Volitional Human Motion	47.041	2340261	-	64,766
CAREER: An Adaptive Stochastic Look-ahead Framework for Disaster Relief Logistics under Forecast Uncertainty	47.041	2045744	-	57,093
CAREER: Bridging the Gap in Point Cloud Analysis: Task-Oriented Visualization for Enhanced Human-AI Collaboration	47.070	2339389	-	53,460
CAREER: Characterizing Nanoparticle Surface Interactions using Dissolution Dynamic Nuclear Polarization-Enhanced Nuclear Magnetic Resonance	47.049	1751529	-	111,546
CAREER: Collective Hydrodynamics of Robotic Swimmers and Surfers at High Reynolds Numbers	47.041	2449852	-	43,139
CAREER: CritComp Pop Ups: A Research Practice Partnership for Co Designing and Implementing Critical Computing Elementary Education Curricula	47.076	2238712	-	32,460
CAREER: Degron-based substrates: A novel toolkit for biosensing and targeted inhibition	47.041	2416519	-	74,795
CAREER: Diagnosing the Undiagnosable: Using Enzyme Upregulation to Probe Cellular Behavior in Neuropathic Lysosomal Storage Disease	47.041	2047697	-	87,918
CAREER: Digging deeper to the roots of soil organic carbon formation, persistence, and function: An integrated research, education, and outreach program	47.074	2239752	-	59,687
CAREER: Dual Function Materials for Capture and Conversion of CO ₂ into Methanol and Higher Alcohols	47.041	2154386	-	5,970
CAREER: Dynamic Management of Compressed Arrays for High-Performance Computing Applications	47.070	1943114	-	121,335
CAREER: Dynamic Management of Compressed Arrays for High-Performance Computing Applications & REU Supplement	47.070	1943114	-	7,312
CAREER: Elucidating Fundamental Structure-Property Relationships in Ionomer Nanocomposites for Redox Flow Batteries	47.049	1848347	-	39,067

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
CAREER: Elucidating the Biophysical Mechanisms of Membrane Protein Folding and Stability Through Advanced Single-Molecule Force Spectroscopy	47.074	2439881	-	21,798
CAREER: Enabling Low-Cost, Maintenance-Free, Long-Term Embedded Sensing Without Batteries	47.070	1453607	-	1
CAREER: Ensuring Privacy, Inclusiveness, and Policy Compliance in the Era of Voice Personal Assistants	47.070	2239605	-	25,937
CAREER: Evaluating the contribution of Sensory Drive to the divergence of flower color	47.074	2237529	-	128,603
CAREER: Functional genomic architecture and population differentiation of a polygenic and sexually dimorphic butterfly mimicry phenotype	47.074	2340675	-	33,154
CAREER: Harnessing the Power of Dynamic Magnetic Field to Reimagine Thermocatalytic Ammonia Decomposition	47.041	2440941	-	34,825
CAREER: Hybrid Experimental-Computational Modeling Framework for Transformative Research and Multidisciplinary Education in Cardiovascular Biomechanics	47.041	1749017	-	1,510
CAREER: Integrated Studies of Polar Wave and Magnetosphere-Ionosphere-Thermosphere Couplings from New Observations and Whole Atmosphere Modeling	47.050	1753214	-	202,279
CAREER: Integrating Magnetism into Noncentrosymmetric Frameworks for Spin-based Electronics	47.083	2338014	-	127,216
CAREER: Leveraging Recommendations for Self-Actualization CAREER: Modeling, Measuring and Controlling Human Comfort in Human-Autonomous-Machine Interaction (HaMI)	47.070	2045153	-	82,189
CAREER: Multi-chrome metasurfaces for dynamic structural color and naked eye diagnostics	47.041	2047015	-	73,722
CAREER: Multifunctional Peptide Nanocarriers for Delivery of Nucleic Acid Therapeutics	47.049	2046694	-	109,879
CAREER: Multiscale Surface Structuring by Ultrafast Lasers for Multifunctional Glass Surfaces	47.041	2047000	-	82,257
CAREER: Observational and Modeling Investigations of Pulsating Aurora Electrodynamics	47.083	2339961	-	127,571
CAREER: Perceptually Guided Hand Motion Synthesis	47.070	1652210	-	4,677
CAREER: Phenotypic and developmental effects of enhancer variation on cichlid craniofacial evolution	47.074	1942178	-	107,427
CAREER: Phylogenetic scale-dependency of the patterns and processes of quantitative trait evolution	47.074	2237613	-	258,914
CAREER: Prioritizing the Development of Team Cognition in Human-AI Teams to Engender the Advancement and Acceptance of AI Teammates	47.083	2237920	-	77,585
CAREER: Structural dynamics of post-translationally modified Calmodulin and its role in target recognition	47.074	1749778	-	(1,649)
CAREER: Toward Autonomous Decision Making and Coordination in Intelligent Unmanned Aerial Vehicles' Operation in Dynamic Uncertain Remote Areas	47.070	2232048	-	50,311

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
CAREER: Toward Autonomous Decision Making and Coordination in Intelligent Unmanned Aerial Vehicles' Operation in Dynamic Uncertain Remote Areas - REU Supplement	47.070	2232048	-	500
CAREER: Understanding Dynamic Recrystallization Mechanisms in Hybrid In-situ Rolled Additive Manufacturing	47.041	2237401	-	65,737
CAREER: Understanding the Integrated Cyber-Physical Resilience of Continuous Critical Manufacturing	47.041	2338968	-	15,141
CAREER: Understanding the Interaction between Mechanical Twinning and Fatigue Crack Growth	47.041	2045082	-	107,384
CAREER: Understanding the Interaction between Mechanical Twinning and Fatigue Crack Growth , REU Supplement	47.041	2045082	-	5,250
CAREER: Valuing Education and Career Transition Opportunities Raising Student Success in Engineering	47.041	2144213	-	100,736
CAREER: Exploring the Unknowns: Responses of Soil Microbial Communities to Increased Plant Functional Trait Diversity in Managed Ecosystems	47.074	1941714	-	28,733
CAS: Deconstructing Plastic and Agricultural Waste via Organosulfur Chemistry	47.049	2203669	-	106,858
CAS-MNP: Understanding the Interactions Between Small Molecules and Plastic Nanoparticles for Environmental Remediation and Sensing Using Nuclear Magnetic Resonance	47.049	2304888	-	124,725
CC*Strategy-Region: SC-Share, Regional Collaboration Discovery and Planning	40.070	2430219	-	17,690
CCF: EAGER: DeepGreen: Modeling and Boosting Accelerated Computing on Liquid Immersion Cooled HPC Systems	47.070	1942182	-	14,651
CCRI: MEDIUM: Collaborative Research: F1/10 RACECAR: Community Platforms for Safe, Secure and Coordinated Autonomy	47.070	1925500	-	(6,207)
CDS&E: HAM3R: Heterogeneous Automated Management of Multiscale Methods and Resources	47.070	2204011	-	213,222
CDS&E: HAM3R: Heterogeneous Automated Management of Multiscale Methods and Resources - REU Supplement	47.070	2204011	-	7,408
Characterizing Inclusive Strategies that Retain Black Students in Computer Science to Graduation and Beyond	47.076	2111354	20,283	66,615
Characterizing Inclusive Strategies that Retain Black Students in Computer Science to Graduation and Beyond	47.076	2111354	-	11,300
Charge Transporting Supramolecular pi-Donor/Acceptor Arrays Based on Redox-Active Metallacycles, Metal-Organic Cages, and Daisy-Chain Coordination Polymers	47.049	2203985	-	172,948
CHS: Small: Investigating the Characteristics of User Representations and Long-Term Experiences in Personal Space Depth Perception in Virtual Reality	47.070	2007435	-	64,269
CICI: UCSS: Human-Centered Cybersecurity in Robotic Surgery (HCCRS) - Coordinating the Human and Cyber Infrastructure for Cybersecurity	47.070	2319891	-	89,447
CICI: UCSS: Maximizing Data Utility and Participant Privacy through Usable, Secure Data Workflows for Human-Centered AI Research				
REU Supplement	47.070	2232690	-	12,046

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
CICI: UCSS: Maximizing Data Utility and Participant Privacy through Usable, Secure Data Workflows for Human-Centered				
AI Research	47.070	2232690	30,278	199,905
CIF: Single-Particle Measurements of Soot and Incandescing Aerosol	47.050	2113160	-	56,377
CIF: Small: Deep Stochasticity for Private Collaborative Deep Learning	47.070	2215088	-	121,279
CIF: Small: Ensuring Accuracy in Differentially Private Decentralized Optimization	47.070	2334449	-	37,134
CNS Core: Small: PilotPC: Proactive Inverse Learning of Network Topology for Predictive Communication among Unmanned Vehicles	47.070	2204721	-	91,555
CNS Core: Small: PilotPC: Proactive Inverse Learning of Network Topology for Predictive Communication among Unmanned Vehicles - REU Supplement	47.070	2204721	-	200
CNS Core: Small: Privacy-Preserving On-Device Intelligence in the IoT Era - Transfer proposal	47.070	2444389	-	50,791
Collaborative Proposal: Response of mercury cycling to disturbance and restoration of low-gradient forested watersheds	47.050	1852020	-	22,130
Collaborative Research: Advancing Chemical Separation Simulations: Computational Algorithms and Optimization with Implicit Adsorption Isotherms	47.049	2011902	-	13,533
Collaborative Research: Advancing Theoretical Understanding of Accelerated Nonlinear Solvers, with Applications to Fluids	47.049	2011490	-	2,499
Collaborative Research: ANSWERS: Impacts of Atmospheric Waves and Geomagnetic Disturbances on Quiet-Time and Storm-Time Space Weather	47.050	2149695	-	45,974
Collaborative Research: CCRI: New: A Research News Recommender Infrastructure with Live Users for Algorithm and Interface Experimentation	47.070	2232552	-	73,192
Collaborative Research: CCRI: NEW: Building a Batteryless Computing Community through Access to Education, Testbeds, and Tools	47.070	2235002	-	260,665
Collaborative Research: CDS&E: Charge-density based ML framework for efficient exploration and property predictions in the large phase space of concentrated materials	47.049	2302763	-	97,984
Collaborative Research: CEDAR--Experimental and Theoretical Investigation of Midlatitude Ionospheric Instability	47.050	2012994	-	14,003
Collaborative Research: CIF: Medium: Harnessing Intrinsic Dynamics for Inherently Privacy-preserving Decentralized Optimization	47.070	2106293	-	92,233
Collaborative Research: CIF: Medium: Harnessing Intrinsic Dynamics for Inherently Privacy-preserving Decentralized Optimization (REU Supplement)	47.070	2106293	-	5,280
Collaborative Research: CIRC: Planning-C: Building a Safer Cyberspace by Creating a Centralized Research Infrastructure to Track and Mitigate Privacy Harms	47.070	2346283	-	3,481
Collaborative Research: CISE MSI: RDP: NeTS: Enabling Spectrum-Efficient Wireless Coexistence for Heterogeneous IoT over 2.4GHz: A Hardware Software Framework Co-Design	47.070	2431440	-	20,328

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
Collaborative Research: CISE-MSI: DP: CCF: SHF: MSI/HSI				
Research Capacity Building via Secure and Efficient Hardware				
Implementation of Cellular Computational Networks	47.070	2131070	-	13,482
Collaborative Research: CISE-MSI: DP: CCF: SHF: MSI/HSI				
Research Capacity Building via Secure and Efficient Hardware				
Implementation of Cellular Computational Networks	47.070	2131070	-	251
Collaborative Research: CISE-MSI: DP: CCF: SHF: MSI/HSI				
Research Capacity Building via Secure and Efficient Hardware				
Implementation of Cellular Computational Networks	47.070	2131070	-	490
Collaborative Research: CISE-MSI: DP: CCF: SHF: MSI/HSI				
Research Capacity Building via Secure and Efficient Hardware				
Implementation of Cellular Computational Networks - Supplemental	47.070	2131070	-	14,299
Collaborative Research: CISE-MSI: DP: IIS RI: Research Capacity Expansion via Development of AI Based Algorithms for Optimal				
Management of Electric Vehicle Transactions with Grid	47.070	2318612	-	132,513
Collaborative Research: CNS Core: Small: Scalable, Flexible, and				
Dependable Architecture Design for Heterogeneous Internet of Things	47.070	2008049	-	111,654
Collaborative Research: Concentration Polarization Induced				
Electrokinetic Flows around Dielectric Surfaces	47.041	2127825	-	34,757
Collaborative Research: Conference: A Planning Workshop for the				
Advocacy Building Campaign for EER (ABC for EER)	47.041	2444574	-	18,363
Collaborative Research: Conference: A Planning Workshop for the				
Advocacy Building Campaign for EER (ABC for EER)	47.041	2444574	-	2,064
Collaborative Research: CPS: Medium: Wildland Fire Observation,				
Management, and Evacuation using Intelligent Collaborative				
Flying and Ground Systems	47.070	2204445	18,867	181,505
Collaborative Research: CPS: Medium: Wildland Fire Observation,				
Management, and Evacuation using Intelligent Collaborative				
Flying and Ground Systems - REU Supplement	47.070	2204445	-	2,250
Collaborative Research: Creativity in Teams : Identifying the Role				
of Meetings in Fostering Effective Cognitive and Social				
Processes in Teams	47.075	1951298	-	4,542
Collaborative Research: CSSI Frameworks/Software: Future				
proofing the finite element library deal.II - development and				
community building	47.041	2015848	-	67,283
Collaborative Research: CyberTraining: Implementation: Small:				
Inclusive Cyberinfrastructure and Machine Learning Training to				
Advance Water Science Research	47.070	2320979	12,123	100,550
Collaborative Research: CyberTraining: Implementation: Small:				
Inclusive Cyberinfrastructure and Machine Learning Training to				
Advance Water Science Research (REU Supplement)	47.070	2320979	-	12,155
Collaborative Research: Development and Application of a				
Framework for Integrated Geodynamic Earth Models	47.050	1925575	-	71,860
Collaborative Research: Distributed Predictive Control of Cold				
Atmospheric Microplasma Jet Arrays for Materials Processing	47.041	2302219	-	55,693
Collaborative Research: Distributed Predictive Control of Cold				
Atmospheric Microplasma Jet Arrays for Materials Processing	47.041	2302219	-	6,967

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
Collaborative Research: DMREF: Accelerating Adoption of Sintering-Assisted Additive Manufacturing Using Integrated Experiments, Theory, Simulation and Data Science	47.049	2119833	-	113,849
Collaborative Research: Dynamic Data Analytics for the Power Grid via Koopman and PerronFrobenius Operators	47.041	2031573	-	77,621
Collaborative Research: EAGER: SaTC-EDU: Learning Platform and Education Curriculum for Artificial Intelligence-Driven Socially- Relevant Cybersecurity	47.076	2114920	-	7,134
Collaborative Research: Elements: SciMem: Enabling High Performance Multi-Scale Simulation on Big Memory Platforms	47.070	2103967	-	64,350
Collaborative Research: Elucidating the chemical plasticity of fine roots in response to soil heterogeneities and developing a better parameter to forecast fine root decomposition	47.074	1754679	-	148
Collaborative Research: Emergency Response in the Arctic (ERA): Investments for Global Capabilities and Local Benefits (Transfer from RPI)	47.041	2106726	-	1,822
Collaborative Research: Exascale supercomputing: Tracing the socio-technical alliances that enable big science	47.075	2419816	-	22,130
Collaborative Research: GEM: The Electrodynamic Properties of Mesoscale Auroral Forms	47.050	2400364	-	30,905
Collaborative Research: HCC: Small: Future Proofing for Changing Abilities with Dementia using Embodied Objects as Assistive Technologies	47.070	2433349	-	922
Collaborative Research: HCC: Small: Robot-Rooms: Giving Form to Domestic Activity, On the Go	47.070	2221126	-	11,242
Collaborative Research: High-Throughput Exploration of Microstructure-Sensitive Design for Steel Microstructure Optimization to Enhance its Corrosion Resistance in Concrete	47.041	2221098	-	73,232
Collaborative Research: High-Throughput Exploration of Microstructure-Sensitive Design for Steel Microstructure Optimization to Enhance its Corrosion Resistance in Concrete	47.041	2221098	-	5,000
Collaborative Research: Ideas Lab: The Role of Extracellular RNA in Intercellular and Interkingdom Communication	47.074	2243535	-	66,268
Collaborative Research: IMPLEMENTATION: EVOLVED - Embedding a Vision to Operationalize, Lift up, and Value Equity and Diversity in the Consortium of Aquatic Science Societies	47.074	2233789	-	166,113
Collaborative Research: Improved Geochronology-Based Sediment Provenance Analysis Through Physico-Mechanical Characterization of Zircon Transport	47.050	1946496	-	79,974
Collaborative Research: Integrated Photonic Physical Unclonable Functions for Optoelectronic Hardware Security	47.041	2413234	-	23,881
Collaborative Research: IRNC: Testbed: FAB: FABRIC Across Borders	47.070	2029260	-	30,273
Collaborative Research: ISS: Marangoni-Driven Propulsion, Assembly, and Disassembly along Curved Interfaces and Membranes	47.041	2449625	-	13,607
Collaborative Research: Laboratory Data Enabled Phase Field Modeling and Data Assimilation for Coupled Two-Phase Fluid Flow and Porous Media Flow	47.049	2152623	-	52,868

