

Annual Report FY2021



RESEARCH CORPORATION
OF THE UNIVERSITY OF GUAM





CREDITS

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KEY PERFORMANCE INDICATORS FY2021



4.8%

increase in the number of grants supported by RCUOG.



40%

increase in grant expenditures, which underscores efficiency. RCUOG supported \$14.5M of expenditures compared to \$10.3M in FY2020.



14%

increase in the number of employees compared to the prior year. As of September 2021, RCUOG employed 179 individuals on various grants.



1

travel grant awarded in FY2021. UOG imposed a moratorium on travel due to the COVID-19 pandemic.

BOARD OF DIRECTORS

The Research Corporation of the University of Guam is under the management and control of a Board of Directors. Board membership includes representation from the UOG Faculty Senate, the UOG Board of Regents, the UOG Research Council, UOG senior administrators, and members representing the community at large.

Dr. Thomas W. Krise
Chairperson/UOG President

Dr. Anita Borja Enriquez
Vice Chairperson/UOG Senior Vice President and Provost

Randall Wiegand
Treasurer/UOG Vice President of Administration and Finance & Chief Business Officer

Agapito Diaz
UOG Board of Regents Representative

Fr. Francis X. Hezel
UOG Board of Regents Representative

Dr. John Jenson
UOG Research Council Representative

Dr. Cheryl Sanguenza, Secretary
UOG Faculty Senate Representative

Dr. Artemio R.A. Hernandez
Community Member Representative

Ray Topasna
Community Member Representative



RCUOG Board members pictured during the September 2021 meeting include bottom row from: Dr. Artemio Hernandez, Agapito Diaz, Dr. Cheryl Sanguenza, and Dr. Rachael Leon Guerrero, Vice Provost, Office of Research and Sponsored Programs. Second Row from left: Michael Conner, Dr. John Jenson, Randall Wiegand, and Dr. Anita Borja-Enriquez. Top row from left: Cathleen Moore-Linn, Dr. Thomas Krise, and Anthony R. Camacho, UOG General Counsel.



RCUOG's core team is pictured from left: Gloria Travis, Chief Business Officer, Raeanne Concepcion, Human Resources Specialist II, Sable Sablan, Grant Support Assistant III, Cathleen Moore-Linn, Executive Director, Precious Nagallo, Grant Assistant I, Michael Conner, Chief Business Officer in Training, Barbara Molarte, Accounting Specialist, Danica Batac, Accounting Analyst II.

FISCAL YEAR 2021 OPERATIONS

The Research Corporation of the University of Guam (RCUOG) marked several positive outcomes during Fiscal Year 2021 despite the continued global turmoil caused by the COVID-19 pandemic.

The University of Guam (UOG) continues to experience record levels of grant activity as a new cycle from the National Science Foundation funded Established Program to Stimulate Competitive Research (EPSCoR) grant began in July of 2020. At \$20M over five-years, EPSCoR is UOG's largest grant. However, many other projects, including the National Cancer Institute funded Pacific Island Partnership for Cancer Health Equity grant, Department of Defense Cooperative Ecosystem Studies Unit projects, US Department of Agriculture, and others, elevated grant activity at the institution. The University of Guam's grant activity exceeds that of its peer institutions and is remarkable for a small institution.

The Office of Research and Sponsored Programs, UOG faculty, the UOG Business Office, and UOG Human Resources Office are RCUOG's key partners, and the Research Corporation could not function without effective collaboration with these individuals and units.

Notably, there were no findings regarding RCUOG operations in the University of Guam's FY2020 audit under which RCUOG is reviewed as a component unit. RCUOG has had no questioned costs on any of the grants it services through six consecutive audits.

This report highlights the positive outcomes in FY2021 and the role RCUOG plays in supporting the University of Guam's research projects while ensuring efficiency and compliance in daily operations.

Cathleen Moore-Linn
Executive Director

PURPOSE

The purpose of this report is to capture a snapshot of the organization after its 7th year of operation and to showcase how RCUOG supports research and outreach projects through its streamlined and efficient policies and processes.

