

# 2019 AWARDS REPORT

TEXAS A&M UNIVERSITY-KINGSVILLE®



*this is*  
**YOUR TIME**

TEXAS A&M UNIVERSITY-KINGSVILLE

# LETTER FROM DR. RASMUSSEN

---

*Dear Reader,*

We would like to introduce our first Office of Research and Graduate Studies Awards Report. We have listed all the grants that were received this fiscal year. Those faculty who received new funding this year join others and together they are responsible for over \$50 million in research at Texas A&M University-Kingsville. Most of these awards will range from 1-5 years. Currently, 94 faculty are responsible for this research. This represents a 20% increase in our faculty participating in externally funded research since 2016. In the future, this report will come out quarterly to let our campus community know about the exciting research awards and faculty who have been funded at the university.

These successful research grants help our faculty develop ideas to solve problems facing our communities in South Texas and across the world. They also have a tremendous impact in providing our students with opportunities and experiences that will prepare them to contribute to our world. Our funded research provides a significant contribution to support our graduate programs, but as you can see in this report, many of our faculty have written grants to support and integrate undergraduates into their research programs. In the Office of Research and Graduate Studies we understand the hard work that goes into writing and implementing these grants. We congratulate all of you who have been successful and those of you who have written and submitted grants this year. We are committed to assisting all faculty as they strive to secure their own funding.

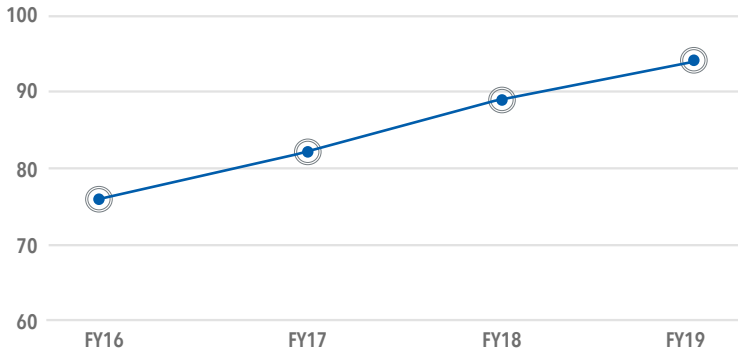
We encourage all of you to stop by the Office of Research and Graduate Studies to meet with our pre-award staff. They can show you our software to help locate funding opportunities from the array of federal, state, and foundation programs. Many additional private opportunities also come from faculty being involved with the industries that are impacted by their research. Once you are awarded you would work with our post-award staff and most of you doing research will work with our compliance office.

At Graduate Studies we have been going through some reorganization. Currently the graduate admissions staff are now part of the Javelina Enrollment Services Center (JESC) with Enrollment Management. Loida Utley and Veronica Arellano are in the JESC located in Student Union Building. If you need to contact them directly, they have retained their phone numbers. Alejandra Amaya has taken a position as director of the McNair Scholars program and she will continue to help you with these outstanding undergraduate research students. Also, Adam Alvarado has taken a position with Student Access. Dr. Linda Challoo is moving back to her faculty position in the College of Education and Human Performance and will work on her research and grant opportunities. We are confident that these changes will strengthen our admissions process and reduce confusion for our new students when they arrive on campus. Martha Alegria has remained as part of the team and will continue to work with our graduate degree plans and thesis and dissertation checkout. We realize these changes may come with some bumps in the road and we are grateful for your patience.

*Sincerely,  
Dr. G. Allen Rasmussen*

# QUICK STATISTICS

## Active Researchers



## Awarded Submissions

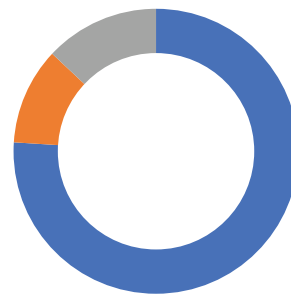
FISCAL YEAR	# OF AWARDS	\$ AWARDED
2016	137	\$12,484,126
2017	107	\$11,806,498
2018	148	\$16,534,617
2019	113	\$12,544,958

## Amount Awarded



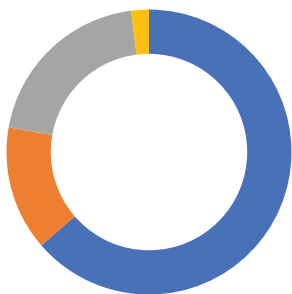
### FY 2016

- Federal : \$7,833,936
  - State : \$2,396,347
  - Private : \$2,237,197
  - Foreign : \$16,646
- TOTAL : \$12,484,126**



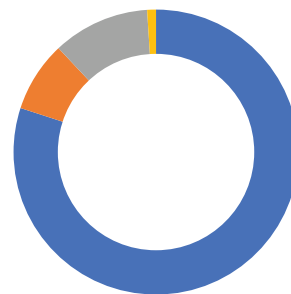
### FY 2017

- Federal : \$9,025,228
  - State : \$1,263,821
  - Private : \$1,517,449
  - Foreign : \$0
- TOTAL: \$11,806,498**



### FY 2018

- Federal : \$10,484,781
  - State : \$2,313,945
  - Private : \$3,332,442
  - Foreign : \$403,449
- TOTAL: \$16,534,617**



### FY 2019

- Federal : \$10,046,669
  - State : \$1,023,019
  - Private : \$1,407,590
  - Foreign : \$67,680
- TOTAL: \$12,544,958**

**113**

NEW & ONGOING AWARDS RECEIVED FROM SEPT. - AUG. (FY 2019)

**51**

NEW AWARDS RECEIVED

**62**

ONGOING AWARDS RECEIVED

**\$12.5 M**

ANNUALIZED EXTERNAL FUNDS RECEIVED

**\$52.5 M**

OVERALL TOTAL FUNDS IN MULTI-YEAR AND COLLABORATION PROJECTS

**~25%**

OF AWARDS ARE FROM COLLABORATIONS WITH OTHER INSTITUTIONS

# SEPTEMBER - NOVEMBER

## Mentoring Agriculture Students through Training, Experiential learning, and Research Skills (MASTERS) for the Future Agricultural Workforce

Capacity Building Grants for Non-Land Grant of Agriculture Program (NLGCA) | U.S. Department of Agriculture (USDA) | Three Years | \$272,999

**Simpson, C.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This program will train underrepresented, post-secondary students at the graduate and undergraduate level in the skills and experiences they will need to compete as leaders and scientists in agriculture.