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
Collaborative Research: MIM: The impact of the fungal microbiome in metal tolerance and soil biogeochemical transformations	47.074	2517999	-	153,080
Collaborative Research: MoDL: Graph-Optimized Cellular Connectionism via Artificial Neural Networks for Data-Driven Modeling and Optimization of Complex Systems	47.041	2234032	-	66,164
Collaborative Research: MRA: Scale, Space, and Time: A Unifying Approach to Aquatic Invasions	47.074	2017795	-	64,273
Collaborative Research: Network Cluster: Bedrock controls on the deep critical zone, landscapes, and ecosystems	47.050	2012227	-	18,188
Collaborative Research: ORCC: Integrating leaf metabolomics and tree demographic models to understand climate change impacts on forests in the Rockies and Smokies	47.074	2412076	-	13,406
Collaborative Research: Paleoclimatic and tectonic forcing on Neogene sedimentation changes in the Beaufort-Mackenzie Basin	47.050	2418082	-	6,038
Collaborative Research: Plant-Inspired Growing Robots Operating in Multiple Time Scales	47.041	2312423	-	6,191
Collaborative Research: PM: High-Z Highly Charged Ions Probing Nuclear Charge Radii, QED, and the Standard Model	47.049	2309273	-	153,354
Collaborative Research: Practices and Research on Student Pathways in Education from Community College and Transfer Students in STEM (PROSPECT S-STEM)	47.076	2138066	-	40,556
Collaborative Research: RAPID: The Role and Effectiveness of Instructional Risk and Crisis Biosecurity Recommendation Messages during the H5N1 Dairy Crisis	47.075	2434992	-	36,773
Collaborative Research: Rational Design and Mechanistic Understanding of Carbon-Based Hybrid Nanostructures for Potent Microbicidal Function	47.049	2102021	-	112,096
Collaborative Research: Research Initiation: Applying Inclusive Teaching Strategies to Promote Cognitive Belonging and Engagement in an Architectural Engineering Course	47.041	2407014	-	34,917
Collaborative Research: Resource Collaborative for Immersive Technologies (RECITE)	47.076	2331453	-	227,359
Collaborative Research: Revolutionizing Electric Vehicle Education	47.076	2202134	-	75,470
Collaborative Research: Revolutionizing Electric Vehicle Education - REU Supplement	47.076	2202134	-	(6,814)
Collaborative Research: Revolutionizing Electric Vehicle Education - REU Supplement	47.076	2202134	-	25,727
Collaborative Research: RI: Small: Motion Fields Understanding for Enhanced Long Range Imaging (REU Supplement)	47.070	2232298	-	7,003
Collaborative Research: RI: Small: Motion Fields Understanding for Enhanced Long-Range Imaging	47.070	2232298	-	38,190
Collaborative Research: SAI-R: Integrative Cyberinfrastructure for Enhancing and Accelerating Online Abuse Research	47.075	2228616	-	77,889
Collaborative Research: Semiparametric and Reinforcement Learning for Precision Medicine	47.049	2210658	-	18,458
Collaborative Research: SHF: Medium: Heterogeneous Architecture for Collaborative Machine Learning	47.070	2426318	29,923	197,904

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
Collaborative Research: SHF: Medium: Towards Harmonious Federated Intelligence in Heterogeneous Edge Computing via Data Migration	47.070	2312616	-	109,843
Collaborative Research: SHF: Small: Access Patterns in Massive Parallelism: Abstractions and Oriented Unified Memory Management for GPU Accelerated Systems	47.070	2350323	-	27,902
Collaborative Research: SHF: Small: Artificial Intelligence of Things (AIoT): Theory, Architecture, and Algorithms	47.070	2427316	-	105,923
Collaborative Research: Student Pathways in Engineering and Computing for Transfer Success	47.076	1834081	-	809,577
Collaborative Research: Superinvaders: testing a general hypothesis of forest invasions by woody species across the Americas	47.074	2331276	-	101,359
Collaborative Research: SWIFT: LARGE: AI-Enabled Spectrum Coexistence between Active Communications and Passive Radio Services: Fundamentals, Testbed and Data	47.070	2202972	-	58,029
Collaborative Research: SWIFT: LARGE: AI-Enabled Spectrum Coexistence between Active Communications and Passive Radio Services: Fundamentals, Testbed and Data REU Supplement	47.070	2202972	-	3,000
Collaborative Research: Theoretical and observational investigations of multi-point Monin-Obukhov similarity in the convective atmospheric surface layer	47.050	2054983	-	267,439
Collaborative Research: Unlocking the evolutionary history of Schiedea (carnation family, Caryophyllaceae): rapid radiation of an endemic plant genus in the Hawaiian Islands	47.074	2426560	-	11,077
Collaborative Research: Variational Quantum Technology for Seamless Transition Between Grid-Following and Grid-Forming Controls for Inverter-Based Resources	47.041	2413238	-	82,765
Collaborative Research: CISE-MSI:DP:CNS:Adaptive Multi-Tiered, Multi-Task Base Station Infrastructure For Communication-Denied Environments	47.070	2318726	-	24,742
Colloidal Transport, Self-Assembly, and Deposition in Evaporating Droplets	47.041	2449624	-	17,037
Comparative Biomechanics of Hawk Moths with Minute to Giant Proboscises and Diverse Feeding Habits	47.074	2042937	-	94,908
Computational Methods for Large Algebraic Eigenproblems with Special Structures	47.049	2111496	-	44,071
Computing the electromagnetic and gravitational wave signatures of black hole binaries	47.049	2408034	-	38,298
Conference: 2024 ENVR Workshop "Spatial Data Science for the Environment"	47.049	2427399	-	21,972
Conference: CBMS Conference: Inverse Problems and Nonlinearity	47.049	2329399	-	17,466
Conference: Southeastern Number Theory Meetings	47.049	2302340	-	4,484
Conference: The eleventh annual graduate student mini-conference in computational mathematics	47.049	2349950	-	3,927
Control Theory, Qualitative Analysis, and Approximation of Coupled Structure-Flow Interaction Systems	47.049	2348312	-	62,735

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
Controlled Fragmentation of Polyolefinic Materials triggered by Microwave Irradiation	47.083	2134564	-	110,613
CPS: DFG Joint: Medium: Collaborative Research: Perceptive Stochastic Coordination in Mass Platoons of Automated Vehicles	47.070	2302215	-	191,203
CRII: CNS: IoT-aware Federated On-Device Intelligence	47.070	2418308	-	105,925
Designing Learning Technology Environments for Middle School Students to Analyze and Interpret Data Visualizations	47.076	2327465	-	159,750
Developing a Framework for Assessing Identity Development, Retention and Success of STEM Social and Behavioral Scientists (STEM-SBS): The Case of Sociology	47.076	2200695	180,264	301,312
D-ISN/Collaborative Research: Mitigating the Harm of Fentanyl through Holistic Demand/Supply Interventions and Equitable Resource Allocations	47.041	2240360	-	195,834
D-ISN: TRACK 1: Modeling Effective Network Disruptions for Human Trafficking	47.041	2039584	96,935	161,990
D-ISN: TRACK 1: Modeling Effective Network Disruptions for Human Trafficking REU Supplement	47.041	2039584	-	4,600
Domain Decomposition Methods for Coupled Models of Non-Newtonian Fluids and Solid Structures	47.049	2207971	-	72,065
EAGER: Experimental investigation of physical-space scalar structure and unresolved mixing to improve large-eddy simulation of turbulent combustion	47.041	2208136	-	100,190
EAGER: Mechanistic and Stability Studies over Dual-Function Materials for CO2 Capture and Conversion	47.041	2327505	-	96,520
EAGER: Mechanistic and Stability Studies over Dual-Function Materials for CO2 Capture and Conversion - REU Supplement	47.041	2327505	-	5,985
EAGER: Towards Sustainable Industry Expansion via Computing Revitalization	47.070	2427875	-	47,522
Early-Stage Clinical Trials with Patient Choice	47.041	2308750	-	143,285
Electrically Conductive 2D Metal-Organic Frameworks and Covalent Organic Frameworks Featuring Built-in Alternating pi-Donor/Acceptor Stacks with Efficient Charge Transport Capacity	47.049	2321365	-	21,571
Electrically Pumped, Spin Polarized Perovskite Laser Diodes	47.041	2304364	-	79,883
Embodied Sensing and Control in Fish-like Swimming Robots via Passive Degrees of Freedom	47.041	2021612	-	32,332
Encrypted Control for Privacy Preserving and Securing Cyber-physical Systems	47.041	1912702	-	84,987
EPSCoR Research Fellows: NSF: Origin of Radiation Tolerance of Additive Manufacturing Single-phase Concentrated Solid-solution Alloys	47.083	2429708	-	47,848
ERI: Enhancing Life-cycle Resilience of Cable-Stayed Bridges to Extreme Winds through Aero-Structural Optimization	47.041	2503131	-	54,309
Examining the Role of District Science Coordinator Professional Learning in Supporting and Retaining Science Teachers	47.076	2150781	93,459	227,494
Excellence in Research: Combustion of Bio-derived Isobutanol as an Emerging Fuel for Improved Fuel Efficiency and Economy	47.041	2349193	-	153,058
Experimental Design, Uncertainty Quantification and Decision Making for Complex Systems	47.049	2413630	-	1,076

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
Exploring and Solidifying Functional Calibration of Computer Models	47.083	2210686	-	62,898
Exploring the Strategies Used by Two-year Colleges to Support Academic Continuity in STEM Education During the COVID-19 Crisis	47.076	2037809	-	2,616
FRR: Collaborative Research: Collaborative Learning for Multi-robot Systems with Model-enabled Privacy Protection and Safety Supervision	47.070	2219487	-	104,148
FRR: Collaborative Research: Collaborative Learning for Multi-robot Systems with Model-enabled Privacy Protection and Safety Supervision (REU Supplement) for 2015632	47.070	2219487	-	1,920
FW-HTF: Whole-body Exoskeletons for Advanced Vocational Enhancement (WEAVE)	47.075	2242610	158,607	165,299
FW-HTF-P: Adapting to the Future of Robotic Surgery: Understanding Training and Design Environments for Human-Robot Teams	47.041	2222806	-	12,720
FW-HTF-RL/Collaborative Research: The Future of Aviation Inspection: Artificial Intelligence and Mixed Reality as Agents of Transformation	47.041	2326185	30,000	314,972
FW-HTF-RL: Preparing the Future Workforce for the Era of Automated Vehicles	47.075	2041215	110,804	342,141
FW-HTF-RM: Collaborative Research: Future of Construction Work at the Human-Technology Frontier	47.070	1928527	-	5,273
FW-HTF-T/Collaborative Research: Occupational Exoskeletons and the Human-Technology Partnership: Achieving Scale and Integration into the Future of Work-	47.041	2202862	427,957	745,488
Gaps, Cavities, and Vortices: Carving Disks with Planets and Radiation	47.049	2407671	-	83,035
GOALI/Collaborative Research: Control-Oriented Modeling and Predictive Control of High Efficiency Low-emission Natural Gas Engines	47.041	2302217	-	8,463
GOALI: Leveraging the interconnectedness between mass transfer and cell metabolism for process control of mammalian cell fed-batch and perfusion cultures	47.074	2346669	-	284,666
GRFP - Adam Haberski	47.070	1744593 & 2139915	-	(16,737)
GRFP - Arabella Rose Hunter	47.076	2139915	-	56,718
GRFP - Cierra Sullivan	47.076	2139915	-	(26,767)
GRFP - Deyrel Diaz	47.076	2139915	-	(16,214)
GRFP - Kelli McCourt	47.041	1744593 & 2139915	-	(16,124)
GRFP - Miranda Grice	47.076	2139915	-	55,325
HCC: Medium: Investigating the Feasibility of Object Recognition Systems Providing Individuals with IDD with Workplace Task Support	47.070	2402517	-	68,430
HCC: CAREER: Redefining Skill Requirements and Evaluating Interaction Dynamics in Human-Robot Surgical Teams	47.083	2340184	-	94,128
HCC: Small: Harnessing Cognitive Engagement Tasks to Counteract Cybersickness in VR	47.070	2422718	-	27,350
HCC: Small: Mitigating Online Risks: Designing Social VR to Prevent New Forms of Online Harassment	47.070	2112878	-	66,478
HCC: Small: Towards Leveraging Generative AI to Support End-User Driven Creative Workforces in Technology	47.070	2342393	-	75,210
High Throughput Purification and Quantification of Bionanoparticles on Capillary-Channelled Fiber Stationary Phases	47.049	2107882	-	68,816

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
Hydraulics of insect antennae enabling actuation and control	47.074	2422802	-	71,681
IGE: Track 2: EDU EPSCoR DCL: EMPOWERS: Elevating Mentoring Practices for Optimal Work-life balance in Education and Research in STEM Graduate Studies	47.076	2429719	-	155,334
IGE: Track 2: EDU EPSCoR DCL: EMPOWERS: Elevating Mentoring Practices for Optimal Work-life balance in Education and Research in STEM Graduate Studies	47.076	2429719	-	6,205
Immersive Learning Technologies: Expanding Access Through Open-Source Innovation	47.076	2435349	-	41,843
Improving Engineering Student Engagement, Self-Efficacy, Diversity Awareness, and Retention Using Visualization and Virtual/Augmented Reality Technologies	47.076	2451819	-	81,832
Inclusive Data Science Education for Rural Elementary Students: A Research Practice Partnership for Agile Learning	47.076	2031175	20,712	30,074
Investigating Family Science Habitus and Science Capital to Support the Language of Possibility Around Science	47.076	2225149	-	152,121
IRES: Track 1: Self-Healable Materials Development	47.079	1952528	-	54,135
IUCRC Phase II+ Clemson University: Advanced Mammalian Biomanufacturing Innovation Center (AMBIC)	47.041	2100442	-	97,157
Lattice Reduction in Cryptography and Number Theory	47.049	2336000	-	49,940
Low Dimensional Transition Metal Oxyanion Multiferroics	47.049	2219129	-	137,002
LSAMP BD: Clemson University, LS SCAMP	47.076	2005030	-	5,483
Machine Learning and Multi-omics Network Approaches to Predict Protein Functions in Arabidopsis	47.074	2514459	-	119,299
MCA: Problem-Based Learning for Warehousing and Order Fulfillment	47.076	2322250	-	78,202
Mesoscale Modeling of Controlled Degradation and Erosion of Polymer Networks on Abbreviation	47.049	2110309	-	176,763
Modifying the floral microenvironment: elevational divergence in floral thermoregulatory mechanisms	47.074	2015459	-	18,684
MRI: Development of Enodia: A Highly Reconfigurable, HPC-Backed Instrument Enabling Multifaceted Interactive Visualization	47.070	1828611	-	13,876
MRI: Track 1 Acquisition of a 500 MHz Solid-State NMR Spectrometer for Research and Education	47.049	2407820	-	599,947
MTM2: Drivers of functional redundancy across microbiomes	47.074	2025541	-	404,634
MTM2: Drivers of functional redundancy across microbiomes	47.074	2025541	-	82,049
MTM2: Drivers of functional redundancy across microbiomes	47.074	2025541	-	29,702
NRT: Technology-Human Integrated Knowledge Education and Research (THINKER)	47.076	1829008	-	30,815
NRT-AI: Harnessing AI for Inverse Design Training in Advanced and Sustainable Composites (IDeAS Composites)	47.076	2244342	190,341	324,016
NSF GRF J Murray	47.041	2139915	-	59,435
OAC Core: Redefining efficient mesh processing with dynamic data provisioning	47.070	2403022	-	109,742
Particle Electrokinetics in Non-Newtonian Microfluidics	47.041	2100772	-	100,688
Performance Guarantees for Electric Vehicle Fast Charging Station Management	47.041	2312196	-	186,654

