Lead Investigator	Leading Unit	Investigator	Investigator Unit	Award Title	Sponsor	Total Awar Amount	
Marsh,Stuart E	Sch of Natural Resources	Crimmins,Theresa M	Sch of Nat Resource&Enviro- Res	USA National Phenology Network	United States Geological Survey	\$	2,999,928
Lopez Hoffman,Laura	Sch of Natural Resources	Baldwin,Elizabeth; Bethard,Steven John; Miller,Marc L; Ram,Sudha	School of Govt & Public Policy; School of Information; Law Administration; MIS	RIDIR: Collaborative Research: A Data Science Platform and Mechanisms for Its Sustainability	National Science Foundation	\$	1,500,000
Breshears,David D	Sch of Natural Resources	Baldwin,Elizabeth; Lopez Hoffman,Laura; Soto,Jose	School of Govt & Public Policy	CNH-L: Revealing the Hidden Ecoclimate Teleconnections Between Forest and Agriculture in the U.S. Enables Novel Governance Strategies for a Telecoupled World	National Science Foundation	\$	1,450,000
Riehle,Michael A	Entomology			Midgut Mitochondrial Function as a Driver of Resistance and Fitness in Mosquitoes	National Institute of Allergy and Infectious Disease	\$	726,380
Tronstad,Russell E	Agric & Resource Econ	Brischke,Andrew; Greene,Elizabeth Ann; Hall,Ashley; Rappold,Patrick Matthew; Schalau,Jeff W; Sherman,Joshua D; Teegerstrom,Trent; Wright,Ashley Diane	Mohave County Office; Gila County; Cochise County, AREC	Developing Opportunities and Growing Business of Limited-Resource and Native American Beginning Farmers and Ranchers in Arizona	United States Department of Agriculture	\$	600,000
Pauli,William Duke	School of Plant Sciences	Andrade Sanchez,Pedro	Biosystems Engineering-Res	A Reference Phenotyping System for Energy Sorghum	DOE-The Donald Danforth Plant Science Center	\$	505,232
Nelson,Andrew	School of Plant Sciences	Devisetty, Upendra	BIO5 Institute	MINE-PGR: Mining Public RNA-Seq Data to Identify and Annotate Long Non-Coding RNAs in Fifteen Diverse Angiosperms	National Science Foundation	\$	473,600
Hingle,Melanie D	Nutritional Sciences	Marrero, David; Roe, Denise	Senior VP Health Sciences	Type 2 Diabetes Prevention in Community Health Care Settings for at Risk Children and Mothers	National Institute of Diabetes and Digestive and Kidney Diseases	\$	455,171
Brown,Judith K	School of Plant Sciences			Asian Citrus Psyllid Polymerase Chain Reaction Analysis Contract (Agreement Number 17- 0225)	USDA-California Department of Food and Agriculture	\$	386,955

Lead Investigator	Leading Unit	Leading Unit Investigator	Investigator Unit	Award Title	Sponsor	Total Award Amount	
Bogan,Michael	Sch of Natural Resources			Collaborative Proposal: MSB-FRA: Scaling Climate, Connectivity and Communities in Streams	National Science Foundation	\$ 375,18	
Didan,Kamel	Biosystems Engineering - Res	Didan,Kamel	Biosystems Engineering - Res	Vegetation Assessment of Greenup and Evapotranspiration Using Satellite Imagery for Native and Non-Native Plants in Western U.S.A. Riparian Zones	United States Geological Survey	\$ 369,89	
Quanrud,David M	Sch of Natural Resources	Arnold,Robert; Park,Minkyu; Saez,Avelino; Snyder,Shane	Chemical & Environmental Engr	Simulation of Singlet Oxygen Kinetics for Trace Organic Transformation in Wastewater Effluent	National Science Foundation	\$ 329,96	
Mcclaran,Mitchel P	Sch of Natural Resources	Crimmins, Michael; Ferguson, Daniel B	Soil Water and Enviro Sci-Ext	Livestock Ranching, Rangelands, and Resilience: Ensuring Adaptive Capacity in an Increasingly Variable Climate	USDA - University of Colorado, Boulder	\$ 232,36	
Parrott,Amy M	Yuma County Office			First Smiles Yuma	Arizona Early Childhood Development and Health Board	\$ 220,00	
Vedantam, Gayatri	Animal&Biomed ical Sciences			Gastrointestinal Colonization of Diarrheagenic Clostridium Difficile	United States Department of Veterans Affairs	\$ 201,58	
Martinez,Cathy L	Pinal County Office	Martinez,Cathy L	Pinal County Office	Child Care Health Consultation	Arizona Early Childhood Development and Health Board	\$ 183,68	
Brierley,Paul E	YCEDA	Andrade Sanchez,Pedro; Frisvold,George; Sanchez,Charles; Ottman,Michael J	Biosystems Engineering-Res, AREC, SWES, SPS	Nitrogen Management and Water Footprint for Arizona Durum Production	Barilla USA	\$ 142,35	
Dial,Sharon M	AZ Veterinary Diagnostic Lab	Dial,Sharon M	AZ Veterinary Diagnostic Lab	AZ FY 18 Level 2 Member Lab Agreement	United States Department of Agriculture	\$ 137,00	
Dixon,Darcy L	Santa Cruz County Office			General Support of Compost Cats Programming	Rathmann Family Foundation	\$ 100,00	

