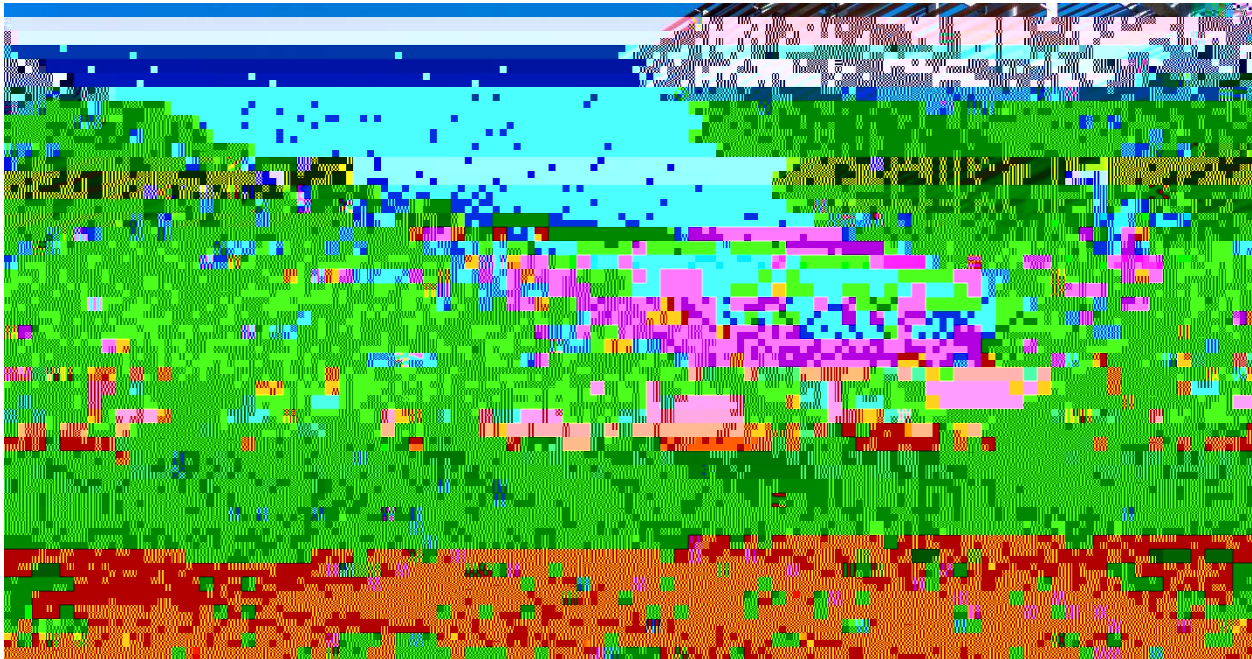




Annual Report of External Grant Performance and Internal Research Activities

Fiscal Year 2021
(September 1, 2020- August 31, 2021)



Office of Research & Sponsored Programs Administration

February 8, 2022

This report presents the external grant efforts and awards at Lamar University (LU)

Figure 1. Amount of external funds (a) requested, and (b) received by college and IU administrative office/centers in FY21

Table 2 shows the breakdown of external funds requested and received by academic departments in FY21. Twenty three (23) departments have submitted external grant applications

Table 2 Statistics of college/department grant efforts and received external funds in FY21

College **Department** **No of**

Figure 2 FY21 internal research grant activities funded by the Center for Advances in Port Management (CAPM) Portref eecanf

Table 3 List of external grant applications and awards in FY21

Department	PI	Co-PIs	Project Title	Agency	Requested	Status
College of Arts & Sciences						
Biology	Hich, Matthew		Sediment Coiling in the Sabine-Neches Waterway Gut-Off for Metals Analyses	Tidal-Gain Industries In contract	\$10,925	Yes
Biology	Vasefi, Maryam	Saleghatmandi, Soheila; Kulkarni, A; Iian, I; Henry, J; Nguyen, T; He, P; Benson, T; Baeza-Garbado, R	in-CMRE Acquisition of a Fluorescence Microscopy at the University of Non-Binding	National Science Foundation Ruiyuan GPT ON grant	\$3,000,000 \$1,500,000 by asda	No FoAS 2/15/21
Biology	Hich, Matthew					

Computer Science	Zhang Jing	Hindl, M	Deep Learning based Auditory Anomaly Detection and Classification for Natural Gas Compressors, Phase I	Well Checked Systems, LLC	\$20,000	Yes
Computer Science	Zhang Jing		SUBAWARD ADigital Rice Selection System that Integrates UAV Imaging Machine Learning and Multi-Trait Decision Making	Department of Agriculture	\$159,586	Yes
EarthSpace Science	Amer, Reda	Hich, M	Texas Coastal Wetlands Restoration Prioritization and Resilience under Sea Level Rise Scenarios	Subaward by Texas A&M University	\$261,421	No
Mathematics	Couch, PJ		Mathematical Puzzle Programs Challenge	Southern Connecticut State University		