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
PFI-TT: High Performance Pressure Sensors for High Temperature Operations	47.041	2234512	-	37,546
PFI-TT: High Performance Pressure Sensors for High Temperature Operations	47.084	2234512	-	130,977
PFI-TT: High Performance Pressure Sensors for High Temperature Operations - REU Supplement	47.084	2234512	-	858
PFI-TT: Microwave Technology for Single Cell Measurement and Characterization of High-Performing and Stable Hamster Ovary Cells	47.084	2414973	-	16,291
PIRE: Climate Resilient Sustainable Food Production: Controlled Environment Hydroponic Agriculture with Novel Wastewater Treatment & Reuse	47.079	2230696	-	499,017
Planning: CHIRRP: Building Collaborations and Capacity to Address Climate Hazards in the Southeast U.S	47.050	2435073	-	24,555
Preparing High School Students with Autism for the Future of Remote Software Development Work	47.076	2148720	-	133,625
PROMISE: Postdoctoral Research Opportunities and Mentoring for Inclusive STEM Education	47.076	2329538	-	515,357
QuIC-TAQS: Voltage-Tunable Hybrid Microwave-Acoustic Interconnects for Multi-modal Quantum Memories	47.049	2137776	475,791	600,482
RAPID: A comparison of acute heat stress and fish abundance influencing coral survival.	47.050	2347805	-	40,508
Covid-19 RAPID: Archiving and Contextualizing Data around Academic Program Delivery during the Covid-19 Pandemic	47.041	2135089	-	36,519
RAPID: Data Collection on Electric Power Restoration Timelines and Factors Affecting Them in the Aftermath of Hurricane Helene in Upstate South Carolina Region	47.041	2503593	-	46,972
RAPID: Relocate or Rebuild: Key Triggers of Household Decisions after Hurricane Helene	47.041	2512240	-	22,025
Research Administration Capacity Heightening in South Carolina (REACH-SC)	47.083	2420719	-	214,278
Research Initiation: Cultivating Global Engagement in Bioengineering Education	47.041	2407457	-	65,077
Research Initiation: Improving engineering mechanics self-efficacy by focusing on abstracting the physical world as a precursor to analysis	47.041	2306156	-	102,842
RET Site: Engaging and Enabling Teachers through Advanced Manufacturing Research	47.041	2206962	-	125,577
REU Site at Clemson, IMPRESS (IMPlanting the ResEarch Seed in Students)	47.049	2050042	-	2,051
REU Site at Clemson, IMPRESS (IMPlanting the ResEarch Seed in Students)	47.049	2050042	-	1,937
REU Site: Computational Number Theory	47.083	2349174	-	50,471
REU Site: Human-Centered Operations Research and Engineering (H-CORE)	47.041	2348774	-	90,057
REU Site: Nature's machinery through the prism of Physics, Biology, Chemistry and Engineering	47.076	2349368	-	154,908

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
RII Track 2 FEC: Enabling Factory to Factory (F2F) Networking for Future Manufacturing	47.083	2517774	-	150,391
RII Track-1: ADAPT in SC: AI-enabled Devices for the Advancement of Personalized and Transformative healthcare in South Carolina (Admin)	47.083	2242812	1,576,592	1,692,342
RII Track-1: ADAPT in SC: AI-enabled Devices for the Advancement of Personalized and Transformative healthcare in South Carolina (AI Core)	47.083	2242812	-	87,602
RII Track-1: ADAPT in SC: AI-enabled Devices for the Advancement of Personalized and Transformative healthcare in South Carolina (Ethics)	47.083	2242812	-	98,335
RII Track-1: ADAPT in SC: AI-enabled Devices for the Advancement of Personalized and Transformative healthcare in South Carolina (Gao)	47.083	2242812	-	72,767
RII Track-1: ADAPT in SC: AI-enabled Devices for the Advancement of Personalized and Transformative healthcare in South Carolina (Project 1.)	47.083	2242812	-	106,138
RII Track-1: ADAPT in SC: AI-enabled Devices for the Advancement of Personalized and Transformative healthcare in South Carolina (Project 2.)	47.083	2242812	-	244,603
RII Track-1: ADAPT in SC: AI-enabled Devices for the Advancement of Personalized and Transformative healthcare in South Carolina (Project 2.)	47.083	2242812	-	41,658
RII Track-1: ADAPT in SC: AI-enabled Devices for the Advancement of Personalized and Transformative healthcare in South Carolina (Project 3.)	47.083	2242812	-	64,475
RII Track-1: ADAPT in SC: AI-enabled Devices for the Advancement of Personalized and Transformative healthcare in South Carolina (Thrust 1 Lead)	47.083	2242812	-	13,478
RII Track-4: Controlling Point-Defect Energetics in Complex Oxides Via Interfacial Strain	47.083	2245128	-	3,861
RII Track-4: NSF: One-Stage Electrocatalytic CO ₂ Reduction by Using Captured (bi)Carbonate Ions as the Feedstock	47.083	2327308	-	111,776
RII Track-4: NSF: Coupling Magnetism and Photoluminescence in New Lanthanide Materials	47.083	2227933	-	48,856
RII Track-1: AI-enabled Devices for the Advancement of Personalized and Transformative Healthcare in South Carolina	47.083	2242812	-	100,945
RII-BEC: Bridging Collaboration Across South Carolina Academic Institutions to Support Underserved and Underrepresented Community Needs	47.083	2225816	24,000	198,550
SAI-P: Coupling Regional Economic Development with Transportation Planning for Sustainable Emerging Cities	47.075	2228555	-	12,570
SaTC: CORE: Medium: Collaborative: Cryptographic Provenance for Digital Publishing	47.070	1940679	-	49,738
SaTC: CORE: Medium: Collaborative: Cryptographic Provenance for Digital Publishing	47.070	1940679	-	9,534
SCC-PG: Just in Time Intervention for Patients with Chronic Heart Diseases in Arizona Tribes	47.070	2213915	-	17,081
SCH: INT: Collaborative Research: An intelligent Pervasive Augmented reality therapy (iPAL) for Opioid Use Disorder and Recovery	47.070	2019389	32,034	36,591
Self-Healable Thermoplastic Copolymers	47.049	2003005	-	235,836
The Center for Aviation and Automotive Technological Education using ELearning: Providing E-learning Resources and Increasing Knowledge about Their Effectiveness	47.076	2033801	123,494	711,287

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
TRIAGE: Techniques for Resolving Intragroup Conflict to Advance Graduate Education	47.076	2325521	-	180,576
Ultrafast Electroluminescence Spectroscopy for Transient Charge and Exciton Dynamics in Halide Perovskites and Heterojunctions	47.049	2403802	-	88,605
Uncertainty Principles in Reproducing Kernel Hilbert Spaces	47.049	2000236	-	4,680
Understanding the role of attention control in human-autonomy collaboration	47.075	2421062	-	85,547
Unified Approach to the Isolation and Purification of Diverse Bionanoparticles on Capillary-Channelled Polymer Fiber Phases	47.083	2404088	-	98,650
Urbanization and Rural Land Rights Negotiations	47.075	1918352	-	81,313
Using Storytelling and a Justice Oriented STEM After-School Club as Critical Tools for Cultivating African American Youths' STEM Identities	47.076	2214740	113,384	560,258
Using Whiptail Lizards to Understand the Integration of Environmental and Host Genetic Effects on Host-Associated Microbiota	47.074	2105604	-	95,002
What Leads to Better Outcomes in Informal STEM-based Environmental Education Programs for Youth?	47.076	1906610	94,887	274,837
Pass-Through Programs From:				
American Society for Engineering Education				
Engineering Fellows Postdoctoral Fellowship Program	47.041	769-2100	-	14,448
Arizona State Univ.				
FuSe-TG: STAMPEDE: Scalable Technology And Manufacturing of Photonics for Extreme information-Density	47.041	ASUB00001356	-	44,923
Benanova, INC				
Bioinspired Scalable Colloidal Materials for Improving Crop Productivity on the Path to Climate Smart Sustainable Agriculture	47.084	none	-	72,174
Benedict College				
CISE-MSI: DP: CPS: Statistical and Artificial Intelligence-based Cyberattack Detection Models for Connected Vehicles	47.070	20-88162	-	50,310
Excellence in Research: Securing Machine Learning Against Adversarial Attacks for Connected and Autonomous Vehicles	47.083	20-88882-11410	-	60,202
Columbia University				
RAISE: CET: Building the Fusion Future - Identifying and Bridging the Workforce Gap for the Emergent Fusion Energy Industry	47.041	2(GG019949-01) / SAPO#: G19120	-	12,024
Francis Marion University				
Equipment: AGS-FIRP Track 1-Introduction to Aerosol Sampling Using Single Particle Soot Photometer	47.050	25-001	-	530

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
Iowa State Univ.				
SAI-R: Community-centered Decision-making Framework for Microgrid Deployment to Enhance Energy Justice and Power System Resilience	47.075	026308B	-	85,950
Mid-scale RI-1 (M1:DP): National Testing Facility for Enhancing Wind Resiliency of Infrastructure in Tornado-Downburst-Gust				
Front Events (NEWRITE)	47.083	028092D	-	67,971
Johns Hopkins University				
2021-26: Deep Learning Framework for Training Set Reduction during Data-driven Media Optimization	47.041	2005426019	-	20,954
IUCRC Phase II+: Johns Hopkins University: Advanced Mammalian Biomanufacturing Innovation Center (AMBIIC)	47.041	2005820961	-	77,043
2022-09: Model-driven metabolic control in CHO cell perfusion bioreactors	47.041	2005900211	-	77,686
IU2022-S2: Non-invasive classification and selection of CHO Cells 2024-S01 In Situ Monitoring of CHO Cell Stress for Enhanced Biopharmaceutical Production	47.041	2006015990	-	9,684
2024-03 Process Intensification via Lower Perfusion Rates	47.041	2006431293	-	16,882
2024-S30: Deep Learning Driven Process Analytics for Real-Time Control of Product Quality Attributes	47.041	2006436914	-	37,772
Massachusetts Institute of Technology				
RINGS: Coding, High-Frequency and Antennas for Post-Quantum Security (CHAPS)	47.070	S6147 / PO # 999015	-	58,390
Montana State University				
MCA: Concept Mapping for Improved Technical Communication in Undergraduates (Commit-U)	47.076	G213-24-WA608	-	3,455
North Carolina State University				
STC: Science and Technologies for Phosphorus Sustainability (STEPS) Center	47.041	PAM-P20-000165-SA09	-	16,714
Northern Arizona University				
Collaborative Research: CCRI: New: Distributed Sensing & Computing Over Sparse Environments (DISCOVER) Platform	47.070	1004978-01 / PO 2A00125950	-	110,252
Piedmont Technical College				
Towards an Electric Vehicle Service Technology Certificate: Building Career Pathways by Implementing a Hybrid Curriculum in Electric Vehicle Technology	47.076	59123-01	-	18,041
Purdue Univ.				
Research: Collaborative Research: Sustaining and Scaling the impact of the MIDFIELD project at the American Society for Engineering Education	47.041	10001998-023	-	42,130

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
Rice University SAI: Large-scale Planning for Electric Vehicle Public Charging Infrastructure	47.075	X03186673	-	6,092
SC State Univ. Building an MMA Research and Education Partnership that Creates Pathways to Astronomy Careers from Two HBCUs	47.049	24-586033-BAPS-CU-SC/PO # P2401137	-	24,473
Sentec LLC STTR Phase I: High Temperature Pressure Sensor for Process Monitoring	47.084	CU2507745-1	-	1,533
Tennessee Tech University CC* Integration-Large:Prototyping a Secure Distributed Storage Infrastructure Accelerating Big Science	47.070	BL149555823	-	35,240
The Citadel MCA - Exploring Algal Carbon Capture Potential in High pH Laboratory and Field-Scale Systems	47.050	321307-01-00 / 2219258	-	40,143
Univ. of Arkansas RII Track-2 FEC: Membrane Purification Platform for Continuous Biomanufacturing of Viral Vectors and Virus-like...	47.083	UA2023-337 / SPC-006458	-	337,848
Univ. of California Davis Facility: Computational Infrastructure for Geodynamics	47.050	A23-0097-S005 / UCDPO00023911	-	29,902
Univ. of Georgia Science Coordinators Advancing a Framework for Outstanding Leadership Development (SCAFFOLD)	47.076	SUB00002448	-	(1)
Univ. of Kentucky RII Track-2 FEC: A Multiscale, Multiphysics Modeling Framework for Genome-to-Phenome Mapping via Intermediate Phenotypes	47.070	3200002098-19-053 / PO 7800004458	-	5,010
Univ. of Miami AccelNet-Implementation: Broadening Carbon Ring	47.079	OS00001451/SPC-003487	-	54,156
Univ. of Michigan OSIB: Co-Evolutionary Dynamics of Pathogen Virulence and Host Resistance: Lessons from Fusarium Oxysporum-Infested Cotton Fields	47.074	SUBK00023642 / PO# 3008501855	-	2,401
Univ. of Minnesota CRISES: Human-Centered Action Research to Disrupt Trafficking (HART)	47.075	SUBA0000330-P011727901	-	5,919

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
Univ. of Nebraska - Lincoln				
Achieving Critical Transformations in Undergraduate Programs in Mathematics (ACT UP Math)	47.076	25-0536-0059-005	-	46,740
Univ. of Notre Dame				
SII-Center: SpectrumX - An NSF Spectrum Innovation Center	47.049	204303CU / P2126491	-	42,496
Univ. of South Carolina				
CCI Phase I: NSF Center for Polymers for a Circular Economy (PCE)	47.049	24-5533 PO 2000072668/USC 10013367	-	125,656
CHIRRP: Exploring a Gullah-Geechee Community-Driven Effort to Mitigate Risks and Impacts of Coastal Flooding	47.050	25-5963 / PO 2000078637 / UCS # 10014366	-	270
NSF Engines Development Award: Advancing Cyber Security Technologies for the Maritime System (SC) PO 2000070086 / USC 10012994	47.084	23-5359 PO#2000070086/USC 10012994	-	55,946
Univ. of Utah				
CloudLab Phase III: Expanding the Frontiers of Cloud Computing Through World-Class Community Infrastructure	47.070	10056678-Clemson / PO U000284314	19,519	760,730
CLOUDLAB PHASE-IV: STRENGTHENING A CORE RESOURCE FOR RESEARCH AND EDUCATION	47.070	10072856-01-CLEM / U000519336	-	334,403
Univ. of Wyoming				
Collaborative research: HCC: Small: Robot-Rooms: Giving Form to Domestic Activity, On the Go	47.070	25-0079-A0001-SUB01	-	39,374
University at Buffalo				
NSF Convergence Accelerator Track F: Online Deception Awareness and Resilience Training (DART)	47.084	R1328417	-	49,006
University of Alabama at Birmingham				
RII Track-2 FEC: Interdisciplinary Program of Advancing Climate Extreme Resilience in Soybean (iPACERS)	47.083	000545138-SC001	-	268,112
University of NC-Chapel Hill				
Research Infrastructure: FABRIC Operations - Accelerating Innovation and Research	47.070	5130271	-	178,793
University of North Carolina at Charlotte				
NSF Engines Development Award: Advancing clean energy technologies in the Piedmont region to Generate Innovative New Economic Systems (NC, SC)	47.084	20230177-01-CLE	-	26,969
RESEARCH-PGR: Uncover New Molecular Mechanisms of Cyst Nematode Resistance in Wild Soybean with Systems Biology and Genome Editing	47.074	20230623-01-CLE	-	48,700

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Science Foundation (Continued)				
University of Notre Dame Analysis, Design and System-Level Performance of Repairable Concrete Buckling-Restrained Braced Frames Under Seismic Loads	47.041	204667CU / P2116059	-	82,569
University of Rhode Island SaTC: CORE: Medium: Introducing DIVOT: A Novel Architecture for Runtime Anti-Probing/Tampering on I/O Buses	47.070	8569/062823 / PO# 0000201844	-	26,545
CYPHER: CISE-CCF-SHF: Introducing a New In-Sensor Computing Architecture for Intelligent 3-D Imaging Systems	47.070	9156/012324	-	202,733
Planning_DCL_EPSCOR: CISE Large: Co-FabPro, A Disruptive Approach for Efficient Training of Long-Sequence Machine Learning Models	47.070	10700/121824	-	45,027
Virginia Polytechnic Institute NRI: INT: Collaborative Research: A Robotic Platform for Body-Scale Human Physical Interaction Simulation in Embodied Virtual Reality	47.041	480463-19244	-	75,147
LEAP-HI: Safety and Learning from Errors and Near Misses in the Human-Automation Interaction of Socio-Technical Infrastructure Systems	47.041	480665-19244	-	57,182
Enhancing outdoor informal STEM learning for early adolescent youth through collective evaluation, capacity building, adaptive management, and comparative research	47.076	481384-19244	-	2,128
Winston Salem State Univ. ExpandQISE: Track 2: Expanding Quantum Research and Education at Winston-Salem State University with Research on Hybrid Microwave-Optical Quantum Devices	47.049	211492 A / PO P0028778	-	70,584
Worcester Polytechnic Institute BSCER: Capacity Building for Developing a Troubleshooting Learning Environment	47.076	24482-SUB01	-	22,848
Total National Science Foundation			4,037,073	32,932,013
Veterans Affairs				
Testing a Novel Dry Electrode Headset for Electroencephalograph Telehealth	64.034	PO 5345C1279 or 534D25054	-	32,213
The Health and Mental Health Needs of Rural Veterans and Their Families	64.000	36C24823C0001 PO# 573-C52081 Op Yr 2	-	156,444
Total Veterans Affairs			-	188,657
Institute of Museum & Library Services				
Cooper River Canoe Project	15.929	ST-251081-OMS-21	-	166
The Missing Piece of the Puzzle: A National Workforce Study of Minoritized Academic Library Support Staff	45.313	RE-256719-OLS-24	69,845	125,657
Total Institute of Museum & Library Services			69,845	125,623