## Enhancing Agriculture Mechanics Education & Curriculum in Higher Education

NLGCA | USDA | Three Years | \$147,573

**Chumbley, S.,** Turner, B., Schuster, G. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The goal of this project is to enhance the preparation of underrepresented students in agricultural mechanics and agricultural leadership.



## Behavioral Responses of White-tailed Deer to Heat Stress: Implications for Management in South Texas

The Zachry Foundation | Four Years | \$280,000

**DeYoung, R.,** Fulbright, T., DeYoung, C., Foley, A., Ortega, J. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The study will involve estimation of animal responses to heat, including the act of seeking shade, changes in behavior and proximity to water.

## Enhancing the Rangeland Hydrology and Erosion Model for Applications on Undisturbed and Disturbed Rangelands

Agricultural Research Basic and Applied Research | USDA | One Year, One Month | \$40,000

**Al-Hamdan, O.** | Frank H. Dotterweich College of Engineering

The Principal Investigator (PI) will evaluate the performance of the Rangeland Hydrology and Erosion Model (RHEM) and its components especially when it is applied to disturbed rangelands as well as develop and test RHEM model parameterization procedures.

## Intervention in Middle and High School Science and STEM Classes to Increase the Interest of Students

Halliburton Foundation | One Year | \$25,000

**Bezares-Cruz, J.,** Alexander, M., Ren, J., Ramirez, D., Ozcelik, S. | Frank H. Dotterweich College of Engineering

This program will be implemented in two stages involving development of units applicable to both middle school (first primary educational science courses) and high school students in Science, Technology, Engineering, and Mathematics (STEM) classes, where more advanced science is taught and first serious exposure to STEM careers forms.



## Development of Universal Antivenom using Display Phage

U.S. Department of Defense (DoD) -Uniformed Services University of the Health Sciences | Two Years, One Month | \$269,726

**Sanchez, E.** | College of Arts & Sciences

The PI will conduct the use of selected phage-expressed peptides to target, bind, and neutralize snake venom.

## Texas A&M University-Kingsville, Educational Opportunity Centers Program - Rural

U.S. Department of Education | Five Years | \$1,180,000

**Martinez, M.,** Dominguez, C. | Academic Affairs

This program will provide assistance for adult participants to continue secondary education and to apply for financial aid and postsecondary education.

### Texas A&M University-Kingsville, Upward Bound Program

USDE | Five Years | \$1,338,717

**Martinez, M.**, Loera, D. | Academic Affairs

The Upward Bound program will be implemented to increase the rate at which participants complete secondary education and enroll in and graduate from institutions of postsecondary education.

### Texas A&M University-Kingsville, Upward Bound Rural Program (UB-Rural)

USDE | Five Years | \$1,327,500

**Martinez, M.**, Loera, D. | Academic Affairs

Upward Bound Rural program will be executed at TAMUK to increase the rate at which participants complete secondary education and enroll in and graduate from institutions of postsecondary education.

### Texas A&M University-Kingsville, Upward Bound Math-Science (UBMS) - Regular

USDE | Five Years | \$1,359,690

**Martinez, M.**, Garcia, E. | Academic Affairs

The UBMS program support is a project designed to prepare high school students for postsecondary education programs that lead to careers in the fields of math and science.

### Student Support Services (Regular)

USDE | Five Years | \$1,453,965

**Martinez, M.** | Academic Affairs

This proposal is to provide supportive services to disadvantaged college students to enhance their potential for successful completing the postsecondary education programs in which they are enrolled. In addition, it will increase their transfer rates from 2-year to 4-year institutions.

### Joint Admission Medical Program 2019 (JAMP)

JAMP | THECB | One Year | \$51,055

**Winterbottom, J.** | Academic Affairs

The PI will aim to recruit and matriculate eligible students for admission to the program. Moreover, they will provide academic counseling to participating students, provide student records, as necessary, and provide services to ensure scholarship funds are disbursed to participating students.

### Texas Department of Transportation (TXDOT) Native Plant Integration Program for Texas

TXDOT | Three Years | \$1,500,000

**Smith, F.**, Pawelek, K.

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources  
The implementation of this program is to commercialize native seed sources from Central and West Texas for TXDOT's use and develop native seed sources for East Texas and coastal TXDOT districts.

### Student Support Services (STEM)

USDE | Five Years | \$1,100,000

**Martinez, M.** | Academic Affairs

This initiative is to provide supportive services to disadvantaged college students to enhance their potential for successful completion of postsecondary education programs in which they are enrolled in. Additionally, it will increase their transfer rates from 2-year to 4-year institutions.

### Texas A&M University-Kingsville, Educational Talent Search

USDE | Five Years | \$1,200,000

**Martinez, M.**, Adrian, N. | Academic Affairs

This program will identify, recruit, and potentially select eligible students each year to serve with college, career, and financial aid information to encourage and prepare them for college enrollment.

### Texas A&M University-Kingsville, Educational Opportunity Centers Program - Regular

USDE | Five Years | \$1,124,115

**Martinez, M.**, Dominguez, C. | Academic Affairs

This project will improve the secondary school graduation, financial aid applications, postsecondary education admissions, and postsecondary education enrollment in five target counties.

### Texas A&M University-Kingsville, Texas Higher Education Coordinating Board (THECB) Workstudy Mentorship Program

THECB | Four Years | \$89,986

**Martinez, M.** | Academic Affairs

A mentorship program, which will provide funding for students to mentor and/or tutor students at participating institutions.