Policies

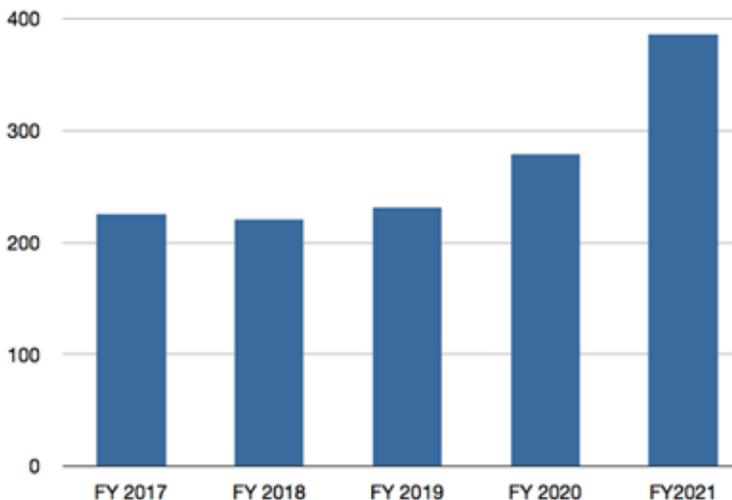
The following policies were approved by the RCUOG Board of Directors to support efficiency within the organization, ensure RCUOG remains a competitive employer, and to support other activities of the Research Corporation. The amended procurement policy allows for digital submission of proposals and bids to enable RCUOG to function in the pandemic environment and beyond.

- Approved the RCUOG FY2022 Budget
- Amended the RCUOG Procurement Policy
- Amended the Employee Handbook and Policy Manual
- Amended the Chief Business Officer position

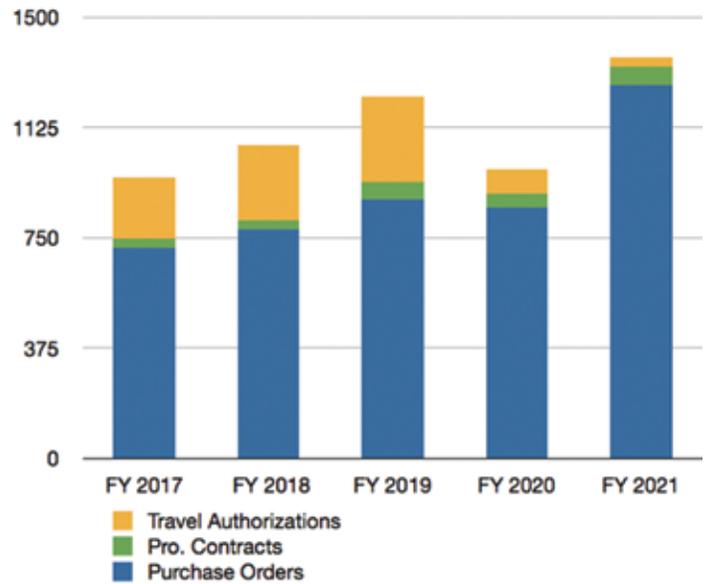
Human Resources

RCUOG completed 386 personnel hiring actions in FY2021 compared to 279 hiring actions during the prior fiscal year. These hires include all temporary, full-time, and part-time positions, as well as summer salaries for UOG faculty for grant related work. At the end of FY2021, RCUOG employees numbered 179, with 96 full-time, 54 part-time, and 29 student employees. This marks an increase of 14% in the number of employees compared to the prior year.

RCUOG Personnel Actions Processed



RCUOG Financial Transactions



Financial Transactions

The number of financial transactions, which includes purchase orders and contracts, increased 39% in FY2021 compared to the prior year. This increase is due to the increase in overall grant activity at the institution. Despite the significant spike in transactions, most were completed within 48 hours. RCUOG continued operations through the COVID-19 pandemic utilizing split schedules and teleworking until the University encouraged on-campus work. RCUOG’s streamlined procedures function in tandem with UOG systems in payroll, accounting, and human resources and these University departments are instrumental to RCUOG’s success.

RCUOG utilized a core staff of seven full-time employees and one part-time employee to support business processes and maintain efficiency. RCUOG staff also held workshops for various units on how to use RCUOG’s digital business processes which enabled business to continue during the pandemic.



FY2020 Audit

RCUOG is included as a component unit of the University of Guam with respect to the FY2020 audit. There were no findings regarding RCUOG activities in FY2020, which indicates that RCUOG continues to utilize strong internal controls which comply with federal regulations and its own policies. The FY2020 audit marked the sixth consecutive year of no questioned costs.