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
US Dept. of Housing & Urban Dev.				
Innovative Solutions for Affordable Housing: Exploring Prefabricated Wood Component Use and Adoption in Texas	14.506	RP-24-SC-005	-	6,853
Total US Dept. of Housing & Urban Dev.			-	6,853
Environmental Protection Agency				
Developing Anuran, Avian, Macroinvertebrate, and Vegetative Indices of Biotic Integrity for Isolated Carolina Bays (Regional Wetland Program Development Grants)	66.461	03D15924	-	96,211
Development of a Multi-scale Management Tool for Predicting and Mitigating HABs in Ohio River Watersheds	66.509	83926902	-	48,625
Electrochemical Process for Recovering Nitrogen and Phosphorus from Source-Separated Urine to Reduce Nutrient Loads to Domestic Wastewater Treatment Plants	66.446	84112901	-	232
FY23-24 Clemson University Products	66.708	84070501	74,492	226,146
Pollution Prevention Grant Program	66.708	02D35822	-	152,057
Pollution Prevention Grants Program	66.708	NP-01D16320	-	23,990
Pass-Through Programs From:				
Medical Univ. of SC				
Developing an Integrated Framework for Evaluating Toxicity of Real-Life Chemical Mixtures	66.509	A23-0054-S001	-	51,602
Michigan State Univ.				
Winning the Race Against Competing Risks: Optimizing Drinking Water Disinfection to Minimize Opportunistic Pathogen & DBP Risks	66.511	RC115533CU	-	275,403
S.S. Papadopoulos & Associates, Inc.				
Laboratory Evaluation of Bioremediation for Groundwater at the Lane Street Superfund Site	66.000	none	-	112
SC Dept. of Environmental Services				
EJ Strong PREP: Practicing Risk Reduction Education Through Partnership in South Carolina	66.312	25-222	-	3,979
Total Environmental Protection Agency			74,492	878,357
Nuclear Regulatory Commission				
Coupling Life-Cycle Impact Assessment and Risk Assessment for Sustainability-Informed Decision Making	77.008	31310022M0004	-	35,232
Nuclear Materials Faculty Advancement at Clemson University	77.008	31310024M0037	-	64,461
Tenure-Track Junior Faculty Position in Actinide Chemistry at Clemson University	77.008	31310022M0029	-	175,825
U.S. NRC Fellowship Education Grant at Clemson University	77.008	31310022M0006	-	99,144
Total Nuclear Regulatory Commission			-	374,662

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Energy				
Accelerated Discovery of Protection System and Laser Processing of Protective Coatings on CMC for Hydrogen Turbines	81.089	DE-FE0032231	72,569	125,607
Additive Manufacturing of Circumferentially Embedded Optical Probe Modules for In Situ Monitoring of Coal-Fueled Steam Turbines	81.089	DE-FE0031826	-	217,798
An Entirely Wood Floor System Designed for Biogenic Carbon Storage, Adaptability, and End of Life De/Re/Construction	81.135	DE-AR0001640	-	273,841
An Inverse Design Methodology to Fabricate Low-Cost Agile Tools for Manufacturing Lightweight Automotive Components	81.086	DE-EE0010203	(112)	(112)
Artificially Intelligent Manufacturing Paradigm for Composites (AIM for Composites)	81.049	DE-SC0023389	1,711,297	2,716,967
Artificially Intelligent Manufacturing Paradigm for Composites (AIM for Composites) - New Project is the Participant Support Funds for 2025738	81.049	DE-SC0023389	-	81,240
Artificially Intelligent Manufacturing Paradigm for Composites (AIM for Composites) (Main PI - Pilla)	81.049	DE-SC0023389	-	143,848
Assessment after Engagement, Education & Experimental-learning (A-EEE)	81.121	DE-NE0009333	199,519	481,727
BIL-Accelerated discovery, design, and laser convergent manufacturing of low-temperature O-SOEC	81.087	DE-EE0011323	290,970	842,092
CFA-22-26530 Quantifying Aerosol Deposition Mechanisms in Model Dry Cask Storage Systems	81.121	DE-NE0009276	-	239,714
CFA-23-29761 MXene as Sorbent Materials for Off-gas Radioiodine Capture and Immobilization	81.121	DE-NE0009414	184,866	288,529
Clemson University Next-Generation Hydrogen Technologies, SC	81.087	DE-EE0011439	-	39,854
Combined Field and Laboratory Studies of Plutonium Aging and Environmental Transport	81.112	DE-NA0004095	-	236,019
Composition-Aware Microstructure Evolution and Strength Models for Irradiated Ferritic Steel for Fusion Applications	84.049	DE-SC0024515	-	128,332
Crystal Growth and Quantum Phases of Frustrated Rare Earth Oxides	81.049	DE-SC0020071	63,828	108,170
Development and Demonstration of a Medium-Duty Off-Road DME Engine with a Combustion Recipe for Ultra-Low NOx	81.086	DE-EE0011174	445,981	579,414
Electrocatalytically Upgrading Methane to Benzene in a Highly Compacted Microchannel Protonic Ceramic Membrane Reactor	81.089	DE-FE0031871	47,891	133,392
EM-Enhanced HyPor Loop for Fast Fusion Fuel Cycle	81.135	DE-AR0001376	(362)	(92)
Fundamental Understanding of Thermal Gradients and Stress States on Mass Transport in Fusion Materials	81.049	DE-SC0023385	-	232,991
High Speed Medium Voltage CHP System with Advanced Grid Support	81.086	DE-EE0008409	47,494	249,028
High Temperature Photo-Acoustic Imager for Geothermal Well Integrity Evaluation	81.087	DE-EE0011547	71,749	363,842
How do wildfire severity and post-fire precipitation influence fate and transport of pyrogenic organic carbon and nitrogen in terrestrial-aquatic interfaces?	81.049	DE-SC0023311	-	157,646
Human Factors and Technologies Design to Improve User Acceptance of Pooled Rideshare (PR) for Increasing Transportation System Energy Efficiency	81.086	DE-EE0009205	238,689	455,205

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Energy (Continued)				
Improving Models of Stand and Watershed Carbon and Water Fluxes with More Accurate Representations of Soil-Plant-Water				
Dynamics in Southern Pine Ecosystems	81.049	DE-SC0023310	-	160,377
Improving the Sensitivity and Precision for Plutonium Isotope Ratio Measurements by Thermal Ionization Mass Spectrometry				
Using a Novel Polymer Fiber	81.112	DE-NA0004096	-	125,736
Infrastructure and Application Aware Reduction Methods for Scientific Data	81.049	DE-SC0025292	-	111,463
Integration of Transmission and Distribution Infrastructure for Seamless Renewable Energy	81.122	DE-OE0000965	-	135,498
IONIC - DIPOLAR INTERACTIONS IN POLY(IONIC LIQUIDS)	81.049	DE-SC0024503	-	353,039
Manufacturing Demonstration of a Large-scale, Multi-material Passenger Vehicle Sub-system	81.086	DE-EE0009656	459,277	835,085
Megawatt Scale, Multi-Source Heat Recovery System with a Flexible Grid Interconnect	81.086	DE-EE0009423	426,994	467,208
Phosphate Mineral and Glass Waste Forms for Advanced Immobilization of Chloride- and Fluoride-based Waste Streams	81.121	DE-NE0009196	-	293,920
Rapid, Non-Radioactive Methods for Prediction and Quantification of Radiolytic Radical Decomposition Products in Nuclear Separations	81.121	DE-NE0009195	-	15,459
Redox Cycles of Novel High-Entropy Perovskite Oxides for Clean Fuel Production through Solar Thermochemical Water and Carbon Dioxide Splitting	81.049	DE-SC0023407	-	140,253
Test and Validate Distributed Coaxial Cable Sensors for in situ Condition Monitoring of Coal-Fired Boiler Tubes	81.089	DE-FE0031765	41,639	41,639
University Nuclear Leadership Program: Scholarship and Fellowship Support	81.121	DE-NE0009240	-	60,644
Pass-Through Programs From:				
Achates Power, Inc.				
Opposed-Piston 2-Stroke Hybrid Commercial Vehicle System	81.086	Prime DE- EE0009880	-	26,057
Argonne National Laboratory				
Asynchronous Multi-Level I/O Techniques to Cache and Consolidate Checkpoints At Scale	81.000	2F-60270	-	(1,081)
Atlas Energy, Ltd. Co				
Advanced Instrumentation and Deployment Methods for High Resolution Shallow Temperature Measurements	81.049	DE-SC0024999 CLEM	-	45,039
Battelle Energy Alliance, LLC				
MACHINE LEARNING-ASSISTED ALLOY DESIGN FOR IMPROVING VOID SWELLING RESISTANCE OF REACTOR MATERIALS	81.121	298236	-	87,478
Benedict College				
Edge-Centric Cloud-Based Distributed Surveillance for Environmental Detection Surveys	81.000	20-82001-54040	-	104,689

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Energy (Continued)				
Georgia Institute of Technology Demonstration of a 5 MVA Modular Controllable Transformer for a Resilient and Controllable Grid	81.122	AWD-103072-G1 / PO 5058541	-	127,570
Handix Scientific LLC A Microfluidic Ice Nucleating Particle Counter for Continuous Measurements	81.049	1801 // Prime # DE-SC0018474	-	(995)
Iowa State Univ. HVDC-Learn: Modular Education & Workforce Training in High Voltage Direct Current Electric Transmission	81.087	028996A	-	13,653
Lawrence Livermore National Laboratory 19th International Conference on the Chemistry and Migration Behaviour of Actinides and Fission Products in the Geosphere	81.000	43549 (Task # 17PLS004-2)	-	3,239
Los Alamos National Laboratory Clemson Verification and Validation RFP CW67583	12.800	C5084	-	71,491
Massachusetts Institute of Technology AI to Guide Sorption Data Acquisition and Assimilation into Uncertainty Quantifications for the Nuclear Waste Disposal	81.121	S6509 / PO 1178272	-	63,842
Nati Tech & Engin Solutions of Sandia NaSOW p.r. 1886058	81.000	1678873	-	(15,100)
Oak Ridge National Laboratory Microextraction sample preparation technique for elemental and isotopic analysis	81.000	4000192717/ old 4000185303	-	92,600
Semplastics EHC LLC Coal-Waste-Enhanced Filaments for Additive Manufacturing of High-Temperature Plastics and Ceramic Composites	81.089	3D-2022-01	-	60,738
Solution Spray Technologies, LLC Novel Thermal Barrier Coatings for Gasoline Spark Ignition Engines Phase II funding	81.049	none	-	(6,491)
Univ. of California Center of Excellence for Research and Training in Radioactive Waste Management - Rad-CERT	81.137	00011814 / PO BB01886069	-	118,772
Univ. of California, Riverside Understanding the Impact of Pollution Aerosol from Los Angeles/ Long Beach on Clouds and Radiation in and Upwind of the EPCAPE Study Domain	81.049	S-001593	-	71,023

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Energy (Continued)				
Univ. of Connecticut Effect of Multiple Uranium Complexes on Chloride Fast Reactor				
Molten Properties	81.121	179896019 / KFS# 5685900 / PO# 1791789601!	-	11,785
Univ. of Delaware				
An Inverse Design Methodology to Fabricate Low-Cost Agile				
Tools for Manufacturing Lightweight Automotive Components	81.086	UDR0000584	-	41,827
Univ. of Florida Consortium for Nuclear Forensics (CNF)	81.113	SUB00003923	-	523,874
Univ. of Louisville				
Decarbonizing Industrial Aluminum Processing Through Additive				
Manufactured Electrical Furnaces	81.086	ULRF_23-1145-01	-	136,549
Univ. of Massachusetts Amherst Academic Center for Reliability and Resilience of Offshore Wind				
(ARROW): Addressing Barriers in Todays and Tomorrows OSW				
Power Deployment by Enhancing U.S. Workforce and Education	81.087	018585-9357	-	12,325
Univ. of Michigan Chemical Partitioning and Radiation Damage in Concentrated Alloys	81.049	SUBK00016769 / PO# 3008130390	-	170,847
Univ. of NC - Charlotte				
Resilient Community Microgrids with Dynamic Reconfiguration to				
Serve Critical Loads in the Aftermath of Severe Events	81.087	20200875-02-CLE	-	22,748
Univ. of South Carolina Center for Hierarchical Waste Form Materials (CHWM)	81.049	17-3256/USC#13020-FC78/PO#2000030148	-	106,353
Univ. of Tennessee A UNIVERSAL (Ultrafast, Noise-Immune, Versatile, Efficient, Reliable, Scalable, and Accurate Light-controlled) Switch Module	81.135	A24-1233-S002	-	49,482
Univ. of Utah Enhanced Geothermal System Concept Testing and Development				
at the Milford City, Utah Forge Site	81.087	10039612-Clemson-3-2514-AF1	-	407,702
Univ. of Wisconsin - Madison				
Triad National Security Advanced Manufacturing of High-Entropy				
Alloys as Cost-Effective Plasma Facing Components for Fusion				
Power Generation.	81.135	0000002743	-	55,353

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Energy (Continued)				
West Virginia Univ.				
Intensified Dynamic Non-equilibrium Reactions by Pulsed				
Microwave Heating for Efficient Chemical Processing	81.086	23-825-CU / MM000585397	-	66,400
Total Department of Energy			<u>4,302,289</u>	<u>13,303,142</u>
Department of Education				
Boosting Career Preparedness for STEM Students through				
Target Language Acquisition and Cultural Immersion	84.016	P016A240027	-	15,555
Building Capacity for Early Language Learners: Bridges between				
Reading Recovery and ESOL	84.365	T365Z220099	-	555,548
Co-DREAM OER (Collaborative Development of Robotics				
Education and Advanced Manufacturing Open Educational Resources)	84.116	P116T210023	125,165	350,748
Community Collaboration for Counselors (CCC): Increasing				
School-Based Mental Health Support	84.184	S184X220019	-	1,242,190
CU-PREPARES: Preparing Rural Educators for Priority Areas				
through Residency ExpanSion	84.336	S336S230009	-	367,703
Engineers for a Global System: Global Learning and Engineering+				
Language Programs (at Clemson University)	84.016	P016A200057	-	27,634
English Learner Instruction: Building Capacity Through Design	84.365	T365Z210089	-	429,909
GAANN: Molecular Engineering in Sustainability and Health	84.200	P200A210105	-	67,755
GAANN: Rational Access for Needy underrepresented				
Graduate Engineering Fellows in Mechanical Engineering				
(RANGE Fellows in ME)	84.200	P200A220075	-	215,895
PARTNERS Project (Providing Apprenticeships through				
Residency Teams for Novice Educator Retention and Student				
Achievement)	84.411	S411C240067	-	99,973
STEM Teacher Learning Progression (CU-TLP)	84.423	S423A200008	-	182
Pass-Through Programs From:				
Beaufort County School District				
Beaufort County School District Bullying Prevention Initiative	84.424	2023001995	-	215,045
Lexington Technology Center				
Lexington Technology Center 2019-2020 Faculty Professional				
Development	84.000	2019-2020	-	17,654
SC Dept. of Education				
24ClemsonAgEd	84.048	H63010107124		5,981
25ClemsonAgEd	84.048	25ClemsonAgEd - H63010107125	-	7,176
Univ. of Virginia				
Build the FRaME: Using Feedback, Reflection, and Multimedia				
to Teach Evidence-Based Practices for Effective Classroom				
Management	84.324	GR016492.SUB00000367	-	64,615
Total Department of Education			<u>125,165</u>	<u>3,683,563</u>