### Advancing LEADERS 2 the Doctorate

Hispanic-Serving Institutions Education Grants Program (HSI) | USDA

Four Years | \$481,013

**Bell, N.**, McCuiston, K., Machado, T.

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources  
This distinct program will plan to increase the number of Hispanic leaders in animal science by developing experiential learning activities that increase retention graduation rates, enhance scientific skills, and develop professionalism of audience of underrepresented students.

### South Texas Natives - Native Plant Restoration in the South Texas Sand Sheet

Lee and Ramona Bass Foundation | Two Years | \$200,000

**Smith, F.**

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources  
A project to perform research on the production and use of native seeds for restoration.



### **Wheels of Change: A Consortium to Develop Champions in Agriculture in the Areas of Sustainable Energy and Natural Resource Management**

HSI | USDA | Four Years | \$440,000

**Nelson, S.,** Stanko, R. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

Through this program, the key personnel will seek to broaden the treatment of agriculture across the STEM curricula, development of innovative curricula from a system approach and a holistic perspective design of experiential learning activities aimed at exposing students to Agriculture as a Global Enterprise. Also, it will enhance educational programs to reach, inspire, train, and ultimately graduate outstanding students capable of enhancing the nation's food, agricultural, and natural resource scientific and professional work force.

### **Influence of Agriculture on Mule Deer in the Texas Panhandle**

Texas Parks & Wildlife Department (TPWD) | Five Years, Five Months | \$653,583

**Hewitt, D.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The purpose of this grant is to study the influence of agriculture production on mule deer. Specifically, the personnel will evaluate sex and age specific mule deer movements in relation to agriculture crops and other habitat components yearly and seasonally. Also, the PI will investigate the effect of agriculture on survival of adult and fawn mule deer.

### **Investigation of Nilgai Latrine Use and Fence Crossings: Potential for Delivery of Acaricides to a Free-Ranging Exotic**

Las Huellas Association | Two Years, Six Months | \$90,000

**DeYoung, R.,** Foley, A., Ortega, A

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This specific research is necessary to understand aspects of nilgai behavior that are not presently known, and to translate this knowledge into management.

### **Collaborative Research: CRISP Type 2: Design and Control of Coordinated Green and Gray Water Infrastructure to Improve Sectors**

Critical Resilient Interdependent Infrastructure Systems and Processes (CRISP)

National Science Foundation (NSF) | Four Years | \$624,996

**Sinha, T.** | Frank H. Dotterweich College of Engineering

The research conducted will aim to find out how the spatial locations of wetlands and coupling of wetlands to reservoir operations increase resiliency of critical infrastructure and its production in the agricultural and chemical and petroleum sectors.

### **Texas A&M University-Kingsville, Upward Bound Math-Science - Rural**

USDE | Five Years | \$1,359,690

**Martinez, M.,** Garcia, E. | Academic Affairs

The Upward Bound Math-Science (UBMS) Rural Project Support is a project designed to prepare high school students for postsecondary education programs that lead to careers in the fields of math and science.

### **Curriculum Innovation through the Integration of Manufacturing Related Materials and Quality Control Standards for Different Level Engineering Students from Freshmen to Graduates**

National Institute of Standards and Technology | Two Years | \$74,999

**Jin, K.,** Li, Hua., Zhang, Yue | Frank H. Dotterweich College of Engineering

The project will conduct curriculum innovation activities and examine their impacts through comparable research methods.

### **Northern Bobwhite Quail Research on East Foundation Lands**

East Foundation | One Year | \$69,520

**Brennan, L.,** Woodard, D.A.

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This purpose of this research is to develop a scientific basis for sustaining wild quail populations exposed to an annual harvest in semi-arid, sub-tropical environments.

### **Strengthening Asian Citrus Psyllid Biological Control Through Evaluation of Resident Predators**

Citrus Health Response Program (CHRP) | USDA | One Year | \$155,911

**Setamou, M.,** Kunta, M.

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This research is to identify key naturally occurring Asian Citrus Psyllid (ACP) predators in Texas and Florida and propose methods for augmenting their populations. In addition, the PI will try to improve the sustainability of ACP management and reduce the risks of Huanglongbing spreading or reinoculation of trees.



### Landscape Analysis of Ocelot-Transportation Issues

TXDOT | Three Years | \$650,889

**Tewes, M.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The purpose of this study is to explore the landscape analysis of ocelot-transportation issues to guide recovery efforts.

### STEP 2 USDA Research Success

USDA | One Year | \$361,000

**Stanko, R.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The Step 2 program will focus on mentoring and providing educational experiences for underrepresented undergraduate students to assist them in being successful in agriculture and natural resources careers, specifically obtaining careers within USDA.

### Comparing Spring Migration Strategies of Northern Pintails from Wintering Areas Across North America

Cooperative Ecosystem Studies Unit (CESU) | DOI: U.S. Fish and Wildlife Service | Three Years | \$225,000

**Ballard, B.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The PI will compare spring migration strategies of female northern pintails originating from different wintering areas in North America, investigate differences in individual strategies within wintering regions and relate to their reproductive success.

### Enhancing Energy Efficiency Understanding of Coastal Bend Local Communities

Coastal Bend Community Foundation | One Year | \$6,700

**Hessami, A., Hicks, D.** | Frank H. Dotterweich College of Engineering

This outreach initiative will engage with the community by sharing their understanding of energy conservation with community participants under supervision of faculty advisors.



### Coastal Bend Regional History Day 2019

Coastal Bend Community Foundation | One Year | \$6,540

**Plant, J.** | College of Arts & Sciences

A Coastal Bend Regional History Day Program that benefits students from ESC2 schools throughout Aransas, Jim Wells, Kleberg, Nueces, and San Patricio Counties.

### Phase I Robert Noyce Teacher Scholarship Program: Future STEM Teachers in South Texas

Noyce | NSF | Five Years | \$1,199,731

**Park, S., Castro, M., Yee, Oi, Wong-Ratcliff, M., Ahangar, R.** | Frank H. Dotterweich College of Engineering

The NOYCE program's main goals are to recruit, train, support and monitor prospective STEM teachers.