Operating Expenses and Revenue

The Research Corporation is required by Public Law 32-114 to be self-sufficient. To achieve this, RCUOG relies on revenue generated through its share of indirect costs and administrative fees. In FY 2021, RCUOG received 18% of grant generated indirect cost revenue equating to \$481,967 and \$316,848 in administrative fees/other revenue (charged to those projects that do not include indirect costs) for a total of \$798,815. For FY2021, RCUOG posted operating expenses of \$588,418. FY2021 ended with a reserve of \$210,397, a first for the Research Corporation.

Grant Expenditures up 40%

Total grant expenditures for FY 2021 were \$14,484,806 which is an increase of 40% over the prior year's expenditures of \$10,336,779. Grant expenditures are a key performance indicator because they directly relate to the efficient and the effective managerial environment at the Research Corporation and its ability to process financial transactions and personnel actions.

At the end of the fourth quarter, RCUOG provided support services to 131 different grants, an increase of 4.8% over the FY 2020 fourth quarter total of 125 grants.

US Economic Development Administration Awards \$8.6M to UOG

The Research Corporation, in collaboration with teams from the Water and Environmental Research Institute of the Western Pacific (WERI) and the School of Health, successfully obtained a construction grant from the US Economic Development Administration to build new WERI research facility and water quality testing laboratory and a nursing extension building. The EDA grant total of \$8.6M is matched by \$1.7M in local funds for a total project cost of \$10,279,549.



Divers from the Raymundo Coral Lab, Masha Andersen, Ashley Castro, Claire Moreland-Ochoa, and Laurie Raymundo select colonies growing in the Piti nursery for pruning and eventual outplanting on Guam reefs.

The WERI building will be a three-story 12,000 square foot facility while the Nursing Extension building will be a two-story 12,500 square foot facility. The successful grant award was also made possible because the UOG Endowment Foundation committed to fund a significant portion of the required 20% local match. This successful grant award is a tribute to the collaborative working environment between University of Guam administrators, the UOG Endowment Foundation Board of Directors, and the Research Corporation.



Hyatt Sous Chef Phillip Lopez and Dr. Donghuo Jiang, CoreSeed Aquaculture CEO, pose with red tilapia produced by CoreSeed and used in a signature dish at the Hyatt.

Guam Aquaculture Development and Training Center

RCUOG issued a lease to CoreSeed to operate GADTC in January of 2020 which resulted in the University of Guam’s first public-private partnership. The COVID-19 pandemic affected CoreSeed’s exports of brood stock to Asian countries as the number of flights to and from Guam continued to be limited in 2021. CoreSeed sold pathogen-free shrimp and red tilapia to the Hyatt and Dusit hotels for signature dishes. Additionally, products were sold to the Fisherman’s Co-op and other local retail outlets.

RCUOG has an outstanding obligation to the CHamorro Land Trust Commission to conduct phase II agriculture training. The pandemic and closure of government of Guam offices delayed training activities. Dr. Bob Barber and Mark Acosta, both of

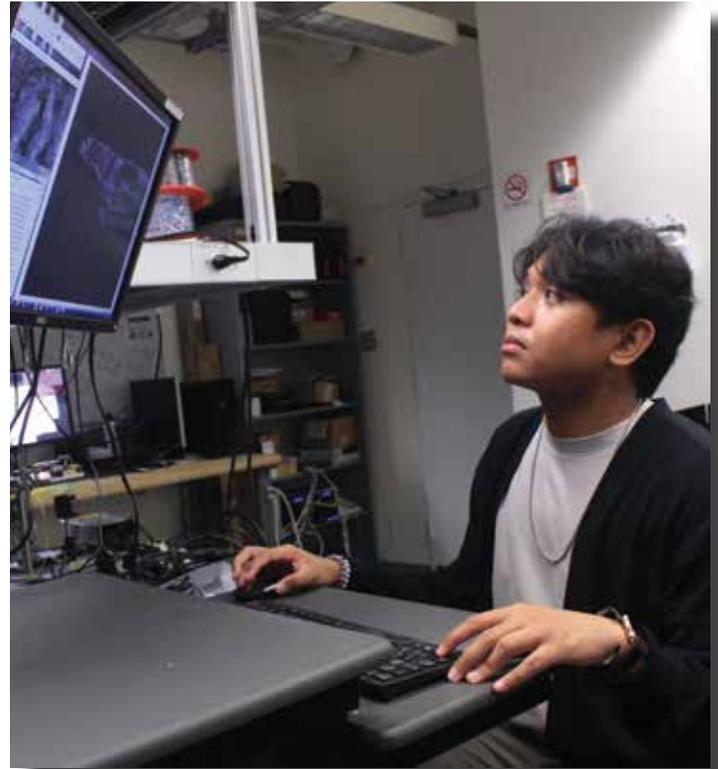
the College of Natural and Applied Sciences, will reengage with CLTC administration to complete the final step in the process.