Lead Investigator	Leading Unit	ing Unit Investigator	Investigator Unit	Award Title	Sponsor	Total Award Amount	
Tronstad,Russell E	Agric & Resource Econ	Diaz,Duarte; Greene,Elizabeth Ann; Hall,Ashley; Sherman,Joshua D; Ashley Diane	Animal&Biomedical Sciences-Ext; Gila County; Cochise County	Risk Management Education for Arizona's Livestock, Dairy, Forage, and Tree Nut Producers	United States Department of Agriculture	\$	99,990
Rappold,Patrick Matthew	Gila County Office			Identification of Opportunities and Barr	United States Department of Agriculture	\$	98,301
Steidl,Robert J	Sch of Natural Resources	Christianson,David A	Sch of Nat Resource&Enviro- Res	MEXICAN GRAY WOLF- Holloman AFB	United States Army Corps of Engineers	\$	97,801
Smith,William Kolby	Sch of Natural Resources	Smith,William Kolby	Sch of Nat Resource&Enviro- Res	Defining the Relationship of Productivity With Water Availability Across the Semiarid Western U.S.	Agricultural Research Service	\$	95,324
Ruyle,George B	Sch of Natural Resources			Arizona Rangeland Education, Outreach, and Monitoring	United States Forest Service	\$	90,000
Dixon,Darcy L	Santa Cruz County Office			Child Care Health Consultation (Santa Cruz County)	Arizona Early Childhood Development and Health Board	\$	89,600
Wyatt,Melissa A	La Paz County Office			First Things First, Childcare Health Consortium Mohave and LaPaz	Arizona Early Childhood Development and Health Board	\$	85,195
Tabashnik,Bruce E	Entomology			Selection for Vip3A Resistance in Helicoverpa Zea	Bayer Crop Science GmbH	\$	70,000
Ramirez,Monica D	Soil Water and Enviro Sci			Dirt Alert: Legacy Mining Contaminant Impacts in Preschools	Sierra Streams Institute	\$	60,546
Arnold,Anne E	School of Plant Sciences			AEA-2018-01: Seed Associated Microbes	Indigo	\$	55,997
Arnold,Anne E	School of Plant Sciences			AEA-2018-02: Relatives of crop plants/plants in cultivated environments	Indigo	\$	55,997
Blankinship, Joseph	Soil Water and Enviro Sci			Innovations in Workforce Development: University Industry Consortium Fellows Program	FFAR- North Carolina State University	\$	55,000
Brown,Judith K	School of Plant Sciences			Testing services agreement related to PCR diagnostics to cocoa swollen shoot virus	Wm. Wrigley Jr. Company	\$	50,000