### Evaluation of the Western Gulf Coast Mottled Duck Breeding Population Survey

CESU | DOI: U.S. Fish and Wildlife Service | Three Years | \$203,818

**Ballard, B.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This project will identify primary sources of variation in mottled duck counts and assess approaches to reduce that variation as well as conduct power analysis to detect a trend. Moreover, the research will aid in identifying spatical relationships between habitat conditions/weather metrics on survey transects and mottled duck occupancy/density and descriptive analyses.

### Development of Improved Methods to Detect Candidatus Liberibacter asiaticus (CLas) from Citrus Root Tissue

USDA | One Year | \$90,953

**Kunta, M.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The purpose of this research is to improve the rate detection and streamline methods of detection for trees infected with CLas.

### Amplified Multi-Pest Citrus Commodity Pest Survey for Texas

USDA | One Year | \$169,107

**Da Graca, J.,** Setamou, M., Kunta, M. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The PI will conduct bi-weekly surveys of high risk areas for citrus leprosis disease, citrus variegated chlorosis, citrus black spot, citrus canker, and the brown citrus aphid.



### Arroyo Colorado Watershed Protection Plan Implementation-Modeling and Maintenance Training of BMPs for Bacteria and Nutrient Uptake

Fiscal Year (FY) 2019 Clean Water Act (CWA) Section 319(h) Grant | Texas Commission on Environmental Quality (TCEQ) | Three Years | \$167,244

**Jones, K.,** Bezares, J., Sinha, T. | Frank H. Dotterweich College of Engineering

Water quality modeling of existing bioswale and bioretention media types will be conducted to assess load reduction potential. A Low Impact Development Best Management Practices (LID BMP) operation and maintenance training program will be implemented for nutrient and bacteria uptake.

### Integrating a Culture of Academic and Research Engagement - I-C.A.R.E.

Title V | USDE | Five Years | \$2,625,000

**Rasmussen, G. A.,** Flores, A. | Academic Affairs

This project addresses the need to provide career development and career planning for students as they move through their academic career and their educational goals at the university.

### Mitigation of Citrus HLB by Integrating Thermootherapy and Antimicrobial Treatment in Texas

Multi-Agency Repsonse to Devastating Citrus Disease (MAC) | USDA | Two Years | \$653,582

**Ancona, V.,** Simpson, C. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The researcher will perform a field evaluation of thermootherapy treatments in conjunction with commercially available antimicrobials to test their effectiveness in mitigating HLB symptoms and reducing CLas titers in infected trees in Texas.

### Evaluating the Effect of Electrolyzed Reduced Water on the Rumen Microbiome and Ruminal Fermentation Parameters in Steers Consuming a Forage or Concentrate Ration

HerdX | 10 Months | \$14,264

**Bell, N.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The PI will perform research to determine the impact of HerdX Water on the rumen environment, which will aid in understanding how to use HerdX water as a management tool.



### **Ballistic Impact on Composite Armor System**

Research and Education Program for Historically Black Colleges and Universities and Minority-Serving Institutions (HBCU/MI) | DoD

Three Years | \$599,680

**Alam, S.,** Peel, L. | Frank H. Dotterweich College of Engineering

The PI's overarching goal is to develop next generation armor system for high performance ballistic threat. Also, to increase fundamental knowledge and understanding in ballistic impact on composite armor system used for military vehicles, aircrafts, marine vehicles, etc.

### **Texas A&M University-Kingsville, Ronald E. McNair Scholars Program**

USDE | Five Years | \$1,260,000

**Martinez, M.** | Academic Affairs

The main goals of the McNair Scholars Program is to identify, recruit and prepare outstanding students who are low income, first generation and/or underrepresented in graduate education with the ultimate goal of receiving a doctoral degree.

### **East Foundation Monitoring Program: Phase II, Years 1-3 - Monitoring Program**

#### **Implementation**

Texas A&M AgriLife Research / East Foundation | Three Years | \$51,000

**Brennan, L.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This project is for the design and data analysis for Phase II of the Monitoring Program Implementation for East Foundation properties for endangered species.



### **Advancing Career Opportunities For Hispanic Students With Trainings In Geospatial Technologies**

Natural Resources Conservation Services (NRCS) | USDA | Three Years, Four Months | \$120,000

**Perotto, H.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This grant will provide on-the-job training and employment opportunities with the intent of encouraging aspiring Hispanic students towards pursuing careers in agriculture, natural resources, and other related sciences.

### **DHSI Title V TAMUK / South Texas College (STC)**

USDE | Five Years | \$2,750,000

**Bain, S.,** Flores, A. | Academic Affairs

This program's goal is to increase the percentage of TAMUK's University-Based Educator Preparation Program (UBEPP) seniors who graduate by the end of each academic year, who become certified teachers before the academic year and increase TAMUK's production of licensed public school teachers from its UBEPP.

### **Experiential Learning Program at Two Hispanic Serving Institutions on Water for Agriculture, Food Safety and Childhood Obesity & Prevention**

UTRGV | USDA | Four Years | \$66,529

**Louzada, E.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

A research experiential learning program, which includes laboratory research at UTRGV and at USDA facilities combined with weekly research mentoring sessions.

### **Season of Burning Effects on Vegetative Communities and Rangeland Health on the East Foundation's El Sauz Ranch**

East Foundation | Four Years | \$374,630

**Rideout-Hanzak, S.,** Wester, D., Ortega-Santos, J. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

With this project, the PI and Co-PIs will determine plant communities that are favored by various species of butterfly, and effect of season burning and time since burning on their preferred vegetative communities in the ecoregion.



### Effects of Habitat Restoration on Texas Horned Lizards and Their Prey

Arthur A. Seeligson Jr. Conservation Fund | One Year, Three Months | \$5,000

**Henke, S.**

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources  
A research study that will focus on the restoration of Texas Horned Lizards.