TRAVEL GRANTS

RCUOG is able to offer travel awards to students using mileage accrued from purchases made with the RCUOG official credit card in accordance with Public Law 32-019. RCUOG management and staff are delighted to play a small part in supporting students' academic endeavors. RCUOG has supported a total of 35 awards since it first began offering the travel award in 2017.

Due to the COVID-19 pandemic, RCUOG awarded just one travel award in 2021. UOG senior, Eries Moreno, was selected to participate in the prestigious 8-week Columbia-Amazon Summer Undergraduate Research Program in New York City. UOG faculty member, Dr. Kathy Lofdahl, submitted a letter of support for Eries and highly recommended him for a travel award as travel was the only component of the program not covered. Eries was placed at the Structure Function Imaging Laboratory, an electrical engineering lab led by Professor Christine Hendon. The laboratory focused on scientific inquiries surrounding the improvement of imaging devices and techniques of the human system. Eries's research involved the analysis of breast cancer tissue that was imaged through optical coherence tomography, a common retinal imaging modality. Under the guidance of his mentor, Dr. Diana Mojahed, Eries analyzed image volumes from 100 patients and categorized multiple tissue features with the aim of developing an atlas. Moving forward, Eries aims to use this experience to encourage his peers to apply for this program, and other research opportunities, and continue his studies in STEM in pursuit of his goal of becoming a physician-scientist.



RCUOG travel grant recipient Eries Moreno, pictured in Columbia University's Structure Function Imaging Laboratory, performs internship duties as part of the Columbia-Amazon Summer Undergraduate Research Program 2021.



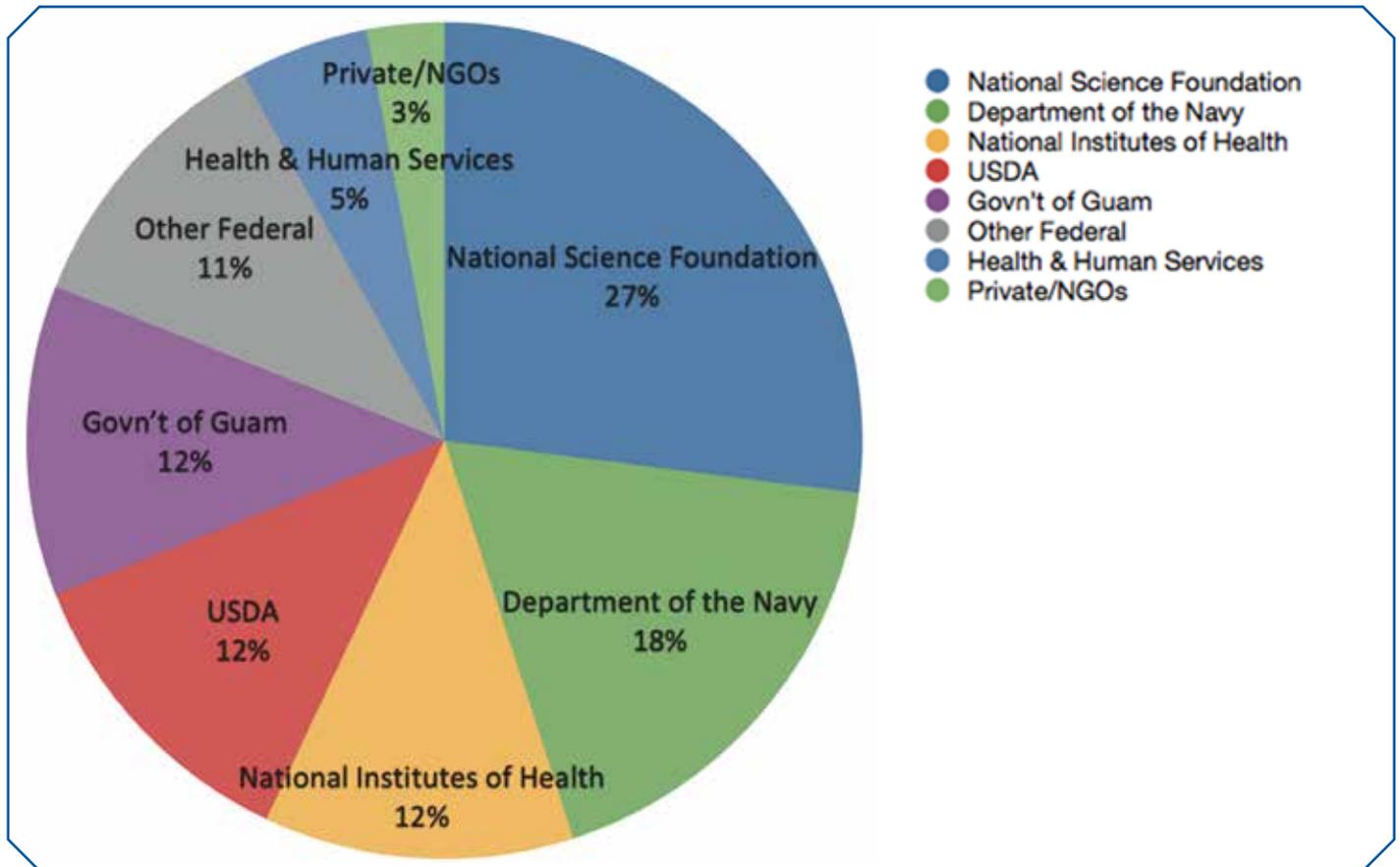
Dr. Glenn Dulla, Biosecurity Division of the Guam Department of Agriculture, prepares to fly a drone as part of his project on Little Fire Ants. At left, Dr. Dulla's team pictured during an outreach activity.