Physics	Cole, Philip	Bhunia, G; Bhunia, B; Irwin, G; Lou, M; Nairabasti, B; Sen, C; Rmashets, E	A Unified Approach for Recruiting and Retaining Minority Students in a Departmental-wide Setting	Department of Energy	\$308,389	No
Physics	DeLaMadrid, Rafael	Cole, P	Gadolinium Loaded Plastic Scintillators for Dark Matter Search	Department of Energy	\$20,138	No
Physics	Sen, Gergiz		Monte Carlo simulations of realistic impurity based model Hamiltonians for D magnetic materials	Cottrell-Scholar Program	\$100,000	No
Physics	Sen, Gergiz		IEAPS/MPS Study of dDMagnetism in Realistic Model Hamiltonians using Monte Carlo Simulations	National Science Foundation	\$147,622	No
Physics	Cole, Phil	DeLaMadrid, R	Detection of Light Dark Matter Particles with High Intensity Electron Beams at DarkMESA through Nuclear Recoil Signatures in the BDK DRIFT Detector	Department of Energy	Letter of Intent	Invited to be updated in FY22
Social Work and Criminal Justice	Clayton, Angela		Title IV-E Child Welfare Enhancement Program	Texas Department of Family and Protective Services	\$270,494	Yes
College of Business						
Economics and Finance	Slaydon, James	Sagayan, G; Colon, R; Venta, H	Promote a Culture of Innovation in Southeast Texas for Economic Diversification	Department of Commerce	\$531,723	No
Construction Management	Hwang, Seokyon		Quantifying Safety Factor for Risk Mitigation in Subsurface Trenching Using Trench Configurations of the Occupational Safety and Health Administration	Center of Construction Research and Training	Letter of Intent	Not Invited

Construction Management	Iuo Zhe		BLOOM Bayesian Learning Objective-oriented Observational Method for Integrated Design and Construction of Staged Excavations	National Science Foundation	\$199,300	No
Economics and Finance	Saydon James	Sagsyan G; Colon R	Developing a Small Business Toolkit: SEIRFC and IU partnership	Subaward by Southeast Texas Regional Planning Commission	\$100,000	Yes
Economics and Finance	Saydon James	Sagsyan G; Colon R; Venta H	COVID 19 Threat and Opportunity for Economic Resiliency of Southeast Texas	Department of Commerce	\$301,238	No
Economics and Finance	Sagsyan Gevorg	Fiench D; Towar Silos R	Evidence of Optimal Dividend and Investment			

Teacher Education	Singh, Manta Kunai	Mann, J; Knight, S; Woley, V; Stinson, C; Bacha, E; Titus, E	THECB Reskilling Grant Phase II	Texas Higher Education Coordinating Board	\$300,000	Yes
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College of Engineering

Chemical Engineering	Benson, Tracy	Chen, D	Offshore Gulf of Mexico Partnership for Carbon Storage- Resources and Technology Development GOM Cab	Subaward by UF Austin, Department of Energy	\$108,747	Yes
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Chemical Engineering	Chen, Daniel Hio		IURC Preliminary Proposal Planning Grant			
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Civil & Env. Engineering	Wu, Xing		SRSRN Next-Generation Regional Transportation Systems Sustainability-Driven Framework for Infrastructure Engineering and Social Welfare Optimization	Southern Methodist University	\$5,000	No
Civil & Env. Engineering	Qian, Qian	Sun, Bo, Zhang, Jing	Identify potential BMP tools to reduce bacterial loading in Neches River	Texas General Land Office	Letter of Intent	Invited to be updated in FY22
Civil & Env. Engineering	Qian, Qian	Hiselbach, Iiv	Conjunctive deployment of distributed stormwater infiltration and Bio retention infrastructures to mitigate flooding and related nonpoint source pollution in Beaumont, Texas	Environmental Protection Agency	\$418,625	Yes
Electrical Engineering	Tokgoz, Gagtay		Application of Asymptotic Methods to Faceted Convex Surfaces for Radiation Problems	Riverside Research,		