### Improving the Accuracy of Unmanned Aerial Systems (UAV) Image Acquisition for Wildlife Habitat Management

Harvey Weil Sportsman Conservationist | One Year | \$6,000

**Perotto, H.**

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources  
The project will conduct research to improve the spatial accuracy of the imagery we acquire using direct geo-positions for our UAV technology.

### Development of "All Plants" Transgenic Citrus with Potential Broad Spectrum Disease Resistance

Citrus Research Board | Three Years | \$337,374

**Louzada, E.**

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources  
The overall goal of the project is to produce marker-free transgenic plants with broad spectrum disease resistance, but containing only plant DNA derived sequences.

### Modeling Freshwater Inflows, Nutrient Dynamics and their Relationships to Algal Blooms in Nueces Bay

Coastal Management Program (CMP) | Texas General Land Office (TGLO)  
One Year, Five Months | \$89,935

**Ren, J., Sinha, T., Lynn, T.** | Frank H. Dotterweich College of Engineering

The overall goal of the entire project is to develop reliable and site-specific decision support tools that can be used by coastal resources managers for developing up-to-date freshwater inflow and nutrient criteria and by the scientific community for an enhanced quantitative understanding of the controlling factors for hypoxia or harmful algal bloom occurrence.

### Experiential Training in Use of Unmanned Aerial Systems (UAS) Technology for Agriculture Applications

HSI | TAMUCC / USDA | Four Years | \$164,000

**Stanko, R., Nelson, S., Schuster, G., Simpson, C.**

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources  
The purpose of this program is to have research-based and field-based internships and participation in research projects aligned with Unmanned Aerial Systems (UAS) as an analysis tool for soil, animal, and natural resource sciences.

### Welch Departmental Grant

The Welch Foundation | Three Years | \$105,000

**Hahn, C.** | College of Arts & Sciences

This grant will support chemical research by faculty members of the Chemistry Department and to also provide an opportunity for students to study chemistry in a less structured way.

### Developing a Wild Turkey Management Plan for the La Tijerina Ranch as a Experiential Learning Project for an Undergraduate Wildlife Student

The Raul Tijerina Jr. Foundation | One Year | \$8,598

**Kuvlesky, W., Perotto, H., Ortega-Santos, J., Brennan, L.**

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources  
The purpose of this project is to create a management plan, which will be an experiential learning opportunity for undergraduate wildlife students.

### The Texas Citrus Budwood Certification Program FY 2019

Budwood Program | Texas Citrus Producers Board (TCPB)  
One Year | \$137,993

**Da Graca, J.**

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources  
The Budwood Program will provide the citrus industry with high quality, pathogen free, true-to-type budwood and maintaining testing frequency of all trees to meet USDA and TDA requirements.



#### **Operating Support for the South Texas Natives Program**

Robert J. and Helen C. Kleberg Foundation | Three Years | \$300,000

**Smith, F.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This support is to aid in research on the production and use of native seeds for restoration.

#### **Accelerating Maturation of Thornscrub Habitat for Ocelots**

TPWD | Two Years, Seven Months | \$99,680

**Rideout-Hanzak, S.,** Wester, D., Tewes, M., Smith, F., Ruppert, D. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The research being conducted will be to evaluate the restoration in marginal quality soils and whether soil-conditioning treatments may improve thornscrub restoration success.

#### **Survey for Endangered Ocelots and Evaluation of Possible Restoration Sites**

The Raul Tijerina Jr. Foundation | One Year | \$10,000

**Tewes, M.,** Lombardi, J. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

In this project, the PI and his students will conduct game camera surveys on three to four targeted private ranches to determine occurrences of ocelots in new areas of the Lower Rio Grande Valley and evaluate possible ocelot restoration sites.

#### **Insect Availability to Foraging Northern Bobwhites and its Influence on Parasitic Infections in South Texas**

Harvey Weil Sportsman Conservationist | Eight Months | \$3,000

**Fedynich, A.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

Researchers will perform tasks, which will require them to utilize field and laboratory components to determine insect abundance and diversity in areas where Northern Bobwhite populations occur in South Texas.

#### **Sustainable Technical Support for Citrus Center Research Programs**

TCPB | One Year | \$106,622

**Da Graça, J.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The sole purpose of this grant is to ensure continued technical support for the faculty research programs at the Citrus Center.

# DECEMBER - FEBRUARY

## Houston Livestock Show and Rodeo Graduate Student Scholarships

Houston Livestock Show & Rodeo (HLSR) | One Year | \$240,000

**Hewitt, D.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This provides scholarships to support graduate student assistantships while they are working on research projects for their degrees.

## Native Plant Restoration in the Trans Pecos and Western Edwards Plateau

Faye L. and William L. Cowden Foundation | One Year | \$10,000

**Shackelford, C.,** Smith, F., Pawelek, K. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The main concept of this project is for the research and development of native plants to determine the best pollinator forage species.

## Comparing Spring Migration Strategies of Northern Pintails from Wintering Areas Across North America

TPWD | Two Years, Eight Months | \$299,998

**Ballard, B.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

Compare average spring migration strategies of female northern pintails originating from different wintering areas in North America and to investigate difference in individual strategies within wintering regions and relate to their reproductive success.

## Towards an Aesthetics of South Texas Women Artists

National Endowment for the Humanities (NEH) | Two Years, Five Months | \$99,755

**Roberson, S.** | College of Arts & Sciences

The PI will be reading primary and secondary texts in order to better understand the aesthetic practices and thematics of artistic work produced by South Texas women artists.

## Mapping and Modeling Shorebird Habitat at Use in the Laguna Madre

Rob & Bessie Welder Wildlife Foundation | Two Years, Four Months | \$52,190

**Ballard, B.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This project will aim to develop a spatial model that delineates the temporal availability of foraging habitat for shorebirds in the Laguna Madre during spring.