FOCUS ON RESEARCH

The chart below provides a breakdown of grants by funding agency. Federal agencies, Government of Guam agencies, and non-profit foundations partner with the University of Guam and RCUOG to produce research and service outcomes. The Research Corporation, with a focus on efficiency, provides support to scientists who pursue research projects that have a direct, positive, and lasting impact on Guam and the region.

Funding Sources



RCUOG biologists, with the USDA Brown Treesnake Research Support project, under Dr. Shane Siers, work to eradicate Brown Treesnakes on Cocos Island. Pictured from left Jordan Barcinas, Juan-Carlos Mungaray, Jeried Calaor, Ella Norris, and USDA biologist Rachael Volsteadt.



FINANCIALS

RCUOG REVENUE & EXPENSE/BALANCE SHEET

REVENUE & OTHER ADDITIONS

Federal Grants	\$12,290,002.56
GovGuam Grants	908,449.64
Private Grants	271,617.23
Miscellaneous	1,792,541.38
Transfer from UOG	141,121.64

Total Revenue & Other Additions **15,403,732.45**

EXPENDITURES AND OTHER DEDUCTIONS

Salaries	5,837,767.84
Fringe Benefits	665,969.77
Travel On/Off Island	101,542.30
Contracts	2,284,408.86
Supplies	851,159.74
Equipment	539,641.64
Capital Outlay	918,161.49
Miscellaneous	3,286,154.36
Total Expenditures	14,484,806.00

Increase/Decrease this Year 918,926.45

Fund Balance Beg. 2,989,737.39

Fund Balance, End **3,908,663.84**

BALANCE SHEET

ASSETS

Cash in Bank	553,020.46
Account Receivables	2,673,272.90
Advances to Supplier	212,774.76
Advances to Traveler	1,564.80

Total Assets **3,440,632.92**

LIABILITIES & FUND BALANCE

A/P Contracts	2,069.71
Accrued Payroll	6,381.79
Due to/fr Unrestricted	-476,482.42
Deferred Revenue	

Fund Balance End 3,908,663.84

TOTAL LIABILITIES & FUND BALANCE **3,440,632.92**



LIST OF GRANTS AND CONTRACTS

In 2021 RCUOG provided support services to the following grants:

2021 State Urban Forest Resilience Grant Program

AAFB Urban Brown Treesnake Control

Abstinence Education

AECOM Fish Collection

An Evolutionary Investigation into the High Rates of Metabolic Disease in the Pacific