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
National Endowment for the Humanities				
Pass-Through Programs From:				
SC Humanities Council				
Clemson University Center for the Study of South Carolina History and Culture (CUCSC)	45.129	none	-	1,249
Total National Endowment for the Humanities			-	1,249
Department of Labor				
Pass-Through Programs From:				
SC State Board for Technical and Comprehension			-	156,000
State Apprenticeship Expansion, Equity, and Innovation (SAEEI)	17.285	None	-	156,000
Total Department of Labor			-	156,000
National Historical Publications and Records Grants				
Wichooyake kin agli - They Bring the Stories Back: Connecting Lakota Wild West Performers to Pine Ridge Community	89.003	PL-103356-22	21,624	27,485
Total National Historical Publications and Records Grants			21,624	27,485
Department of Health and Human Services				
A Peer Recovery Coaching Intervention for Hospitalized Alcohol Use Disorder Patients	93.273	1R01AA030815-01A1	62,529	530,330
Acquisition of the Agilent Cytation C10 confocal imaging reader for enhancing biomedical research excellence at Clemson University	93.859	3P20GM146584-02S1	-	13,607
Advanced Nursing Education Workforce (ANEW)	93.247	5T94HP32896-04-00	-	67,830
Approaches for Genetic Manipulation of Naegleria Fowleri	93.855	1R21AI175463-01	-	155,812
Arsenic's Effects on the Intestinal Stem Cell Niche	93.113	1R15ES031766-01A1	-	45,101
ATTRACT: Assessment of Temporomandibular Joint Morphology, Mechanics, And Mechanobiology in Class II and III Target and Surgical Phenotypes	93.121	5U01DE031512-04	15,483	288,145
ATTRACT: Assessment of Temporomandibular Joint Morphology, Mechanics, And Mechanobiology in Class II and III Target and Surgical Phenotypes	93.121	5U01DE031512-02	8,485	8,485
ATTRACT: Assessment of Temporomandibular Joint Morphology, Mechanics, And Mechanobiology in Class II and III Target and Surgical Phenotypes	93.121	5U01DE031512-03	114,666	391,206
Call Me Doctor ESTEEMED Scholars Program at Clemson University	93.286	5R25EB033076-02	-	(53,284)
Call Me Doctor ESTEEMED Scholars Program at Clemson University	93.286	5R25EB033076-02	-	229,588
Capillary-Channelled Polymers Fibers and Films - A Platform Technology for Exosome Isolation and Analytics	93.859	1R01GM141347-01A1	-	413,088
Capillary-Channelled Polymers Fibers and Films - A Platform Technology for Exosome Isolation and Analytics	93.859	3R01GM141347-02S2	-	61,448
Cell and matrix interactions in diabetic vascular tissue engineering models	93.839	5R01HL133303-04	-	34,994
Cell State Network-Directed Therapy-Resubmission	93.396	1U01CA290442-01A1	127,539	221,856

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Health and Human Services (Continued)				
Cell tracking in low-frame-rate video based on displacement prediction	93.859	1R21GM150066-01	-	185,647
Chemical synthesis to access rare heterocycles and tool compounds to probe bacterial polysaccharide metabolism	93.859	1R35GM153221-01	-	244,905
CHG COBRE in Human Genetics - Year 4 Supplement - Fiddler	93.859	3P20GM139769-04S1	160,552	233,852
CHG COBRE in Human Genetics - Year 5 - Admin Core	93.859	5P20GM139769-05	-	83,757
CHG COBRE in Human Genetics - Year 5 - Alexandrov	93.859	5P20GM139769-05	-	83,332
CHG COBRE in Human Genetics - Year 5 - Farrell	93.859	5P20GM139769-05	-	14,106
CHG COBRE in Human Genetics - Year 5 - Gopalan	93.859	5P20GM139769-05	-	23,445
CHG COBRE in Human Genetics - Year 5 - Konkel	93.859	5P20GM139769-05	-	79,274
CHG COBRE in Human Genetics - Year 5 - Masino	93.859	5P20GM139769-05	-	98,917
CHG COBRE in Human Genetics - Year 5 - Research Core	93.859	5P20GM139769-05	-	140,906
CHG COBRE in Human Genetics - Year 5 - Witt Dillon	93.859	5P20GM139769-05	-	29,906
CHG-COBRE in Human Genetics-Year 4 Admin Core	93.859	5P20GM139769-04	20,050	235,422
CHG-COBRE in Human Genetics-Year 4 Pilot (Dasgupta)	93.859	5P20GM139769-04	-	111,608
CHG-COBRE in Human Genetics-Year 4 Pilot (Farrell)	93.859	5P20GM139769-04	-	106,282
CHG-COBRE in Human Genetics-Year 4 Pilot (Gopalan)	93.859	5P20GM139769-04	-	76,787
CHG-COBRE in Human Genetics-Year 4 Pilot (Liu)	93.859	5P20GM139769-04	-	61,232
CHG-COBRE in Human Genetics-Year 4 Pilot (Witt Dillon)	93.859	5P20GM139769-04	-	58,026
CHG-COBRE in Human Genetics-Year 4 Research (Alexandrov)	93.859	5P20GM139769-04	-	162,674
CHG-COBRE in Human Genetics-Year 4 Research (Konkel)	93.859	5P20GM139769-04	-	167,926
CHG-COBRE in Human Genetics-Year 4 Research (Masino)	93.859	5P20GM139769-04	-	150,487
CHG-COBRE in Human Genetics-Year 4 Research Core	93.859	5P20GM139769-04	-	215,901
CHG-COBRE in Human Genetics-Year 4 Research GGC (Arno)	93.859	5P20GM139769-04	198,878	205,489
Clemson University Healthy Options Program	93.319	1 NU58DP007331-01-00	21,160	724,441
COBRE Human Genetics - YR 3 Target - Konkel	93.859	5P20GM139769-03	-	1,189
COBRE: Eukaryotic Pathogens Innovation Center (EPIC) - RES Core - CLIF - Year 2	93.859	5P20GM146584-02	-	(34)
COBRE: Eukaryotic Pathogens Innovation Center (EPIC) - RES Core - CUGBF - Year 2	93.859	5P20GM146584-02	-	(63)
COBRE: Eukaryotic Pathogens Innovation Center (EPIC) - Res Core: CUGBF - YR 1	93.859	1P20GM146584-01	-	(338)
COBRE: Eukaryotic Pathogens Innovation Center (EPIC) - RES Project # 4 - Whitehead - Year 2	93.859	5P20GM146584-02	-	3,407
CYP2B6 Inhibits Proper Distribution of Lipids Leading to Obesity and Fatty Liver Disease	93.113	2R15ES017321-04	-	15,628
Daily Memory Lapses and Sympathetic-Cardiovascular Dysfunction: Pathways to Prevention of Alzheimer's Disease and Related Dementias (ADRD)	93.866	1R03AG083323-01	28,583	129,957
Data-Driven Approaches for Opioid Use Disorder Treatment, Recovery, and Overdose Prevention in Rural Communities via Mobile Health Clinics and Peer Support Services	93.279	1R61DA059892-01	294,298	548,058
Deciphering Macrophage Versus Neutrophil Signaling and Effector Functions in Immune Responses in Vivo	93.859	5R35GM147464-04	-	408,614
Defining mechanisms of fungal-bacterial interactions during infection	93.855	5K22AI174009-02	-	151,694
DelPhi and associated resources: maintenance, development, and applications	93.859	1R35GM151964-01	-	375,407

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Health and Human Services (Continued)				
Covid-19 Developing a Dynamic Modeling Framework for Surveillance, Prediction, and Real-Time Resource Allocation to	93.879	1R01LM014193-03	144,117	763,052
Reduce Health Disparities During Covid-19 and Future Pandemics	93.855	5R21AI164363-02	-	45,868
Developing an <i>in vivo</i> toolbox to interrogate the intracellular trafficking and killing of <i>Aspergillus</i> spores	93.855	5R01AI156382-04	250,106	316,614
Development of a Multiplexed Assay in Kinetoplastid Parasites to Identify Probes for Glycolysis	93.855	3R01AI156382-04S1	-	60,570
Development of a Multiplexed Assay in Kinetoplastid Parasites to Identify Probes for Glycolysis (Supplement)	93.855	3R01AI156382-04S1	-	60,570
Development of a Novel Split Enzyme Diagnostic Platform for Use at the Point of Care	93.286	4R00EB034778-02	-	105,928
Development of an integrated intervention involving recovery coaching and cognitive behavioral therapy for opioid use disorder	93.279	1R34DA057662-01	260,978	322,631
Development, Validation, and Application of a CDS Ontology to Facilitate CDS Rules Reuse, Management, and Maintenance in Simulated Primary Care Settings	93.859	5R01GM138589-05	51,881	413,399
Diversity Supplement to Support Undergraduate Research for the Parent MIRA Award R35 GM141891 "Mechanistic Pharmacodynamic Modeling for Drug Combinations"	93.859	3R35GM141891-04S1	-	20,455
Enolase inhibitors as therapeutic leads for <i>Naegleria fowleri</i> infections	93.855	1R21AI171217-01A1	52,276	173,253
Entamoeba histolytica as the new model system for studying excystation	93.855	1R03AI182414-01	-	51,953
EPIC COBRE - YR 2 Carryover into YR 3	93.859	5P20GM146584-03	-	33,438
EPIC COBRE - YR 3 Admin Core (Morris)	93.859	5P20GM146584-03	-	287,452
EPIC COBRE - YR 3 Pilot Project (Dolan)	93.859	5P20GM146584-03	-	58,188
EPIC COBRE - YR 3 Pilot Project (Lewis)	93.859	5P20GM146584-03	-	36,336
EPIC COBRE - YR 3 Res Core-CLIF (Bruce)	93.859	5P20GM146584-03	-	265,475
EPIC COBRE - YR 3 Res Core-CUGBF (Parkinson)	93.859	5P20GM146584-03	-	426,818
EPIC COBRE - YR 3 ResProj#1 (Larsen)	93.859	5P20GM146584-03	-	194,465
EPIC COBRE - YR 3 ResProj#2 (Dhingra)	93.859	5P20GM146584-03	-	236,292
EPIC COBRE - YR 3 ResProj#3 (Stamatikos)	93.859	5P20GM146584-03	-	205,220
EPIC COBRE - YR 3 ResProj#4 (Whitehead)	93.859	5P20GM146584-03	-	93,218
Ethical Considerations in The Design and Testing of Back-Support Exoskeletons	93.286	1R21EB036439-01	-	115,000
Exploring Advance Care Planning Among Older Adults Across Racial, Ethnic, and Cognitive Differences Using Data Science	93.866	1K01AG081485-01A1	-	121,052
Genetic Basis of Lifespan and Healthspan Extension by ACE Inhibition in <i>Drosophila</i>	93.866	5R01AG073181-04	182,764	578,954
Genetics of Cocaine and Methamphetamine Sensitivity in <i>Drosophila</i>	93.279	2U01DA041613-06	-	(1,918)
Genetics of Cocaine Sensitivity in <i>Drosophila</i>	93.279	5U01DA041613-08	-	522,115
Genetics of Cocaine Sensitivity in <i>Drosophila</i>	93.279	5U01DA041613-09	-	67,110
Health Extension for Diabetes: Program Expansion to Advance Health Equity	93.988	1 NU58DP007383-02-00	673,130	986,026
High Resolution Approaches to Defining Organelle Heterogeneity in <i>Trypanosoma Brucei</i>	93.855	5R21AI171837-02	-	41,670
Covid-19 Human organoid model for COVID-19 myocarditis	93.837	1R21HL167211-01A1	12,683	162,586
Identification and characterization of early encystation genes in the human parasite <i>Entamoeba histolytica</i>	93.855	5R21AI175730-02	-	185,326
Identifying an Atherogenic Role for Vascular Smooth Muscle Cell miR-33a Expression	93.837	1R15HL152261-01A1	-	213,591

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Health and Human Services (Continued)				
Identifying novel atheroprotective mechanisms	93.837	1R01HL175166-01	-	9,566
Impact of pathogenic missense mutations on the ARID domain of ARID1a	93.396	1R15CA280699-01	-	131,227
Inhibition of Human Islet Amyloid Polypeptide Aggregation	93.859	1R35GM145409-03	-	454,985
Integrating Craniofacial Morphology, Oral function, Temporomandibular Biomechanics and Mechanobiology to Determine Sex-specific TMJ Pathophysiology in Humans	93.121	5R01DE021134-10	141,747	592,841
Investigating the Use of Exoskeletons for Reducing Musculoskeletal Injuries in Surgical Care Tasks	93.226	1R03HS029247-01	1,968	5,126
Leveraging the HIF-Alpha Pathway to Improve the Engraftment and Therapeutic Efficacy of Human Nanowired Cardiac Organoids	93.837	1F31HL156541-01	-	(598)
Mechanistic Pharmacodynamic Modeling for Drug Combination Responses	93.859	5R35GM141891-04	-	298,208
Metabolic Determinants of Carbon Dioxide Tolerance in the Pathogenic Fungi, Cryptococcus neoformans	93.855	1K22AI182327-01	-	51,366
Motor Neuron Formation is Inhibited by Arsenic	93.113	5R03ES036027-02	-	74,210
Nanoparticle Distributed Intravenous Enzyme Replacement Therapy (NanoDIVERT)	93.853	1R21NS133477-01	16,819	172,706
Nanowired human cardiac organoid derived exosomes for heart repair	93.837	5R01HL168255-03	161,828	339,412
Nanowired human isogenic cardiac organoids to treat acute myocardial ischemia/reperfusion injuries	93.837	1U01HL169361-01	71,668	84,917
Nanowired human isogenic cardiac organoids to treat acute myocardial ischemia/reperfusion injuries	93.837	5U01HL169361-02	91,277	300,038
Nanowired hypoimmunogenic hPSC cardiac organoids for heart repair	93.837	5R01HL175050-02	198,626	343,428
Neuron-Specific Nanotherapeutics for Spinal Cord Injury Repair	93.853	5R01NS111037-04 REVISED	-	11,101
Niche Partitioning of Commensal Clostridia in the Gut	93.859	5R35GM150609-02	-	385,810
Nonviral delivery of CRISPR-Cas9 into hepatocytes combined with APAP selection for treatment of Familial Hypercholesterolemia	93.837	1R56HL168093-01	29,905	129,846
Nonviral Delivery of CRISPR-Cas9 into Hepatocytes Combined with APAP Selection for Treatment of Familial Hypercholesterolemia	93.837	1R01HL168093-01A1	53,767	675,903
Optimization of Delivery of HEX for Treatment of Primary Amoebic Encephalitis	93.350	1R21TR005502-01	-	5,607
Oral Microbiomes and Dental Caries in a Human Immunodeficiency Virus Infected Population	93.121	5R01DE028154-05	-	206,737
Pre-mRNA Intronic Structures in Trans Factor Binding and Alternative Splicing	93.859	5R35GM142851-05	-	245,982
Psychosocial and Neighborhood Mechanisms and Consequences of Black-White Sleep Disparities on Cognition	93.866	7UF1AG072619-02	394,171	460,558
Psychosocial and Neighborhood Mechanisms and Consequences of Black-White Sleep Disparities on Cognition	93.866	4U01AG072619-03	310,035	509,234
Psychosocial and Neighborhood Mechanisms and Consequences of Black-White Sleep Disparities on Cognition	93.866	4U01AG072619-03	322,839	338,744
Purification of Circular RNA by Ultrafiltration	93.859	1R21GM145980-01	-	83,532
Realizing Improved Patient Care through Human-centered Design for Pediatric mental and behavioral health in the Emergency Department(RIPCHD.PED)	93.226	5R18HS029109-03	207,273	596,285
Redesigning Emergency Department Clinician Shift Scheduling to Improve Well-being and Patient Outcomes (ED-SHIFT)	93.362	1R21OH012604-01-00	10,998	82,467

The accompanying notes are an integral part of this schedule.