Lead Investigator	Leading Unit	Investigator	Investigator Unit	Award Title	Sponsor	Total Award Amount	
Culver,Melanie	Sch of Natural Resources	Culver,Melanie	Sch of Nat Resource&Enviro- Res	Camera Study to Monitor Large Predators Including Jaguar and Ocelot	United States Forest Service	\$ 50,000	
Bogan,Michael	Sch of Natural Resources	Wilder,Benjamin T	Science Administration	Establishing a Hydrologic and Biologic Baseline for Predictive Management of Threatened Freshwater Habitats in the Western Sonoran Desert	National Park Service	\$ 49,748	
Fehmi,Jeffrey S	Sch of Natural Resources			Baseline Phonological Observation of Seasonal Biological Events	National Park Service	\$ 45,000	
Dixon,Ashley L	Gila County Office	Martinez,Cathy L	Pinal County Office	Developmental and Sensory Screening	Arizona Early Childhood Development and Health Board	\$ 43,750	
Giacomelli,Gene A	Biosystems Engineering - Res	Giacomelli,Gene A	Biosystems Engineering - Res	UibQD Company Quantum Dots Film Study	NASA-UbiQD, Inc.	\$ 42,135	
Hodges,Tanya M	Agricultural Education			Financial Support and Strengthen the USDA- NRCS Diversity Recruitment Mission in Support of the Natural Resource Career Development Program (NRCDP) Initiative	United States Department of Agriculture	\$ 41,000	
Fehmi,Jeffrey S	Sch of Natural Resources	Gornish,Elise	Sch of Nat Resource&Enviro- Res	Restoring Biotic Diversity in Lehmann Lovegrass Dominated Grasslands: Fertile Islands	National Park Service	\$ 39,935	
Christianson,David A	Sch of Natural Resources	Christianson, David; Coleman, Tyler	Sch of Nat Resource&Enviro- Res	Anthropogenic and Climate Impacts on Ungulates in the Greater Organ Pipe Cactus National Monument Ecosystem	National Park Service	\$ 39,435	
Curley,Deborah L	Pima County Office			Pima South Parent Outreach and Awareness	United Way	\$ 38,000	
Hu,Jia	Sch of Natural Resources			Rocky Mountain Juniper Influences on Stream Hydrology	Turner Enterprises, Inc.	\$ 35,000	
Skulas-Ray,Ann Christine	Nutritional Sciences	Richter,Chesney	Nutritional Sciences- Res	Cardioprotective Effects of Freeze Dried Grape Powder Supplementation on Blood Pressure and Plasma Lipids/Lipoproteins: A Pilot Study	California Table Grape Commision	\$ 35,000	
Christianson,David A	Sch of Natural Resources			DS CESU: Wildlife Occupancy Modelling and Monitoring in Sonoran Desert Parks	National Park Service	\$ 34,391	

Lead Investigator	Leading Unit	Investigator	Investigator Unit	Award Title	Sponsor	Total Award Amount	
Ellsworth,Peter C	Maricopa Ag Center	Carlos Bordini,Isadora; Fournier,Alfred J	Maricopa Ag Center- Ext	Empowering Producers to Effectively Integrate Chemical and Biological Controls through Research and Outreach on Selective Chemistries and Impacts on Natural Enemies	USDA-Utah State University	\$ 25,000	
Ottman,Michael J	School of Plant Sciences	Curlango Rivera,Gilberto; Hawes,Martha C;Ottman,Michael J	Soil Water Enviro Sci- Res, SPS	Drought Tolerance in Barley: Discovery of a Possible Mechanism Involving Root Tip Characteristics (19-04)	Arizona Grain Research And Promotion Council	\$ 25,000	
Tabashnik,Bruce E	Entomology			Targets for CRISPR/Cas9-mediated Gene Drive in Bemisia Tabaci: A strategy for Controlling a Global Pest	Binational Agricultural Research and Development Fund (Israel)	\$ 25,000	
Walker,Kathleen R	Entomology	Brophy, Maureen	Interdis Graduate Prog Admin	Genetic Variation and Endosymbiont Diversity of Rhipicephalus Sanguineus Populations across Arizona/Pacific Southwest Regional Center of Excellence for Vector-Borne Disease Research at the Univer	University of California, Davis	\$ 25,000	
Kacira,Murat	Biosystems Engineering - Res	Tollefson,Stacy Joy	Biosystems Engineering-Ins	Hydroponic Production of Leafy Greens in NFT System and Technology Showcase	American Hydroponics	\$ 24,809	
Hodges,Tanya M	Agricultural Education	Mars,Matthew M	Agricultural Education-Ins	Ag-Discovery Summer Enrichment Program	United States Department of Agriculture	\$ 24,143	
Wright,Glenn C	School of Plant Sciences			FY18 NCPN- University of Arizona- The Ar	United States Department of Agriculture	\$ 21,979	
Hu,Jiahuai	School of Plant Sciences	Wright,Glenn C	School of Plant Sciences-Res	Coupling Spore Traps and Quantitative PCR Assays for Detection and Quantification of Airborne Spores of Antrodia Sinuosa in Lemon Orchards of Yuma - 2018	Arizona Citrus Research Council	\$ 21,150	
Brierley,Paul E	YCEDA			Satellite Measurement of Evapotranspiration (ET) from Desert Iceberg Lettuce Production Systems	Arizona Iceberg Lettuce Research Council	\$ 21,011	
Xiong,Zhongguo	School of Plant Sciences			Sensitivity of and Potentials for Early Detection of Diseased Plants by Existing and Novel Polarimetry Devices	Nikon Research Corporation of America	\$ 20,572	