Atantano: Reviving Historical and Biological Connections with the Land

Autonomous Control Technology for Unmanned Aerial Systems with Agricultural and Environmental Applications in the Central Pacific Islands

Biological Control Asian Citrus Psyllid, *Diaphorina citri*, on Guam

Biological Control of Coconut Rhinoceros Beetle

Biomonitoring Support for Natural Resource Management at JRM AOR

Biomonitoring Support for Natural Resource management JRM Areas of Responsibility

BUILD EXITO Administration - Enhancing Cross-disciplinary Infrastructure and Training at Oregon

BUILD EXITO Research - Enhancing Cross-disciplinary Infrastructure and Training at Oregon

BUILD EXITO with Portland State University

Building Coral Resilience and Facilitating Post Bleaching Recovery

Building Leadership Skills for Diverse Japanese Students

Butterfly & Snail Monitoring

Capacity improvement for agricultural biotechnology

CAPS- Citrus Pest-HLB

CAPS- Honey Bee

CAPS- Invasive Ants

CAPS- Nursery Survey

Cooperative Ecosystems Study Units - COTS

Cooperative Ecosystems Study Units - Water Quality Monitoring

Cetti Bay Watershed Monitoring

P-103 Water Wells Salvage and Transplantation

P-175 Plant Salvage

ECASU-GCSO Consortium for Sustainability Outcomes

CIS-Ugum Restoration

Distance Education Grants Program for Higher Education in the Insular Areas DEG

USDA Control of Coconut Rhino Beetle

USDA Coconut Rhino Beetle Harmonic Radar

From left: Marcel Kate Jardeleza, UOG alumna and doctoral student at Colorado State University, mentored UOG undergraduates William Naden and Stephenie Santos during a summer field research internship funded by the USGS project, Research and Rapid Response to Control the Brown Treesnake on Guam, Prevent Introduction to Other Islands, and Mitigate its Impacts to Military Readiness in the Pacific Region.





Vince Fabian outplanting *Ficus* spp. Photo courtesy of Kaleb Leon Guererro.

Continued HMU Eradication Evaluation

Coral mitigation plan for the GTA conduit installation and SEA-US Cable Landings, Piti

Course in Tropical Forest Ecology of the Mariana Islands

Cycad Monitoring and Management on Anderson Air Force Base

Data Analysis Post-Doctoral Fellowship

Develop a comprehensive implementation plan for Phase I of the North Finegayan Forest Enhancement Site located within JRM AOR

Developing a simple genetic toolkit to assess and predict stress level in Guam corals

Developing CHamoru Language Infrastructure

Development of Reef Restoration

Don't Pack a Pest Outreach

Eight Spot Butterfly

Enhance the Health and Resilience of Natural and Agroforests

Enhancing Awareness of Coconut Rhino Beetle and Little Fire Ants in Micronesia

Enhancing Local Knowledge to Sustain a Forest Inventory and Monitoring Program through the Pacific Islands

Enhancing Marine Science Capacity in the Western Pacific through Science Internships at UOG

Establishment of Self-sustaining Biological Control of Coconut Rhino Beetle

Estimate the Amount of Nest and Nestling Predation that Reintroduced Native Bird Species Could Withstand while Maintaining Stable or Growing Populations of Native Birds

Evaluate the Potential Utility and Non-target Hazards of Toxic Bait use in Response to Potential Future Discoveries of incipient Populations of Invasive Brown Tree Snakes in the CNMI

Forest Bird Monitoring & Assessment on Tinian Joint Region Marianas (JRM) Leased Lands

Fruit Bat Monitoring on Guam

Fruit Fly Survey

G3 GEDA Circular Economy

Geocore: Geospatial Studies of Reef Ecology and Health using Satellite and Airborne Data

Geriatrics Workforce Enhancement Program

Getting Guam Healthy MOU with DPHSS "Walk to Wellness Program"