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Health and Human Services (Continued)				
Reducing Fall Risk in Rural, Older South Carolinians	93.761	90FPSG0047-01-00	-	21,689
Regulation of the Physiology and Function of the Digestive Vacuole in Toxoplasma Gondii	93.855	5R01AI143707-05	48,897	238,340
Role of Homologous Recombination in the Replication Stress Response	93.859	5R35GM142512-05	-	368,717
SC BioCRAFT Phase III Year 3-CTRIC Core	93.859	5P30GM131959-03	-	353
SC BIOCRAFT Phase III Year 4 - BET Core	93.859	5P30GM131959-04	-	30,664
SC BIOCRAFT Phase III Year 4 - CTRIC Core	93.859	5P30GM131959-04	-	1,041
SC BIOCRAFT Phase III Year 4 - Lee Pilot	93.859	5P30GM131959-04	-	6,574
SC BIOCRAFT Phase III Year 5 - Abdelaziz Pilot	93.859	5P30GM131959-05	-	(166)
SC BIOCRAFT Phase III Year 5 - Admin Core	93.859	5P30GM131959-05	50,000	370,073
SC BIOCRAFT Phase III Year 5 - BET Core	93.859	5P30GM131959-05	-	35,115
SC BIOCRAFT Phase III Year 5 - Booth Pilot	93.859	5P30GM131959-05	-	5,096
SC BIOCRAFT Phase III Year 5 - CTRIC Core	93.859	5P30GM131959-05	-	14,600
SC BIOCRAFT Phase III Year 5 - Voucher Program	93.859	5P30GM131959-05	-	527
SC BioCRAFT Phase III- YR2 Main Carryover	93.859	5P30GM131959-03 REVISED	-	6,695
SC COBRE for Translational Research Improving Musculoskeletal Health (SC-TRIMH)	93.859	3P20GM121342-06S1	2,142	114,705
SC COBRE for TranslationalResearch Improving Musculoskeletal Health (SC-TRIMH)	93.859	3P20GM121342-07S1	-	216,323
SC COBRE for TranslationalResearch Improving Musculoskeletal Health (SC-TRIMH) - YR 7 (Floyd)	93.859	5P20GM121342-07	-	142,756
SC COBRE for TranslationalResearch Improving Musculoskeletal Health (SC-TRIMH) - YR 7 (Meng)	93.859	5P20GM121342-07	-	173,084
SC COBRE for TranslationalResearch Improving Musculoskeletal Health (SC-TRIMH) - YR 7 (Powder)	93.859	5P20GM121342-07	-	197,047
SC COBRE for TranslationalResearch Improving Musculoskeletal Health (SC-TRIMH) - YR 7 (Wang)	93.859	5P20GM121342-07	-	313,103
SC COBRE for TranslationalResearch Improving Musculoskeletal Health (SC-TRIMH) - YR 7 Admin Core	93.859	5P20GM121342-07	158,122	498,941
SC COBRE for TranslationalResearch Improving Musculoskeletal Health (SC-TRIMH) - YR 7 AFT Core	93.859	5P20GM121342-07	-	254,184
SC COBRE for TranslationalResearch Improving Musculoskeletal Health (SC-TRIMH) - YR 7 MCM Core	93.859	5P20GM121342-07	-	221,523
SC COBRE for TranslationalResearch Improving Musculoskeletal Health (SC-TRIMH) - YR 7 PAC Core	93.859	5P20GM121342-07	-	43,006
SC TRIMH - Year 6 Admin Core	93.859	2P20GM121342-06	42,756	73,816
SC TRIMH - Year 6 AFT Core	93.859	2P20GM121342-06	-	37,743
SC TRIMH - Year 6 Floyd	93.859	2P20GM121342-06	-	32,029
SC TRIMH - Year 6 MCM Core	93.859	2P20GM121342-06	-	112,029
SC TRIMH - Year 6 Meng	93.859	2P20GM121342-06	-	73,409
SC TRIMH - Year 6 PAC Core	93.859	2P20GM121342-06	-	23,829
SC TRIMH - Year 6 Powder	93.859	2P20GM121342-06	-	26,452
SC TRIMH - Year 6 Wang	93.859	2P20GM121342-06	-	100,422
Silicon Nanowire Engineered Human Isogenic Cardiac Organoids for Heart Repair	93.837	1R01HL173532-01A1	-	23,587

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Health and Human Services (Continued)				
Single-molecule Measurements of Membrane-protein Folding and Ligand-Interaction Energetics in Bacteriorhodopsin and the Diabetes-insipidus-involved Vasopressin Receptor 2	93.859	5R00GM140439-04	-	187,397
Species-specific Chromatin Structure and its Environmental Interaction in Craniofacial Skeletal Development and Variation Using Cichlid Fishes	93.121	1R15DE029945-01 Revised	-	56,946
Statistical methods for gene regulatory analysis of substance use disorder	93.279	1R21DA060503-01	-	114,229
Statistical methods for interpretation of genetic variants by gene regulatory networks	93.859	1R35GM150513-01	159,916	479,567
Systems Genetics of Cocaine Preference in Drosophila	93.279	1F31DA057062-01A1	2,653	4,295
Targeted therapy to reverse aortic aneurysms	93.837	5R01HL133662-07		
The Development of an EHR-based Measure of Orthopaedic Treatment Success	93.226	1R03HS029060-01	-	381,209
The role of septins in the adaptation of Cryptococcus neoformans to host temperature in HIV-based cryptococcosis	93.855	5R01AI167692-02	-	11,969
Thymosin Beta-4: A Novel Treatment for Acanthamoeba Keratitis	93.867	1R21EY036992-01		
Tin-Silver Alloy as a Degradable Biomaterial: Biocompatibility Assessment	93.286	1R03EB037137-01	100,063	186,282
TMJ SYMPHONY Systems-integrated model and mechanisms of patient-centered holistic outcomes and network-supported training and therapy	93.121	1R34DE033593-01		
Uncovering the Role of Histone Acetylation in Tetrabromobisphenol A-induced Developmental Toxicity during Zygotic Genome Activation	93.113	5R03ES036327-02	-	93,512
Uncovering the Role of Histone Acetylation in Tetrabromobisphenol A-induced Developmental Toxicity during Zygotic Genome Activation	93.113	3R03ES036327-01S1	-	39,938
Understanding and Using Gene-by-Context Interactions in Human Complex Trait Genetics	93.859	5R35GM146868-03	-	363,991
Understanding and Visualizing Emergency Department Clinician Well-Being and Strain	93.361	1R21NR020925-01A1	7,623	15,921
Validating Sensor-based Approaches for Monitoring Eating Behavior and Energy Intake by Accounting for Real-World Factors that Impact Accuracy and Acceptability	93.847	5R01DK135679-03	237,187	407,805
X-ray Visualized Immunosensor (X-VIS)	93.286	1R21EB035903-01A1	4,822	134,527
Pass-Through Programs From:				
Annoviant LLC				
Pulmonary Valved Conduit Xenograft with Regeneration Potential	93.838	Annoviant 2022-010	-	1,625
Aptus Life, LLC				
Pediatric Heart Valve with Expansion Capability	93.837	20210920R41	-	7,613
Aravis Biotech				
The X-VISUAL (X-ray Visualized Indicator for Screw-strain Under Applied Load)	93.846	1R43AR083782-01 CU	-	28,924
Arbor Research Collaborative For Health				
Organ Procurement and Transplantation Network (OPTN)				
Operations Transition	93.000	P226.002	-	62,455

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Health and Human Services (Continued)				
Arizona State Univ.				
Smart Walk: A Culturally Tailored Smartphone-delivered Physical Activity Intervention to Reduce Cardiometabolic Disease Risk among African American Women	93.837	ASUB00001365	-	34,680
Blotting Innovations, LLC				
Gelbrane: Combine Gel and Membrane for Robust Western Blotting	93.859	IR41GM151910-01CU	-	29,635
Circa Bioscience, LLC				
Development of a Urine Test for At-Home Monitoring of Blood Phe				
Levels for PKU	93.865	C112228-1	-	46,616
Columbia University				
Mechanisms of accelerated calcification and structural degeneration of implantable biomaterials in pediatric cardiac surgery	93.837	1(GG018622-01) / SAPO: G17637	-	78,097
Drexel University				
Regulation of SCI-induced pain by macrophages and exercise	93.853	900352 Clemson / PO U0327999	-	11,805
Duke Univ.				
Develop a large-scale library of comprehensive deformable image registration (DIR) benchmark datasets and an integrated framework for quantifying accuracy of patient-specific DIR results	93.286	303002661	-	120,478
Elastrin Therapeutics				
Targeted Chelation for Reversal of Vascular Calcification	93.837	R41HL147653	-	3,654
Emory Univ.				
Macromolecular Crowding effects on DNA mechanics, topology and transcription	93.859	A963232	-	43,694
Florida State Univ.				
A mechanistic and dyadic approach to identify how interpersonal conscientiousness supports cognitive health and lowers risk of dementia	93.866	R000003268	-	109,743
Greenwood Genetics Center				
Pathogenic Mechanisms of Congenital Disorders of Glycosylation	93.859	2301-912023	-	63,112
Hampton University				
The Black American United Memory & Aging Project (BA-UMAP):				
An examination of cognitive middle and older Black adults using remote cognitive assessments, risk factors & biomarkers	93.866	HU-230010	-	(2,173)
Indiana University				
Cavopulmonary Assist to Reverse the Fontan	93.837	8778 / PO0266438	-	15,769

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Health and Human Services (Continued)				
Johns Hopkins University The Johns Hopkins Alzheimer's Disease Resource Center for Minority Aging Research	93.866	2006706332	-	23,615
LiveWell Greenville Community-Driven Approaches to Address Factors Contributing to Structural Racism in Public Health	93.137	None	-	34,572
Medical Univ. of SC Establishing an Artificially Intelligent Framework for Improving Therapeutic Alliance with Obese African American Youth and Caregivers through multimodal Monitoring of Empathetic Accuracy and Interpersonal Synchrony	93.307	A23-0100-S002	-	27,242
Multi-Site Study of Dyslexia	93.865	A00-0250-S002	-	49,565
SC Biomedical Informatics & Data Science for Health Equity Research Training (SC BIDS4HEALTH)	93.879	A23-0007-S001	-	94,755
System Optimization for Advances in Sterile Processing	93.226	A22-0083-S001	-	110,024
New York University Map Leukemia-immune Cell Talks with Nanoplasmon Ruler in CAR T-Cell Immunotherapy	93.395	F1429-02 / PO# iB00425635	-	75,965
Using Agent-Based Modeling to Compare Strategies That Can Reduce Rural-Urban Disparities in Cardiovascular Disease.	93.307	23-A0-S2-1008788 / PO M230632369	-	200
North Carolina A&T State Univ. The Black American United Memory & Aging Project (AA-UMAP): An Examination of Cognitive Decline in Midlife and Older Black Adults Using Remote Cognitive Assessments, Risk Factors & Biomarkers	93.866	250339B	-	39,210
North Dakota State Univ. Perceived Control and Cognitive Aging: Pathways to Preserve Cognitive Functioning and Reduce Risk of Alzheimer's Disease in Socioeconomically Diverse Populations	93.866	FAR0036250	-	8,395
NUBAD, LLC. Aminoglycosides with reduced ototoxicity	93.855	R42AI1 26874	-	212,005
Development of Peptide Antibiotic Nucleic Acids	93.855	PNA2 (2020001112)	-	158,865
Olera, Inc Olera CareNavigator - Increasing Affordability and Accessibility of Senior Care of Dementia Family Caregivers	93.866	2024000299	-	28,913
Pennsylvania Department of Health Maternal and Child Health Services Block Grant to the States; PA Department of Health, Olweus Bullying Prevention Program for Community Youth Organizations	93.994	SAP#: 4100080792	-	(2,376)
Pennsylvania State Univ. An Ecological Investigation of Acute Next-Day Effects of Alcohol Use on Daily Cognitive Functioning	93.273	S004624-DHHS	-	(5,585)

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Health and Human Services (Continued)				
Integrative Pathways to Health and Illness	93.866	S005053-UWS	-	40,783
Integrative Pathways to Health and Illness	93.866	S006353-UWS	-	180,331
Prisma Health Upstate				
Emergency Department Alternatives to Opioids: Adapting Proven Therapies Into Everyday Practice Across the South	93.788	10000597 CLEM UNIV	-	14,202
Project Power - Preventing Opioid Use Disorder and Overdoses With Emerging Resources in Rural South Carolina	93.912	10001071 Project POWER-CU subaward	-	2,509
Project Power - Preventing Opioid Use Disorder and Overdoses With Emerging Resources in Rural South Carolina	93.912	10001071 Project POWER 24-25-CU subaward	-	958
Regents of the University of California				
Reciprocal effects between scaffold geometry and ventricular vortex flow on viability and performance of tissue-engineered mitral valve	93.837	2023-1896	-	133,253
Research Foundation for the SUNY				
Single Molecule Analysis of MAGUK Structure and Ligand Binding	93.242	81534/2/1147013	-	(1,906)
SC Dept. of Health & Human Services				
Quality Assurance Services for the Bureau of Long Term Care Services (Federal) - Year 4 FY25	93.000	A202611999A (Federal) FY25	-	810,954
SC Dept. of Social Services				
Child Support Employment Initiative - Year 4	93.563	4400025040 Year 4	-	848,220
Child Support Employment Initiative - Year 5	93.563	4400025040 Year 5	-	1,855,961
Sigray, Inc				
Development of a Bio-tissue Oxygenation Nanophosphor Enabled Sensing (BONES) system for Quantifying Hypoxia in Bone Marrow	93.859	Clemson 003	-	25,509
Sojourn Medtech LLC				
A Smart Simulator for Metrics-based Cannulation Skills Training for Hemodialysis	93.847	1R43DK137665-01A1-CU	-	5,850
Sonavex, Inc.				
Validation of a Bedside Automated 3D Ultrasound-based Arteriovenous Fistula Cannulation Guidance Solution to Improve AV Fistula Outcomes	93.000	1R44DK131644-01	-	(7,592)
State University of New York				
Resolving the Intoxication Mechanism of Botulinum Neurotoxins Using Single Molecule Structural Biology	93.859	98630/1185264/2 / PO# 1379928	-	66,833
TGen Tech LLC				
Decellularized Xenograft Leaflet Patch for Pulmonary Valve Repair in Pediatric Patients	93.838	TGen2020-101	-	2,883
The Miriam Hospital				
Optimizing Just-in-Time Adaptive Intervention to Improve Dietary Adherence in Behavioral Obesity Treatment: A Micro-randomized Trial Using Multimodal Real-Time Assessment to Phenotype Dietary Non-Adherence Behaviors that Contribute to Poor Outcomes in Behavioral Obesity Treatment	93.837	7107147197 (7147197)	-	9,745
	93.847	7147284	-	46,596

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
Department of Health and Human Services (Continued)				
The University of Chicago				
Neurotoxicity of Spermine Synthase-deficiency and Polyamine Imbalance	93.853	AWD105925 (SUB00001375)	-	54,684
UNandUP				
Low-Dose Magneto-Thrombolysis to Expand Stroke Care	93.853	None	-	97,110
Univ. of Arkansas				
Controlling <i>Histomonas meleagridis</i> transmission in turkey flocks	93.103	AWD-105594-01	-	118,519
Univ. of California Davis				
SMART Cancer Care Teams: Enhancing EHR Communication to Improve Interprofessional Teamwork	93.393	A23-0294-S004 / PO# UCDPO00103093	-	32,854
Univ. of Georgia				
Microglial RGS10 as a therapeutic target for Lewy body diseases	93.853	SUB00002385	-	43,978
Univ. of Nebraska - Lincoln				
Renewal: Group testing for infectious disease detection: multiplex assays and back-end screening	93.855	24-6225-0056-002	-	265,484
Univ. of Pittsburgh				
Collaborative for REsearch to Advance TMD Evidence (CREATE)	93.121	AWD00008151 (139500-2)	-	(1)
Univ. of South Carolina				
Developing New Statistical Methods for Vector-Borne Disease Surveillance to Improve Accuracy while Reducing Cost				
PO 2000072810 USC# 10013509	93.855	24-5583 /PO 2000072810 USC# 10013509	-	70,574
Effects of Musculoskeletal Surgery Rate on Medicare Costs - Year 4	93.226	24-5503 PO# 2000072697 USC#10013257	-	32,173
SC IDeA Networks of Biomedical Research (SC INBRE): Increasing Data Science Capacity PO 2000076916 / USC 10014089	93.859	25-5868 / PO 2000076916 / USC 10014089	-	3,755
South Carolina IDeA Networks of Biomedical Research Excellence (SC INBRE) - Administrative Core - Year 4 of 5 PO 2000073440 / USC 10013200	93.859	24-5614 PO 2000073440 / USC 10013200	-	50,393
South Carolina IDeA Networks of Biomedical Research Excellence (SC INBRE)- Administrative Core- Year 5 of 5	93.859	25-6024 USC # 10014200 PO # 2000079643	-	143,584
The Development and Evaluation of a Patient-Centered Opioid Discharge Prescribing Guideline with the Electronic Health Record of a Health System	93.266	24-5458 PO# 2000071872	-	1,341
The Development and Evaluation of a Patient-Centered Opioid Discharge Prescribing Guideline with the Electronic Health Record of a Health System	93.266	USC 25-5929/PO 2000077806/10014217	-	40,613
Title South Carolina IDeA Networks of Biomedical Research Excellence (SC INBRE) - Year 4 Dunn (Main PI - Martine LaBerge)	93.859	24-5614 PO 2000073440 / USC 10013200	-	54,344
Title South Carolina IDeA Networks of Biomedical Research Excellence (SC INBRE) - Year 4 Gilmore (Main PI- Martine LaBerge)	93.859	24-5614 PO 2000073440 / USC 10013200	-	20,978
Univ. of South Florida				
ACTIVE MIND: An adaptive clinical trial of cognitive training to improve function and delay dementia	93.866	6118-1099-00-E	-	(35,730)