## South Texas Navy Pathway/Office of Naval Research (ONR)

Office of Naval Research - STEM | DoD | Three Years | \$246,850

**Yang, X.** | Frank H. Dotterweich College of Engineering

The purpose of this program is to redesign and restructure engineering undergraduate and graduate curriculum to promote naval related STEM contents.

## King Ranch Institute for Ranch Management External Practitioner-led Workshops

HLSR | One Year | \$7,500

**Mathis, C.,** Machen, R. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

These workshops will provide in-depth ranch and managerial accounting training and exercises, as well as extensive mentoring workshops connecting students with industry professionals representing some of the nation's most complex ranch operations.



**Ocelot and Jaguarundi Monitoring Project: Evaluating the Effectiveness of Wildlife Crossings, Cattle Guards, and Fencing on Farm-to-Market 1847, Cameron County**

TXDOT | One Year, 11 Months | \$633,280

**Tewes, M.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This project is designed to gather information whether crossing are used by endangered cats and if so, then to characterize the patterns of that use.

**Wildlife Education and Sustainability Training (WEST) Program**

Higher Education Challenge Grants Program (HEC) | USDA | Three Years | \$299,271

**Chumbley, S.,** Conkey, A. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The purpose of this project is to develop a state and national standard aligned curriculum of experiential lessons focused on wildlife ecology and management for use in postsecondary agriculture teacher preparation.

**Rural STEAM Outreach Program Development**

Guadalupe and Lilia Martinez Foundation | 11 Months | \$28,484

**Glusing, J.,** Dakeev, U. | Frank H. Dotterweich College of Engineering

This outreach program will provide a mobile unit to engage local ISD students STEAM activities to foster pursuit of a university degree.

**2018 College Readiness and Success Models for 60x30TX, at Texas A&M University-Kingsville**

2018 College Readiness and Success Models for 60x30TX (CRSM-2018) | THECB | Two Years, One Month | \$85,687

**Marin, J.,** Allred, P., Baker, S. | College of Arts & Sciences

This program will align placement practices using holistic measures, expand mathematics corequisite offerings to include development math as well as NCBMs and to create paired sections of NCBI with ENGL 1301 taught by the same instructor.

**Development of an Automated Delivery System for Therapeutic Materials to Treat HLB Infected Citrus**

Citrus Disease Research & Extension Program | UFL / USDA | Four Years | \$335,821

**Ancona, V.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The main objective of this project is to develop an automated tree delivery device that growers can install on existing equipment for applying therapeutics to citrus trees to combat HLB.

**Feral Swine Damage Management**

Wildlife Services | USDA | One Year | \$120,450

**DeYoung, R.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The goal of this research is to develop a toxic bait for feral swine and better assess damages caused by feral swine to optimize population and damage reduction of feral swine.

**Quantifying Microplastic (Particles and Fibers) Loading to the Texas's Coastal Bays and Estuaries**

Coastal Management Program | TAMUCC / Texas General Land Office (TGLO) | One Year, Five Month | \$28,454

**Ren, J.** | Frank H. Dotterweich College of Engineering

This project has two major objectives. The first one will quantify the inputs of microplastics from nine river catchments discharging to Texas's coastal bays and estuaries. Second, to use the information gathered from field work as well as the Pls other studies to develop educational and outreach materials and lessons to educate the public about plastic debris in our environment and their impacts to ecosystem health.



# MARCH - MAY

## **Beyond WILD: Wildlife Ecology and Management Experiential Learning and Leadership Program**

Professional Development for Secondary School Teachers and Educational Professional | USDA | Three Years | \$147,387

**Chumbley, S.**, Conkey, A., Hilton, C. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The purpose of this project is to develop a state and national standards aligned curriculum of experiential lessons focused on wildlife ecology and management for use in teaching high school career and agriculture courses.

## **Gamebirds in the Coastal Prairie**

Coastal Bend Bays and Estuaries | Two Years, 11 Months | \$219,426

**Grahmann, E.**, Hernandez, F. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

Research will be conducted to find out whether fire ants are having an impact on northern bobwhites and attwater's prairie chickens on the Gulf Coast of Texas.

## **NBCC and Affiliates Grant for Initial CACREP Accreditation (TAMUK)**

National Board of Certified Counselors (NBCC) | Two Years | \$25,000

**Bain, S.**, Ruiz, A., Garza, K. | College of Education and Human Performance

This is a unique assistance grant for regionally accredited institutions seeking first-time Council for Accreditation of Counseling & Related Educational Programs for master's level counseling programs of 28 or more semester hours.



## **The Acute Effects of Snake Venom Crisp Toxins on Blood and Lymphatic Endothelial Cell Permeability**

Academic Research Enhancement Award (AREA) for Undergraduate-Focused Institutions - R15 | National Institutes of Health (NIH) | Three Years | \$412,734

**Suntravat, M.** | College of Arts & Sciences

The overall goal of this project is to engage undergraduate and graduate students in innovative studies in molecular toxinology. These studies have the potential to contribute to important advances in our understanding of the pathophysiology of snakebites.

## **REU Site: Integrating Research in Sustainable Energy and the Environment across Disciplines (IR-SEED)**

Research Experiences for Undergraduates (REU) | NSF | Two Years, 11 Months | \$370,206

**Li, H.**, Jin, K. | Frank H. Dotterweich College of Engineering

This program will develop and implement a model environment for multidisciplinary collaborative efforts where research and education are tightly integrated around the different facets of energy research.

## **Photo Blinds for Wildlife Park**

North American Nature Photography Association Foundation | Three Months | \$3,000

**Hewitt, D.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This grant will be utilized for the construction of photo blinds at the CKWRI Wildlife Park to observe wildlife and their activities.

## **Renewable Energy Development Assistant: Promoting Solar, Wind, and Biomass in Texas**

(REDA-PSWB) Rural Energy for America Program (REAP) | USDA | One Year | \$33,433

**Li, H.**, Shen, H., Liu, X. | Frank H. Dotterweich College of Engineering

The overarching goal of this project is to promote the utilization of renewable energy, focusing on wind energy, solar energy, and renewable biomass, in small farms and ranches and small businesses in Texas.