GROW GUAM

GU 20 UOG PPA Solanaceous Survey

Guam Cancer Registry

Guam Ecosystems for Corals and Oceans

- Guam Green Growth (G3)
- Guam Mollusk Survey
- Guam Restoration of Watersheds: GROW Ugum
- GWEP-COVID
- Hawaii Space Grant Consortium 2020-2024
- Hydrological Assessment J-001B Finegayan Utilities
- Hyperucicemic Trail
- Identifying key Reef Sites for the Management and conservation of Coral Genetic Diversity and Resilience
- Improvement of seed distribution system of heirloom
- Improvement of Tropical Agriculture and Food Science Research at UOG
- Invasive Plant Control within Joint Region Marianas Area of Responsibility
- Invasive Species Detector Dog Pilot Program
- Island Wide Habitat Conservation Plan (HCP)
- JAMS Saipan Coral Restoration Project
- Kumision Map Village Names
- Little Fire Ant Survey, Perimeter Monitoring and Eradication at Anderson South
- Little Fire Ant Management in Cotal Conversation Forest
- LRS 2018 Guam Forestry Watershed Restoration Project
- MCT Further Enhancing the Capacity of Local NGOs
- MGT-Invasive Vegetation (Ironwood), Wake Island
- Micropropagation of Guam's Native Trees
- ML-DOI/NPS: Building Staghorn Coral Community
- MOA Between LMS and UOG
- Monitoring System Exp & Rehab Program (MSERP)
- Montana State U - WSARE - Development of Alternative and Sustainable Farming Methods Compatible with Sustained Human and Environmental Wellbeing.
- MSU WSARE Sustainable Agriculture and Education
- NASA EPSCoR Research Infrastructure Development Program
- NASA Technology Coral Reef Bleaching
- Northern Marianas College Insect Collection
- Northern Guam Lens Aquifer Monitoring System
- National Science Foundation - Inclusion Across the Nation of Communities of Learners in Underrepresented Discoverers in Engineering and Science (INCLUDES): Supporting Emerging Aquatic Scientists Island Alliance
- Cooperative Ecosystems Studies Units - Cycads
- Cooperative Ecosystems Studies Units - WQM JRM

Center for Island Sustainability Guam Green Growth commitment event with village mayors and School of Business and Public Administration graduate students.





UOG Drone Corps members Jeremy Del Castillo and Alexis Edrosa pictured with their FAA Part 107 Knowledge Course materials.

Pacific Island Climate Science Center Graduate Scholars and Summer Undergraduate Research Fellowship programs

Pacific Island Partnership for Cancer Health Equity (PIPCHÉ)

PFM Contract- Granite Obayashi, Hensel Phelps, SWCA, Granite Obayashi, and EA Engineering.

PL 35-99 Guam Green Growth (G3) Initiative

Plant and Invertebrate Surveys JRM Area of Responsibility as Specified on Guam and CMNI

Promoting Beginning Farmer Training

RCUH PACIOOS

Coconut Rhino Beetle Management

Reducing Tree Decline of *Casuarina equisetifolia* in Guam through Replacement of Bacterial Wilt Infected Trees and Research into the Bacterial Microbiomes of Trees and Associated Termites

Removal of dead coconut trees (CRB breeding sites) surrounding AB Won Pat International Airport and Jose D. Leon Guerrero Port Authority

Research and Rapid Response to Control the Brown TreeSnake on Guam

Resident Instruction Grants Program for Institutes of Higher Education in Insular Areas

Restoring Staghorn Corals and Ecosystem Services on Reef Flats in Guam

ROTA Landfill Preliminary Design

Sea Turtle Aerial Surveys in Farallon De Medinilla

Sea Turtle Monitoring, Protection, and Educational Outreach on AAFB

Self Determination Study

Serianthes nelsonii Monitoring AFB

SN Monitoring JRM

SOENG-BSP DOI Soil Bioengineering Techniques

Sub-award UH Children’s Health Living Center of Excellence to Collect Child Health Data on Guam and support CHL Intervention Training

The Guam Terrestrial Snail Inventory

Training & Technical Support for UOG Faculty Developing STEM Courses for On-line Delivery

Training Capacity for the Guam Cultural Repository (Guam Technical Assistance Program)

Treating LFA infested forest and utilize drone technology to assist in eradication efforts

U24 Cardiometabolic Diseases

UH-COVID-RX UP

University of Guam Sea Grant Omnibus Proposal 2018-2022

USAPI Pacific Regional Central Cancer Registry (PRCCR)

USAPI PRCCR

USDA Brown Treesnake Research Support

Vegetation Restoration for the Habitat Management Unit AAFB

Violence Against Women

Wetlands Protection Development - Guam Watershed

WSARE Implementation 2020 for Guam

WSARE State Implementation for Guam

WSARE Training Network



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