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Department of Health and Human Services (Continued)				
PACT - Preventing Alzheimer's disease with Cognitive Training (Cognitive Training to Reduce Incidence of Cognitive Impairment in Older Adults)	93.866	6118-1093-00-C / P000014593	21,429	1,322,686
Univ. of Utah Utah Center for Promotion of Work Equity Research (U-Power)	93.262	10060337-01-CU / PO# U000356898	-	105,230
University of Alabama at Birmingham ACTIVE MIND: An Adaptive Clinical Trial of Cognitive Training to Improve Function and Delay Dementia	93.866	000545357-SC001	-	1,334,996
Deep South Occupational Safety and Health Education and Research Center	93.262	000535051-SC007	-	14,998
Vanderbilt University Geriatrics Workforce Enhancement Program (Middle Tennessee Collaborative Geriatrics Workforce Enhancement Program (GWEP))	93.969	OSA00000466 / P25032004	-	23,593
VRM Labs, Inc. Protective film-forming disinfectant based on chitosan/water/ethanol tertiary solutions	93.000	VRM2021	-	8,122
Protective Film-Forming Disinfectant Based on Chitosan/Water/ Ethanol Tertiary Solutions	93.855	VRM2024	-	147,202
West Virginia Research Corporation West Virginia Clinical and Translational Science Institute: A Statewide Organization Building Research Excellence and Engaging Communities to Improve Health	93.859	12-303-CU / MM000558252	-	45,333
Total Department of Health and Human Services			<u>5,528,689</u>	<u>37,063,306</u>
AmeriCorps				
Clemson University - CEDC Planning	94.006	21AFHSC0010030	-	55,973
Total AmeriCorps			<u>-</u>	<u>55,973</u>
Department of Homeland Security				
Pass-Through Programs From:				
George Mason Univ. Understanding and Disrupting the Formation of New Criminal Networks: The Case of Novel Illicit Drug Trafficking Operations	97.061	E206795F	-	94,785
Total Department of Homeland Security			<u>-</u>	<u>94,785</u>
U.S. Dept. of State (Agency for International Development)				
Pass-Through Programs From:				
Cornell Univ. Feed the Future Innovation Lab for Crop Improvement (CIIL)	98.001	89915-11295	-	495,433
Kansas State University Feed the Future Innovation Lab for Climate Resilient Cereals (CRCIL)	98.001	A24-0240-S002	-	294,391

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RESEARCH AND DEVELOPMENT CLUSTER (CONTINUED)				
U.S. Dept. of State (Agency for International Development)				
National Academy of Sciences				
Novel Perovskites for Solar Thermochemical Fuel Production	98.001	SCON-10000770	-	40,671
Total U.S. Dept. of State (Agency for International Development)			-	830,495
Total Research and Development Cluster			<u>29,916,382</u>	<u>167,832,381</u>
Department of Education				
Student Financial Assistance Cluster				
Federal Direct Loans	84.268	unknown	-	116,604,906
Federal Pell Grant Program	84.063	unknown	-	23,565,348
Federal Perkins Loan Program Federal Capital Contributions	84.038	unknown	-	1,145,651
Federal Supplemental Educational Opportunity Grants	84.007	unknown	-	1,046,975
Federal Work Study Program	84.033	unknown	-	949,001
Teacher Education Assistance for College and Higher Education Grants (TEACH Grants)	84.379	unknown	-	94,772
Total Student Financial Assistance Cluster			-	<u>143,406,653</u>
Special Education Cluster				
Pass-Through Programs From:				
SC Dept. of Education				
South Carolina Educational Interpreting Center (SCEIC)	84.027	SCEIC	-	244,536
SC-CREATE Center for Clemson University	84.027	SC CREATE 24-25	-	12,899
Total Special Education Cluster			-	<u>257,435</u>
Total Department of Education			-	<u>143,664,088</u>
Department of Agriculture				
SNAP Cluster				
Pass-Through Programs From:				
SC Dept. of Social Services				
FY25 Snap-Ed Project 1: Health Matters/My Plate	10.561	4400036358	-	153,589
FY25 Snap-Ed Project 2: CATCH (Coordinated Approach to Child Health)	10.561	4400036218	-	122,821
FY25 Snap-Ed Project 3: Cooking Matters	10.561	4400036105	-	114,533
FY25 Snap-Ed Project 4: PSE (Policy, Systems and Environmental Change)	10.561	4400036107	-	137,419
FY25 Snap-Ed Project 5: Go NAP SACC Community Partnership	10.561	4400036104	-	144,087
FY25 Snap-Ed Project 6: Walk with Ease	10.561	4400036108	-	146,251
FY25 Snap-Ed Project 7: Formative Research and Evaluation	10.561	4400036106	-	151,952
FY 24 Snap-Ed: Health Matters/My Plate	10.561	4400033661	-	54,982
FY 24 Snap-Ed: PROJECT 6 Walk With Ease	10.561	4400033469	-	51,275

The accompanying notes are an integral part of this schedule.

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Department of Agriculture (Continued)				
FY 24 Snap-Ed: PROJECT 4 Policy, Systems, & Environmental Change	10.561	4400033481	-	56,029
FY 24 Snap-Ed: Formative Research and Evaluation	10.561	4400033468	-	51,426
FY 24 Snap-Ed: Cooking Matters	10.561	4400033480	-	37,303
FY 24 Snap-Ed: Go NAP SACC Community Partnership	10.561	4400033830	-	42,362
FY 24 Snap-Ed: Project 2: Coordinated Approach to Child Health(CATCH)	10.561	4400033662	-	38,912
Total SNAP Cluster			<hr/>	<hr/> 1,302,941
Total Department of Agriculture			<hr/>	<hr/> 1,302,941
Department of Transportation				
Highway Planning and Construction Cluster				
Pass-Through Programs From:				
SC Dept. of Transportation				
Transportation Technology Transfer Service (T3S)	20.205	SPR 1-24 P042907	-	88,485
Total Highway Planning and Construction Cluster			<hr/>	<hr/> 88,485
Total Department of Transportation			<hr/>	<hr/> 88,485
OTHER PROGRAMS				
Department of Agriculture				
South Carolina Meat-Poultry Inspection Department (Cross Utilization)	10.000	12-37-A-427 Cross Utilization DK	-	44,762
Pass-Through Programs From:				
Florida Certified Organic Growers and Co				
Clemson University Organic Certification Program (CU-OCP)	10.000	None	-	45,877
Total for Assistance Listing Number 10.000			<hr/>	<hr/> 90,639
FY22 D1 SC ADT	10.025	AP22VSSPRS00C050	-	(61)
FY24 D1 SC ADT	10.025	AP24VSSPRS00C080	-	84,369
FY24 D1 SC UMB	10.025	AP24VSSPRS00C100	-	246,525
FY25 D1 SC ADT	10.025	AP25VSSPRS00C051	-	16,561
FY25 D1 SC LIVESTOCK HPAI	10.025	AP25VSHQ0000C013	-	1,448
Pest Detection/CAPS Infrastructure / SC FY24 CAPS Infrastructure	10.025	AP24PPQFO000C274	-	43,132
SC 2022 NADPRP Mass Mortality Training	10.025	AP23VSSP0000C064	-	13,822
SC 2022 NADPRP Respond to Depop Events	10.025	AP23VSSP0000C061	-	11,967
SC 2023 NAHLN Infrastructure	10.025	AP23VSD&B000C039	-	93,568
SC 2024 NADPRP Mid-Atlantic Milk Supply	10.025	AP24VSSP0000C062	60,147	105,627
SC 2024 NAHLN Infrastructure	10.025	AP24VSD&B000C022	-	245,200
SC 2024 Veterinary Diagnostic Center	10.025	AP24VSD&B000G003	-	115,115
SC 2025 NADPRP Secure Beef Supply Plan	10.025	AP25VSSP0000C025	-	18,340
SC 2025 NAHLN Infrastructure - Annual Appropriation	10.025	AP25VSD&B000C016	-	4,765
SC 2025 NAHLN Infrastructure - Farm Bill	10.025	AP25VSD&B000C016	-	8,041

The accompanying notes are an integral part of this schedule.

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OTHER PROGRAMS (CONTINUED)				
Department of Agriculture (Continued)				
SC FY 2025 Targeted Outreach 5.0406.01	10.025	AP25PPQFO000C036	-	6,694
SC FY22 CAPS Combined Survey	10.025	AP22PPQFO000C151	-	(159)
SC FY23 Asian Longhorned Beetle Eradication Pro	10.025	AP23PPQFO000C477	-	3,324,204
SC FY23 Cogongrass Outreach	10.025	AP23PPQFO000C490	-	21,849
SC FY23 Cogongrass Survey	10.025	AP23PPQFO000C491	-	35,685
SC FY23 Honeybee Survey 1S.0658.01	10.025	AP23PPQFO000C360	-	2,049
SC FY23 P.ramorum Survey 1S.0477.01	10.025	AP23PPQFO000C453	-	4,200
SC FY23 Stone Fruit Survey 1S.0395.01	10.025	AP23PPQFO000C280	-	1,522
SC FY24 Asian Longhorned Beetle Eradicat	10.025	AP24PPQFO000C561	-	1,360,121
SC FY24 CAPS Survey	10.025	AP24PPQFO000C288	-	16,100
SC FY24 Citrus Commodity Survey 1S.0405	10.025	AP24PPQFO000C237	-	18,922
SC FY24 Cogongrass Survey	10.025	AP24PPQFO000C560	-	178,281
SC FY24 Grape Survey 1S.0550.01	10.025	AP24PPQFO000C239	-	29,711
SC FY24 Honeybee Survey 1S.0658.01	10.025	AP24PPQFO000C054	-	13,800
SC FY24 Imported Fire Ant	10.025	AP24PPQFO000C431	-	28,707
SC FY24 P.ramorum Survey 1S.0477.01	10.025	AP24PPQFO000C052	-	15,198
SC FY24 Targeted Outreach 5.0406.01	10.025	AP24PPQFO000C272	-	32,877
SC FY24 Vascular Streak Dieback 1S.0021	10.025	AP24PPQFO000C238	-	4,279
SC FY24 Yellow Legged Hornet Response 6R	10.025	AP24PPQFO000C240	-	403,916
SC FY25 PD CAPS Combined	10.025	AP25PPQFO000C008	-	31,100
SC FY25 Vascular Streak Dieback 1S.0021	10.025	AP25PPQFO000C137	-	400
SC US Swine Health Improve Plan (SHIP)	10.025	AP24VSSP0000C021	-	4,066
SC Yellow Legged Hornet Response 6R	10.025	AP25PPQFO000C103	-	59,495
Pass-Through Programs From:				
Colorado State Univ.				
NAHLN: CO Animal Health Diagnostic Laboratory 2023-2024/5	10.025	G-50346-09	-	457,783
Total for Assistance Listing Number 10.025			60,147	7,059,219
Program Income for 207-2024895 "Towards a more Robust Portfolio of Entrepreneurship and Production Training for South Carolina's Emerging Farmers"	10.311	Program Income	-	22,415
Towards a more Robust Portfolio of Entrepreneurship and Production Training for South Carolina's Emerging Farmers	10.311	2021-70033-35707	-	129,647
Total for Assistance Listing Number 10.311			-	152,062
South Carolina Meat-Poultry Inspection Department - All Other	10.475	BASE21 (12-37-A307)	-	297
South Carolina Meat-Poultry Inspection Department - All Other	10.475	BASE23 (12-37-A307)	-	(72,595)
South Carolina Meat-Poultry Inspection Department - All Other	10.475	12-37-A-307	-	51,281
South Carolina Meat-Poultry Inspection Department - All Other	10.475	BASE25 (12-37-A307)	-	310,215
South Carolina Meat-Poultry Inspection Department - Compliance	10.475	BASE23 (12-37-A307)	-	(6,235)
South Carolina Meat-Poultry Inspection Department - Compliance	10.475	12-37-A-307	-	29,918
South Carolina Meat-Poultry Inspection Department - Compliance	10.475	BASE25 (12-37-A307)	-	138,462
South Carolina Meat-Poultry Inspection Department - Cross Utilization	10.475	12-37-A-427 Cross Utilization FY23	-	80,472
South Carolina Meat-Poultry Inspection Department - Cross Utilization	10.475	Cross Utilization FY25 (12-37-A-427)	-	135,205
South Carolina Meat-Poultry Inspection Department - In-Plant	10.475	BASE23 (12-37-A307)	-	(10,161)
South Carolina Meat-Poultry Inspection Department - In-plant	10.475	12-37-A-307	-	148,339
South Carolina Meat-Poultry Inspection Department - In-Plant	10.475	BASE25 (12-37-A307)	-	879,602

The accompanying notes are an integral part of this schedule.

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OTHER PROGRAMS (CONTINUED)				
Department of Agriculture (Continued)				
South Carolina Meat-Poultry Inspection Department - Laboratory	10.475	12-37-A-307	-	8,047
South Carolina Meat-Poultry Inspection Department - Laboratory	10.475	BASE25 (12-37-A307)	-	11,015
Total for Assistance Listing Number 10.475			-	1,703,862
South Carolina Meat-Poultry Inspection Department (Talmadge-Aiken) (In-Plant)	10.477	BASE25 (12-37-A-427) FAIN: FI25A427SCTBRI	-	79,687
South Carolina Meat-Poultry Inspection Department (Talmadge-Aiken) (Overtime)	10.477	AOT25 (12-37-A-427) FAIN: FI25A427SCTAR0C	-	200
Total for Assistance Listing Number 10.477			-	79,887
AgrAbility in South Carolina	10.500	2022-41590-38364	58,621	113,288
Total for Assistance Listing Number 10.500			58,621	113,288
Smith-Lever	10.511	NI23SLBCXXXXG051	-	5,063,092
Total for Assistance Listing Number 10.511			-	5,063,092
FACT-CIN: Expanded Food and Nutrition Education Program - Web Based Nutrition Education and Evaluation Reporting System (WebNEERS)	10.514	2023-38834-40970	15,778	328,659
Total for Assistance Listing Number 10.514			15,778	328,659
Development of a Mass Timber Structure Training Program	10.674	22-DG-11083150-307	-	3,574
Mass Timber Reconstruction of a High-Profile Academic Building at Clemson University: Lehotsky Hall	10.674	22-DG-11083150-306	-	3,457
Total for Assistance Listing Number 10.674			-	7,031
Southern Pine Beetle Portal Project	10.680	23-DG-11083150-125	-	2,965
Total for Assistance Listing Number 10.680			-	2,965
Creation and Execution of a Global Asian Long Horned Beetle Summit	10.684	24-CA-11132762-309	-	3,717
Total for Assistance Listing Number 10.684			-	3,717
Providing Assistance to Rural Cooperatives and Mutually Owned Businesses through the South Carolina Center for Cooperative and Enterprise Development.	10.771	46-039-576000254 FY22 RCDG	-	(712)
Providing Assistance to Rural Cooperatives and Mutually Owned Businesses through the South Carolina Center for Cooperative and Enterprise Development	10.771	46-039-576000254	36,033	49,184

The accompanying notes are an integral part of this schedule.

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OTHER PROGRAMS (CONTINUED)				
Department of Agriculture (Continued)				
Providing Assistance to Rural Cooperatives and Mutually Owned Businesses	10.771	(RCDG) 46-039-0576000254	58,329	135,288
Total for Assistance Listing Number 10.771			94,362	183,760
Technical Assistance to Micro Entrepreneurs through the SC Center for Cooperative and Enterprise Development	10.870	(RMAP) 46-039-841224685	65,237	96,284
Total for Assistance Listing Number 10.870			65,237	96,284
Pass-Through Programs From:				
Univ. of Georgia				
Sustainable Agriculture Research and Education (SARE) Program 2021	10.215	SUB00002906	-	21,875
Sustainable Agriculture Research and Education (SARE) Program 2021	10.215	SUB00002871	456	16,262
Sustainable Agriculture Research and Education (SARE) Program 2020 -				
Southern SARE Model State Program - Training Grant	10.215	SUB00002637	-	3,715
Sustainable Agriculture Research and Education (SARE) 2023	10.215	SUB00003640	-	6,422
Total for Assistance Listing Number 10.215			456	48,274
Extension Foundation				
Clemson Bridge Access Promotion Program	10.229	EXCB-2024-2534	-	24,982
Total for Assistance Listing Number 10.229			-	24,982
Univ. of Florida				
The Southern Plant Diagnostic Network	10.304	SUB00003518	-	50,870
Total for Assistance Listing Number 10.304			-	50,870
NC State Univ.				
An In-Person Meeting of The Food Safety Extension Network:				
Supporting Consumer, Retail, and Home-based Businesses	10.310	PAM-P24-002528-SA02	-	1,205
Total for Assistance Listing Number 10.310			-	1,205
Univ. of Georgia				
An integrated approach to developing Extension outreach curricula for home food preservation, retail food safety, and cottage foods:				
A Food Safety Extension Network Effort	10.328	SUB00003290	-	43,644

The accompanying notes are an integral part of this schedule.