### **Illumination-Invariant Iris Presentation Attack Detection in Unconstrained Outdoor Environment**

WVURC / Federal Bureau of Investigation (FBI) | One Year, Three Months | \$269,880

**Noore, A.** | Frank H. Dotterweich College of Engineering

This project will look at the Presentation Attack Detection techniques and will be utilized to predict whether images are bonafide or attacked.

### **Development of a New Internet of Things (IoT) Network and Cybersecurity Framework Toward Wireless Battery Management Systems in Cyber-Physical Environments**

Myron Zucker Student-Faculty Grant Program | Institute of Electrical & Electronics Engineers

One Year | \$25,000

**Kim, T.** | Frank H. Dotterweich College of Engineering

The purpose of this study is to aid in the development of a next-generation wireless battery management system in cyber-physical environments.

### **Viper Resource Grant at Texas A&M University-Kingsville**

Animal and Biological Material Resource Centers (P40) | National Institute of Health | Five Years | \$2,646,605

**Sanchez, E.** | The College of Arts & Sciences

This unique program is to provide native venom and purified venom components, recombinant venoms proteins and specialized venom research services of the highest quality to support snake venom-related research in the US and abroad.

### **Fabrication of T-Joints with Simulated Defects for Thermal Imaging**

Small Business Technology Transfer Program Phase I (STTR) | DoD | 10 Months | \$45,000

**Hosur, M.** | Frank H. Dotterweich College of Engineering

This research focuses on the fabrication of carbon fiber reinforced epoxy T-joints with teflon inserts to act as simulated defects for detection using the thermography system develop by Thermal Wave Imaging.

### **REU Site: Integrating Research in Sustainable Energy and the Environment across Disciplines (IR-SEED)**

Research Experiences for Teachers (RET) Supplementary Funds | NSF | One Year | \$20,000

**Li, H.** | Frank H. Dotterweich College of Engineering

Supplemental funding for the RET Project to support one community college teacher and one junior high school teacher to gain valuable research experience by conducting research projects with the faculty member.

# JUNE - AUGUST

## Texas Space Grant Consortium Program

Texas Space Grant Consortium/ Univ of Texas/ NASA | Two Years | \$5,215

**Peel, L.** | Frank H. Dotterweich College of Engineering

This project supports two design teams participating in the Texas Space Grant Consortium Design Challenge.

## East Texas Natives

Forest Service | USDA | Five Years | \$76,571.53

**Smith, F.**, Pawelek, K.

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This grant aids in the research and development of native seed sources for East Texas.

## TAMUK THECB Workstudy Mentorship Program 2017-2021

THECB | Three Years | \$89,986

**Martinez, M.** | Academic Affairs

This project funds students to mentor and/or tutor students at participating institutions.

## Targeted Promoter Demethylation in Ovarian Cancer Cells

NIH | SC2 | Four Years | \$413,996

**Sung, C.**, | College of Arts & Sciences

The project seeks to develop a new epigenetic technology that selectively targets the SALL2 promoter in human ovarian carcinomas.

## Business Internships: A Practical Approach

Wells Fargo | One Year | \$7,500

**Kieschnick, S.**, Delcoure, N. | College of Business Administration

This grant supports the Student Professional Development Program (SPDP). It was designed and iteratively modified to provide learning experiences to help students develop personal and professional skills. The end goal will give students a competitive advantage in the job market and beyond.



## Towards Resilient Forests: Assessing the Effects of Wildfire and Fuel-Reduction Treatments on Forest Structure around Storries Fire and Adjacent Areas

USDA-Forest Service (USDA-FS) | Two Years | \$72,061

**Xi, W.** | College of Arts & Sciences

This grant examines a balance among various ecosystem services in the ponderosa pine, true fir, and mixed coniferous forests. Moreover, we are studying the effects of forest canopy cover on the understory development and carbon dynamics, and to evaluate using forest canopy cover as a management tool in forest restoration project.

## Comparing Spring Migration Strategies of Northern Pintails from Wintering Areas Across North America

Ducks Unlimited, Inc. | Four Years | \$74,370

**Ballard, B.**

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

For this project, the PI captures northern pintails at several major wintering areas across North America. The primary objectives are comparing average spring migration strategies of female northern pintails originating from different wintering areas and investigating the differences in individual strategies within wintering regions, which relate to their reproductive success.

## Title IV-E Child Welfare Training Grant

Foster Care\_Title IV-E | DHHS/Texas Dept. of Family & Protective Services

Two Years | \$92,733.06

**Young, T.** | College of Arts & Sciences

This grant will provide current and prospective child protective services (CPS) workers with an educational program. This program addresses the professional competencies required for work in the state foster care system through the course work and field work necessary for a BSW or MSW degree.

## Bt Toxin-based Strategies for Management of Diaphorina Citri and Citrus Greening

NIFA-SCRI | USDA | Four Years | \$210,616

**Setamou, M.**

Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

For this project, the PI conducts research and is doing outreach activities for the development and implementation of new tools with Bt technology for the management of Asian citrus psyllid.



### Development of Huanglongbing Resistant/Tolerant Citrus through Genomic Approaches

Citrus Disease Research & Extension Program | University of California, Riverside/USDA-NIFA | Four Years | \$299,432

**Kunta, M.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

For this grant, the PI plans to identify HLB resistance/tolerance genes from citrus relative genera and incorporate these genes into commercial citrus. We are using genomic tools to identify disease resistance genes from these hybrids.

### Development of a Cloud-Based Health Monitoring Platform for Battery Energy Storage Systems

Korean Government International Joint Research Program | Institute for Information and Communications (IITP)

One Year | \$67,680

**Kim, T.** | Frank H. Dotterweich College of Engineering

The goal of this project is to study a new framework of a cloud-based health monitoring platform for battery energy storage systems (BESSs), which will not only open a new platform to improve on-board battery health monitoring and control, but also provide intelligent and cost-effective maintenance of the large-scale BESSs.