Lead Investigator	Leading Unit	ading Unit Investigator Inv		Award Title	Sponsor	Total Award Amount	
Koprowski,John L	Sch of Natural Resources	Koprowski,John L	Sch of Nat Resource&Enviro- Res	Sierrita/RU1 Recovery Funds	Freeport-McMoRan, Inc.	\$ 20,000	
Palumbo,John C	Entomology			Evaluation of New Insecticides for Insect Management in Desert Head Lettuce	Arizona Iceberg Lettuce Research Council	\$ 19,994	
Ottman,Michael J	School of Plant Sciences	Andrade Sanchez,Pedro	Biosystems Engineering-Res	Tools for Nitrogen Management of Wheat (19-01)	Arizona Grain Research And Promotion Council	\$ 19,657	
Brandau,William K	Graham County Office	Brandau,William K	Graham County Office	Child Care Health Consultation (Graham/Greenlee County)	Arizona Early Childhood Development and Health Board	\$ 17,920	
Wheeler,Diana E	Entomology			Acquisition of Goods and Services - Wheeler	Agricultural Research Service	\$ 17,875	
Brown,Judith K	School of Plant Sciences			Map the Genome of U. S. Isolates of Cotton Leaf Roll Dwarf virus (CLRDV), the Causal Agent of Cotton Blue Disease, and Develop RT-PCR Primers that will Detect CLRDV	Cotton, Incorporated	\$ 17,000	
Gornish,Elise	Sch of Natural Resources	Fehmi,Jeffrey S	Sch of Nat Resource&Enviro- Res	Restoration Ecology Internship for Southwest National Parks	National Park Service	\$ 15,000	
Apel,Mark B	Cochise County Office			Water Wise Conservation Outreach	Upper San Pedro Partnership	\$ 14,096	
Walsh,Michele E	Sch of Family & Consum Sci	DeBlois,Madeleine	Sch of Family Consumer Sci-Res	Evaluation of the Farm to School program of the Community Food Bank of Southern Arizona	Community Food Bank	\$ 13,994	
Palumbo,John C	Entomology			Testing Efficacy of BASF Experimental Insecticides on Leafy Vegetables	BASF Corporation	\$ 13,385	
Dhar,Arun K	Animal&Biomed ical Sciences	Dhar,Arun K	Animal&Biomedical Sciences-Res	Early Mortality Syndrome/Acute Hepatopancreatic Necrosis Disease Challenge of Penaeus Vannamei Juveniles, Fed One of 5 Proprietary Diets to Determine the Survival Effect	Anpario PLC	\$ 12,677	
Hu,Jiahuai	School of Plant Sciences			Survey of Fusarium Oxysporum f. sp. Vasinfectum in Arizona Cotton	Cotton, Incorporated	\$ 10,825	

Lead Investigator	Investigator Leading Unit Investigator Investigat		Investigator Unit	Award Title	Sponsor	Total Award Amount	
Hullinger,Ashley Rene	Water Resources Research Center	Hullinger,Ashley Rene	Water Resources Resrch Ctr-Ext	Providing Stakeholder Perspectives and Accumulated Data to Upper Gila Watershed Management Plan	Gila Watershed Partnership	\$ 9,287	
Ottman,Michael J	School of Plant Sciences			Small Grains Variety Testing (19-02)	Arizona Grain Research And Promotion Council	\$ 5,461	
Frisvold,George B	•	Bickel,Ashley Kerna; Duval,Dari Fae	Agricultural Resource Econ-Ext	The Economic Contribution of Agriculture in Pinal County	Central Arizona Irrigation & Drainage District	\$ 5,250	
Brown,Paul W	Extension Programs	Brown,Paul W	Extension Programs	Supporting Climate-Smart Decision Making in Arizona, USDA Southwest Climate Hub	Agricultural Research Service	\$ 5,000	
Simpson,Richard	Nutritional Sciences			Acute Exercise Improves the Composition and Function of Donor Peripheral Blood Stem Cell Grafts for Allogeneic Transplantation	American College of Sports Medicine Foundation	\$ 5,000	
Schwartz,Kerry L	Water Resources Research Center			Aqua STEM Groundwater Presentations - 4th Grade	City of Surprise	\$ 4,843	
Kacira, Murat	Biosystems Engineering - Res			Airflow Uniformity in Vertical Farm Factory	AeroFarms	\$ 4,037	
Palumbo,John C	Entomology			Monitoring for Lettuce Insects in Yuma County	Arizona Iceberg Lettuce Research Council	\$ 3,720	
Galbraith,David W	School of Plant Sciences	Galbraith,David W	School of Plant Sciences-Res	Bench fees for Beenish Afzal	Higher Education Commission (Pakistan)	\$ 3,500	
Gouker,Steven	Navajo County Office	Penrod,Meghan	Navajo County Office	4H Robotics Program - FTC/First, VEX EDR	NSF-White Mountain Nature Center	\$ 3,345	
Mars,Matthew M	Agricultural Education	Mars,Matthew M	Agricultural Education-Ins	Developing and Diffusing a Cross-Disciplinary, Multi-Institutional University Entrepreneurial Leadership Graduate Course	The Association of Public and Land-grant Universities	\$ 1,750	