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OTHER PROGRAMS (CONTINUED)				
Department of Agriculture (Continued)				
Univ. of Florida				
Southern Regional Center for Food Safety Training, Outreach and Lead Regional Coordination Center	10.328	SUB00002999	-	2,838
Southern Regional and Lead Coordination Centers for FSMA Food Safety Training and Outreach	10.328	SUB00004396	-	4,301
Total for Assistance Listing Number 10.328			-	50,783
Project Victory Gardens				
Palmetto Veterans in Agribusiness	10.334	none	-	1,548
Total for Assistance Listing Number 10.334			-	1,548
Total Department of Agriculture			294,601	15,062,127
Department of Interior				
23 HPF AACR - Clemson University - Clemson University African American History Video Project	15.904	P24AP00813-00	-	17,038
Total for Assistance Listing Number 15.904			-	17,038
Archaeological and Historical Assessment of Fort Rutledge and the Battle of Esseneaca	15.926	P21AP11636-00	-	29,158
Total for Assistance Listing Number 15.926			-	29,158
CESU-Digitize and Host DeSoto National Memorial Images and Metadata	15.945	P23AC02192-00	-	14,558
Digitize Photographic Materials for Everglades and Biscayne National Parks	15.945	P16AC01406	-	(7,032)
ROCR D-3 Police Substation Historic Structures Report (HSR)	15.945	P22AC01967-00	-	6,822
Total for Assistance Listing Number 15.945			-	14,348
Total Department of Interior			-	60,544
Department of Energy				
Pass-Through Programs From:				
Optimus Ride Inc				
Implementation of Energy Efficient Mobility Systems Technologies into Real-World System Applications	81.086		-	(10,120)
Total for Assistance Listing Number 81.086			-	(10,120)
Total Department of Energy			-	(10,120)

The accompanying notes are an integral part of this schedule.

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OTHER PROGRAMS (CONTINUED)				
Department of Justice				
Pass-Through Programs From:				
National 4-H Council				
4-H National Mentoring Program	16.726	4/4-H NMP 12/ 15PJDD-21-GG-02766-MENT/ 2	-	(285)
Total for Assistance Listing Number 16.726			-	(285)
SC Dept. of Alcohol and Drug Abuse Svrs.				
SC COSSUP Initiative - Year 1 (CAMHR Grant)	16.838	OJP24-TX-LEAD-CLM-20231001-20240930	4,367	5,828
SC COSSUP Initiative - Year 2 (CAMHR Grant)	16.838	OJP25-TX-TA-CLM-20241001-20250930	3,159	50,168
Total for Assistance Listing Number 16.838			7,526	55,996
Total Department of Justice			7,526	55,711
Department of State				
Strategic Partnership in US Government and Politics	19.900	SRB10023GR0066	-	54,238
Total for Assistance Listing Number 19.900			-	54,238
Total Department of State			-	54,238
Small Business Administration				
Pass-Through Programs From:				
Univ. of South Carolina				
Program Income for 223-2026581 "Small Business Development Center - Federal Operating Grant 2023"	59.037	Program Income	-	95
Small Business Development Center - Federal Operating Grant 2024	59.037	FEDERAL-Clemson-2024 SBAHQ24B0061	-	397
Small Business Development Center - Federal Operating Grant 2023	59.037	FEDERAL-Clemson-2023 SBAHQ23B0041	-	395,468
Total for Assistance Listing Number 59.037			-	395,960
Total Small Business Administration			-	395,960
Environmental Protection Agency				
Consolidated Pesticide Enforcement Cooperative Agreements	66.700	98463623	-	179,778
Consolidated Pesticide Enforcement Cooperative Agreements	66.700	98463723	-	255,990
Consolidated Pesticide Enforcement Cooperative Agreements	66.700	98463823	-	167,896
Total for Assistance Listing Number 66.700			-	603,664
Pass-Through Programs From:				
eXtension Foundation				
2024 PSEFMP Project: Pesticides and Water	66.716	PSEFMP-2024-2403	-	14,069
r Empowered Up: A Comprehensive PSEFMP Promoting Efficiency and Environmental Justice	66.716	PSEFMP-2025-2652	-	7,519
Total for Assistance Listing Number 66.716			-	21,588

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OTHER PROGRAMS (CONTINUED)				
Environmental Protection Agency (Continued)				
Tennessee Valley Authority				
Establish a Landscape Conservation Fellowship for the Tennessee River Basin Biodiversity Network.	66.000	13373 / PO# 6678289	-	3,094
Total for Assistance Listing Number 66.000			-	3,094
Total Environmental Protection Agency			-	628,346
Department of Education				
Pass-Through Programs From:				
SC Dept. of Education				
Future Farmers of America (FFA) Program Assistant	84.048	H63010107124	-	9,771
Total for Assistance Listing Number 84.048			-	9,771
SC Dept. of Education				
After-school Program at Cedar Grove Elementary	84.287	H63010006924	-	662
After-school Program at Cedar Grove, Palmetto Elementary (21st Century CCLC)	84.287	H63010006924	94,008	143,029
After-school Program at Liberty Elementary 24-25 21st CCLC	84.287	24-25 21st CCLC H63010006925	11,680	50,214
After-school Program at Liberty Primary and Liberty Elementary	84.287	23-24 21st CCLC-50 H63010006924/	10,293	11,779
After-school Program at West Pelzer and Spearman Elementary	84.287	23-24 21st CCLC-20 H63010006924	-	662
After-school Program at West Pelzer, Spearman Elementary - CCLC 24-25	84.287	24-25 21st CCLC H63010006924	81,629	114,802
Total for Assistance Listing Number 84.287			197,610	321,148
The Ohio State Univ.				
Refining and Expanding HEROES: A Literacy Intervention for Young Students with IEPs	84.411	SPC-1000003969 / GR117381	-	5,610
Total for Assistance Listing Number 84.411			-	5,610
SC Dept. of Education				
Call Me MISTER Initiative Engagement Agreement	84.425	None	-	1,110
Total for Assistance Listing Number 84.425			-	1,110
Total Department of Education			197,610	337,639
Department of Health and Human Services				
Mental Health Awareness Training	93.243	1H79SM084452-01/5H79SM084452-02	104,690	104,690
Mental Health Training in Youth Sport	93.243	1H79SM084490-01	-	39,415
Mental Health Training in Youth Sport	93.243	5H79SM084490-02	-	63,978
Total for Assistance Listing Number 93.243			104,690	208,083
Advanced Nurse Education-Sexual Nurse Assault Examiner program	93.247	2 T96HP32502-04-00	58,672	58,672
Advanced Nurse Education-Sexual Nurse Assault Examiner program	93.247	2 T96HP32502-06-00	159,516	301,024

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OTHER PROGRAMS (CONTINUED)				
Department of Health and Human Services (Continued)				
Total for Assistance Listing Number 93.247			218,188	359,696
Nurse Education, Practice, Quality and Retention	93.359	6 UK1HP46052-02-01	38,432	38,432
Nurse Education, Practice, Quality and Retention	93.359	5 UK1HP46052-03-00	151,540	1,083,255
Nurse Education, Practice, Quality and Retention Simulation				
Education Training Program	93.359	1 T48HP52018-01-00	25,728	523,534
Total for Assistance Listing Number 93.359			215,700	1,645,221
Community Project Funding/Congressionally Directed				
Spending - Construction	93.493	1 CE1HS52269-01-00	-	451,250
Total for Assistance Listing Number 93.493			-	451,250
Disease Modeling and Analytics to inform Outbreak Preparedness, Response, Intervention, Mitigation, and Elimination in South Carolina (DMA-PRIME)	93.823	1 NU38FT000011-01-00	1,615,554	3,457,652
Disease Modeling and Analytics to inform Outbreak Preparedness, Response, Intervention, Mitigation, and Elimination in South Carolina (DMA-PRIME)	93.823	6 NU38FT000011-01-05_supplement	263,158	706,160
Total for Assistance Listing Number 93.823			1,878,712	4,163,812
Rural Communities Opioid Response Program-Neonatal Abstinence Syndrome				
Abstinence Syndrome	93.912	6G26RH40075-02-01	86,690	86,690
Total for Assistance Listing Number 93.912			86,690	86,690
Pass-Through Programs From:				
SC Department of Public Health Medical Reserve Corps (MRC-STTRONG) - Clemson University				
Subaward for SC Veterinary Reserve Corps	93.008	ER-5-A044	-	122,109
Total for Assistance Listing Number 93.008			-	122,109
SC Dept. of Health and Env Control				
Academic Detailing - Substance Use Disorder and Harm Reduction. SOF1 "Injury Prevention and Control Research and State and Community Based Programs" (OD2A)	93.136	DC-4-320 , FR 4000059509 (OD2A)	849,761	874,961
Total for Assistance Listing Number 93.136			849,761	874,961
University of Kentucky Research Foundation				
Southeast Center for Agricultural Health and Injury Prevention - PILOT PROJECTS	93.262	3210002492-24-191 / PO 7800007361	-	13,735
Total for Assistance Listing Number 93.262			-	13,735
SC Dept. of Health and Env Control				
South Carolina Public Health Preparedness Student Corp (SCPHPSC)	93.354	PH-2-533	609,251	612,751
Total for Assistance Listing Number 93.354			609,251	612,751

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For the year ended June 30, 2025

<u>Federal Grantor/Pass-Through Grantor/Program Title</u>	<u>Assistance Listing Number</u>	<u>Pass-Through Entity Identifying Number</u>	<u>Passed Through to Subrecipient</u>	<u>Total Federal Expenditures</u>
OTHER PROGRAMS (CONTINUED)				
Total Department of Health and Human Services				3,962,992 8,538,308
National Endowment for the Arts				
Pass-Through Programs From:				
South Arts				
College Dance Collective at the Brooks Center for the				
Performing Arts	45.024	PG25-4456	-	9,500
Total for Assistance Listing Number 45.024			-	9,500
Total National Endowment for the Arts			-	9,500
Veterans Affairs				
Pass-Through Programs From:				
Move United, Inc.				
VA 2023-2024 Adaptive Sport Grant Opportunity for Move				
United Member Organizations	64.034	None	-	1,183
Total Veterans Affairs			-	1,183
National Endowment for the Humanities				
Rhythms of Relation: Decolonizing Identity in Iranian Modernism	45.160	FEL-294951-24	-	60,000
Total for Assistance Listing Number 45.160			-	60,000
Call My Name: The Black Experience in the South Carolina				
Upstate from Enslavement to Desegregation	45.164	GI-269711-20	-	55,448
Total for Assistance Listing Number 45.164			-	55,448
Pass-Through Programs From:				
The Teagle Foundation				
Cornerstone: Learning for Living	45.162	2005507	-	58,030
Total for Assistance Listing Number 45.162			-	58,030
Total National Endowment for the Humanities			-	173,478
Total Other Programs			5,071,980	25,306,914
TOTAL FEDERAL EXPENDITURES			\$ 34,379,111	\$ 338,194,809

The accompanying notes are an integral part of this schedule.

(Continued)

Clemson University

Clemson, South Carolina

Notes to the Schedule of Expenditures of Federal Awards

June 30, 2025

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”) under programs of the federal government 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

Expenditures in the Schedule are recognized following the cost accounting principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement. Negative amounts shown on the Schedule represent adjustments or credits made in the normal course of business to amounts reported as expenditures in prior years.

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, 2025, 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 (Assistance Listing 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, 2025. The balance of loans outstanding under the Federal Perkins Loan Program was \$1,145,651 as of June 30, 2025. 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, 2025

Note 4. Federal Direct Student Loans Program (Assistance Listing 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 AUDITORS' REPORT ON INTERNAL CONTROL OVER
FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS
BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED
IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS**

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 the aggregate discretely presented component units of Clemson University (the University), a component unit of the State of South Carolina, as of and for the year ended June 30, 2025, 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 26, 2025.

The financial statements of Clemson University Foundation and IPTAY were not audited in accordance with *Government Auditing Standards* and accordingly this report does not include reporting on internal control over financial reporting or instances of reportable noncompliance associated with Clemson University Foundation or IPTAY.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered Clemson University's internal control over financial reporting (internal control) as a basis for designing 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 Clemson University's internal control. Accordingly, we do not express an opinion on the effectiveness of Clemson 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 or significant deficiencies may exist that were not identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether Clemson 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 financial statements. 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.

The logo consists of the company name "CliftonLarsonAllen LLP" written in a stylized, cursive, black font.

CliftonLarsonAllen LLP

Atlanta, Georgia
September 26, 2025



**INDEPENDENT AUDITORS' 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**

Board of Trustees
Clemson University
Clemson, South Carolina

Report on Compliance for Each Major Federal Program

Opinion on Each Major Federal Program

We have audited Clemson University's compliance with the types of compliance requirements identified as subject to audit in the OMB *Compliance Supplement* that could have a direct and material effect on each of Clemson University's major federal programs for the year ended June 30, 2025. Clemson University's major federal programs are identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

In our opinion, Clemson University complied, in all material respects, with the compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2025.

Basis for Opinion on Each Major Federal Program

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (GAAS); 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). Our responsibilities under those standards and the Uniform Guidance are further described in the Auditors' Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of Clemson University and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of Clemson University's compliance with the compliance requirements referred to above.

Other Matter – Federal Expenditures Not included in the Compliance Audit

Clemson University's basic financial statements include the operations of three discretely presented component units and one blended component unit. Federal awards received by the Clemson Research Facilities Corporation (a blended component unit), Clemson University Foundation (a discretely presented component unit), IPTAY (a discretely presented component unit) and Clemson University Land Stewardship Foundation (a discretely presented component unit) are not included in Clemson University's Schedule of Expenditures of Federal Awards for the year ended June 30, 2025. Our compliance audit, described in the Opinion on Each Major Federal Program, does not include the operations of these component units because they did not receive federal awards or they engaged other auditors to perform an audit in accordance with Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*.

Responsibilities of Management for Compliance

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to Clemson University's federal programs.

Auditors' Responsibilities for the Audit of Compliance

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on Clemson University's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about Clemson University's compliance with the requirements of each major federal program as a whole.

In performing an audit in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance, we:

- exercise professional judgment and maintain professional skepticism throughout the audit.
- identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding Clemson University's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- obtain an understanding of Clemson University's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of Clemson University's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

Report on 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 a 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 Auditors' Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

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 component units of Clemson University as of and for the year ended June 30, 2025, and the related notes to the financial statements, which collectively comprise the University's basic financial statements. We have issued our report thereon, dated December 19, 2025, which contained unmodified opinions on those financial statements. Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the basic financial statements. 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 basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated in all material respects in relation to the basic financial statements as a whole.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Atlanta, Georgia
December 19, 2025

Clemson University

Clemson, South Carolina

Schedule of Findings and Questioned Costs

For the year ended June 30, 2025

Section I. Summary of Auditors' Results

Financial Statements

1. Type of auditors' report issued:	Unmodified		
2. Internal control over financial reporting:			
• Material weakness(es) identified?	yes	<input checked="" type="checkbox"/>	no
• Significant deficiency(ies) identified?	yes	<input checked="" type="checkbox"/>	none reported
3. Noncompliance material to financial statements noted?	yes	<input checked="" type="checkbox"/>	no

Federal Awards

1. Internal control over major federal programs:			
• Material weakness(es) identified?	yes	<input checked="" type="checkbox"/>	no
• Significant deficiency(ies) identified?	yes	<input checked="" type="checkbox"/>	none reported
2. Type of auditors' report issued on compliance for major federal programs:	Unmodified		
3. Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)?	yes	<input checked="" type="checkbox"/>	no

Identification of Major Federal Programs

Assistance Listing Number(s)	Name of Federal Program or Cluster
Various 93.823	Research and Development Cluster Public Health Response, Forecasting, and Analytical Capacities Related to Disease Outbreaks, Epidemics, and Pandemics
Dollar threshold used to distinguish between Type A and Type B programs:	\$ <u>3,000,000</u>
Auditee qualified as low-risk auditee?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no

Clemson University

Clemson, South Carolina

Schedule of Findings and Questioned Costs

For the year ended June 30, 2025

Section II. Financial Statement Findings

Our audit did not disclose any matters required to be reported in accordance with *Government Auditing Standards*.

Clemson University

Clemson, South Carolina

Schedule of Findings and Questioned Costs

For the year ended June 30, 2025

Section III. Findings and Questioned Costs - Major Federal Programs

Our audit did not disclose any matters required to be reported in accordance with *Government Auditing Standards*.

CONTROLLER'S OFFICE

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Clemson University Clemson, South Carolina *Summary Schedule of Prior Audit Findings For the year ended June 30, 2025*

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 2024-001 Improper Payroll Calculation

Federal Agency: U.S. Department of Energy

Federal Program Name: Research and Development Cluster

Condition:

The University incorrectly calculated payroll costs charged to the grant after an employee was double paid for the same hours worked resulting in an overpayment of \$400.

Current Action Taken/Current Status:

Corrective Action was taken.

Finding 2024-002 Subrecipient Monitoring

Federal Agency: U.S. Department of Health and Human Services

Federal Program Name: Public Health Emergency Response: Cooperative Agreement for Emergency Response: Public Health Crisis Response

Condition:

The University incorrectly documented the subaward as a Research and Development grant to the subrecipient.

Current Action Taken/Current Status:

Corrective Action was taken.



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