### Structure-Function Analysis of Pro-Apoptotic BMRP and Its Role as a Tumor Suppressor

NIGMS | NIH | Four Years | \$414,000

**Gonzalez-Garcia, M** Perez-Ballester, R. | College of Arts & Sciences

The overall goals of this project is to understand the function of proteins that regulate apoptosis, which will provide novel targets and tools for the design of innovative therapies or the treatment and/or prevention of cancer and other human diseases characterized by deregulated apoptosis.

### Scholarship of Excellence in Nuclear Engineering at TAMUK

NRC | Two Years | \$200,000

**Yang, X.,** Elkassabgi, Y. | Frank H. Dotterweich College of Engineering

This project supports five fellowship students. The fellowships are multidisciplinary and the research areas include neutronics, thermal-hydraulics, advanced reactors, nuclear material, environmental protection and restoration of uranium mining.

### THECB 60X30 Dissemination Grant

THECB | Two Years | \$5,000

**Croft, M.** | Enrollment Management

This dissemination grant is for funds to assist South Texas regional partners engaging in activities to support THECB's 60X30 targets.



### Field Implementation of an Advanced Multimodal Attract-And-Kill Device (CAPUT Trap) For Sustainable Management of Asian Citrus Psyllids

Huanglongbing Multi-Agency Coordination (HLB-MAC) | USDA - APHIS | Two Years | \$114,799

**Setamou, M.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This project involves research and outreach activities for the development and implementation of the advanced multimodal attract-and-kill device (CAPUT) in psyllids.

### START ACTING: Student Track & Awareness in Relation to Agriculture Careers, Transition between Institutions & Novel Gain

NIFA-ELI | USDA | Two Years | \$165,000

**Donato-Molina, C,** Nelson, S. | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The purpose of this grant is to train postdoctoral fellows in the development and application of instructional materials and practices for recruitment, counseling, career preparation, and tracking of underserved Hispanic students in agricultural careers.

**Bird Species Richness, Occurrence, and Abundance on the East Foundation Ranches**

East Foundation | Three Years | \$110,787

**Brennan, L., Perotto, H.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This grant project entails long-term data collection and survey monitoring of bird species richness, occurrence, and abundance on various ranches of the East Foundation.

**Cattle: White-tailed Deer and Nilgai Interactions**

East Wildlife Foundation | Eight Years | \$705,720

**Fulbright, T., Ortega, S., Hewitt, D.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

The purpose of this grant is to conduct annual estimates of grazing intensity and grass and forb standing crop to determine the effect of cattle grazing intensity on forbs preferred by white-tailed deer. Comparisons of plant species composition and standing crop between plots protected from herbivores and unprotected plots will provide information regarding the effects of current herbivore densities on the vegetation communities on the East Wildlife Foundation ranches.

**Do Characteristics of the Reader Contribute to Beginning Readers' Online and Offline Performances on Cohesive and Less-cohesive Texts?**

SC3 | NIH | Four Years | \$404,061

**Hannon, B.** | College of Arts & Sciences

This project determines the influences of reader characteristics on beginning readers' performances on online and offline measures of coherent and less-coherent texts.

**Texas A&M University-Kingsville Nuclear Doctoral Fellowship Program**

Nuclear Regulatory Commission (NRC) | Two Years | \$400,000

**Yang, X., Elkassabgi, Y., Clapp, L.** | Frank H. Dotterweich College of Engineering

This fellowship supports 5 students. With the fellowship support, the two TAMUK Ph.D. programs (Sustainable Energy System Engineering and Environmental Engineering) will contribute to a professional workforce by training future leaders for nuclear industry, research facilities, military and government agencies and reinvigorate the nuclear society.



**Pollinator Management: Grassland Restoration at Camp Bowie Training Center**

Texas Military Department | Two Years | \$30,788

**Bow, J.** | Dick and Mary Lewis Kleberg College of Agriculture and Natural Resources

This project involves planting 50% of the 85 acre project area with native grassland at the Camp Bowie Training Center, which includes mowing, herbicide application, and planting.

# OFFICE OF RESEARCH & GRADUATE STUDIES

---

## GRADUATE STUDIES STAFF

**Dr. G. Allen Rasmussen**

Provost and Vice President for Academic Affairs

361-593-3106      george.rasmussen@tamuk.edu

**Martha Alegria**

Graduate Admissions Coordinator

361-593-3411      361-593-3412      martha.alegria@tamuk.edu

**Vacant**

Administrative Associate IV

361-593-4762

## PRE-AWARD STAFF

**Diana Polendo Luna**

Director, Contracts & Grants / Authorized Organizational Representative

361-593-3480      diana.luna@tamuk.edu

**Lizette Gonzales**

Proposal Administrator I

361-593-2455      lizette.gonzales@tamuk.edu

**Jeffrey Garza**

Proposal Administrator I

361-593-4815      jeffrey.garza@tamuk.edu

**Patricia Foster**

Contract Negotiator II

361-593-3344      patricia.foster@tamuk.edu

## RESEARCH COMPLIANCE

**Angela M. Bingham**

Research Compliance Coordinator

361-593-4764      angela.bingham@tamuk.edu

**Eutimio 'Tim' Alaniz**

Research Compliance Specialist

361-593-2677      eutimio.alaniz@tamuk.edu

## POST-AWARD STAFF

**Cynthia Villarreal**

Director, Contracts & Grants

361-593-4915      cynthia.villarreal@tamuk.edu

**Christy Castañeda**

Business Coordinator I

361-593-4258      christy.garcia@tamuk.edu

**Stephanie Steen**

Business Coordinator III

361-593-3086      stephanie.steen@tamuk.edu

**Francis Regalado**

Accounting Assistant III

361-593-3219      francis.ortiz@tamuk.edu

**Vickie Frels**

Business Coordinator II

361-593-3087      vickie.frels@tamuk.edu