Lead Investigator	Leading Unit	ng Unit Investigator Investigator Unit Award Title		ding Unit Investigator Inve		Leading Unit Investigator Investigator Unit Award Title		Sponsor	Total Award Amount	
Hefty,Kira Leigh	Sch of Natural Resources	Koprowski,John L	Sch of Nat Resource&Enviro- Res	Are Urban Environments Suitable Habitat for a Threatened Species?	American Society of Mammalogists	\$ 1,50				
Abrell,Leif M	Soil Water and Enviro Sci			Advancing Informal Environmental STEM Literacy & Learning: A Co-Created Citizen Science Rainwater Harvesting in Undeserved Communities	NSF-Arizona State University	\$ 46				
Lopez,Gerardo U	Animal&Biomed ical Sciences			Cyclospora: Potential Reservoirs and Occurrence in Irrigation Waters (WAESO)	NSF-Arizona State University	\$ 46				
Lopez,Gerardo U	Animal&Biomed ical Sciences			Detection of Cyclospora Cayetanesis and Norovirus in Irrigation Water and Wastewater Using Third Ceneration Droplet Digital PCR	NSF-Arizona State University	\$ 46				
Stock,S Patricia	Entomology			Pheromone Production in Steinernema Carpocapsae Adults WAESO	NSF-Arizona State University	\$ 46				
Stock,S Patricia	Entomology			Role of Type 6 Secretion System in Entomopathogenic Bacterium Xenorhabdus Bovienii WAESO	NSF-Arizona State University	\$ 46				
Stock,S Patricia	Entomology			Symbiont Transmission in Photorhabdus Nematodes	NSF-Arizona State University	\$ 46				

New Awards by CALS Co-Investigator when Leading PI is not in CALS

Co-Investigator	Co-Investigator Unit	Lead Investigator	Leading Unit	College Name	Award Title	Sponsor	Total Anticipated Amount (Award)	Co-PI Award Amount
Abrell,Leif M	Soil Water Enviro Sci-Res	Sierra Alvarez,Maria Reyes	Chemical & Environmental Engr	College of Engineering	Remediation of Per- and Polyfluoroalkyl Contaminated Groundwater Using Cationic Hydrophobic Polymers as Ultra- High Affinity Sorbents	United States Army Corps of Engineers	\$ 1,211,467	\$ 31,943
Broxton,Patrick D	Sch of Nat Resource&Enviro- Res	Niu,Guo-Yue	Hydrology & Atmospheric Sci	College of Science	Improving National Water Model (NWM) Snowmelt Runoff Prediction	National Oceanic and Atmospheric Administratio n	\$ 526,389	\$ 89,486
Chorover,Jonathan D	Soil Water Enviro Sci-Res	Sierra Alvarez,Maria Reyes	Chemical & Environmental Engr	College of Engineering	Remediation of Per- and Polyfluoroalkyl Contaminated Groundwater Using Cationic Hydrophobic Polymers as Ultra- High Affinity Sorbents	United States Army Corps of Engineers	\$ 1,211,467	\$ 63,886
Garfin,Gregg M	Sch of Nat Resource&Enviro- Ext	Jeffery,R Brooks	School of Architecture	Col Arch Plan & Landscape Arch	Framework for Addressing Culture Resource Vulnerabilities in the NPS- IMR, Phase II	National Park Service	\$ 99,654	\$ 12,457
Van Leeuwen,Willem J	Sch of Nat Resource&Enviro- Res	Jeffery,R Brooks	School of Architecture	Col Arch Plan & Landscape Arch	Framework for Addressing Culture Resource Vulnerabilities in the NPS- IMR, Phase II	National Park Service	\$ 99,654	\$ 12,706
Weiss,Jeremy Lee	Sch of Nat Resource&Enviro- Ext	Jeffery,R Brooks	School of Architecture	Col Arch Plan & Landscape Arch	Framework for Addressing Culture Resource Vulnerabilities in the NPS- IMR, Phase II	National Park Service	\$ 99,654	\$ 24,914