Electrical Engineering	Tsheslaski, Gleb Valeryevich	Myle; Harley, Yoo H; Bazegzarbaboli, R	Virtual Reality In Teaching Applied Science (VERITAS)	National Science Foundation	\$299,081	No
Electrical Engineering	Bazegzarbaboli, Mohammadeza		Real-time Hydrogen Leakage Detection and Mitigation: 5G-based Sensors Augmented by Hybrid Deep Networks for Anomaly Detection	Department of Energy	\$92,810	No
Industrial Engineering	Guy, James		Developing an Integrated Offshore Energy Industry Safety Culture Evaluation and Improvement Toolbox	American Bureau of Shipping	\$25,000	Yes
Industrial Engineering	Hamid, Maryam	Gaig B	ARailyard Management Software: IronHuse Terminal Application (Phase II)	IronHuse, LLC	\$100,000	Yes
Industrial Engineering	Li, Yueqing	Wu, X	Digitizing Traffic Control Infrastructure for Autonomous Vehicles (AV)	Texas Dept. Of Transportation	\$85,325	No
Industrial Engineering	Tolgoz, Borna	Bradley, R; Guy, J; Marquez, A; Tsheslaski, G	Supporting Continuing Online Regional Engineering Education: Repairing the Academically-Elected for Transfer Highways (SCORE)	Subaward by San Jacinto College, National Science Foundation	\$2,318,617	No
Mechanical Engineering	Hu, Bing	Bhim, C; Liu, Xi; Luo, Z; Yoo, H	REUSite: Enriching the Undergraduate Research Experience for Underrepresented Students	National Science Foundation	\$353,294	Pending
Mechanical Engineering	Yao, ChunWei		REU: Studying the Early Stages of Pitting Corrosion on Superhydrophobic Interfaces	National Science Foundation	\$83,339	Pending
Mechanical Engineering	Yao, ChunWei	Lian, I	Superhydrophobic Surfaces with Anti-Biofouling Properties	Dr. Tzu-Taiwan Clinic	\$10,000	Yes
Mechanical Engineering	Yao, ChunWei		Studying the Corrosion Resistance and Mechanism of Superhydrophobic Metal Surfaces at Early Stages of Pitting Corrosion	National Science Foundation	\$69,358	No

Mechanical Engineering	Yao ChunWei		RUE Study of the dynamics of Water Droplet on Superhydrophobic Surfaces in Supercooled Environment	National Science Foundation	\$2010	No
Mechanical Engineering	Aung Kerdhik Than	Zhou, J; Jordan, J; Behring, C	Fuel-cell Powered Air Vehicle with 50lb Payload	National Aeronautics and Space Administration	\$8619	No
Mechanical Engineering	Hs, Hng	Yao, C	RUE Developing a Realistic Contact Line Dynamics Model for Wetting Phenomena			

**Deaf Studies &
Deaf Education**

Greene, Ashley

Buchanan, B

College of Fine Arts & Communication

**Strategies to disseminate proactive COVID 19
vaccinate education to the Deaf community**

Spindletop Gladys City	Gray, Troy	Updating the Electricity at Spindletop Gladys City Boomtown Museum	Entegy Foundation	\$11,365	No
TMAC	Palanki, Srinivas	NSIEMPD Disaster Assessment Program: Hurricane Laura	Subaward by UF Arlington, National Institute of Standards and Technology	\$28,534	Yes
TMAC	Palanki, Srinivas	Development of a Lean Six Sigma Program for Natgasoline			

Finance	HEEF III Student Portion, Emergency Relief; GAN_P125E20048520B41	Department of Education	\$11,380,397	Yes
Finance	HEEF III Institutional Portion, Emergency Relief; GAN_P125E20110820B51	Department of Education	\$10,368,782	Yes
Finance	HEEF III Rogans, Emergency Relief; GAN_P125M20008820B31	Department of Education	\$913,965	Yes
Finance	HEEF III Rogans, Emergency Relief; GAN_P125M20008820C51	Department of Education	\$537,637	Yes
Finance	HEEF III Rogans, Emergency Relief; GAN_P125M20008820C51	Department of Education	\$3,999	Yes

Table 4 List of internal research grants awarded in FY21

Sociology	Gage, Margt	Women Leaders & Human Rights: Exploring the Influence Women in Politics Has on Population Health	COAS	\$5,000
Biology	Hich, Matt	Four major research project themes related to microbial ecology of aquatic habitats	COAS	\$5,000
History	Muzorewa, Gwinyai	An Account of Shifting Pan-African and International Influences in the formation of Zimbabwe's Foreign Policy from 1980 to 2000	COAS	\$5,000
Physics	Madrid, Rafael De La	Characterization of the work needed to slide a droplet on a surface	COAS	\$5,000
Math	Daniel, Dale	Investigations in Network Theory via the Erdős Gyárfás Conjecture	COAS	\$3,000
Biology	Kukunoor, Ashwini	Rhomboid gene silencing using synthetic siRNAs in <i>Tititrichomonas foetus</i>	COAS	\$3,000
Nursing	Long, Elizabeth	Cardinal Cares Project	COAS	\$3,000
English	Nemmes, Adam	Neither "Squaw" Nor "Savage": Exoticism and Exoticism in Native American Sexual Stereotypes	COAS	\$3,000
Nursing	Hplins, Cynthia	Journal of Nursing Scholarship Worldviews on Evidence-Based Nursing or Journal of Holistic Nursing	COAS	\$3,000
English	Smith, Amy	Cultivating Moral Attention in Ralph Ellison's <i>Invisible Man</i> and Iris Murdoch's Moral Theory	COAS	\$3,000

Computer Science	Liu, Xingta	Sun, B, Wang R	ABIE based Cognitive IoT System for Pipeline Sensor Networks	CVMS	\$19,749
Chemical Engineering	Xu, Qiang	Wang S	A Comprehensive Study on Sloshing Impacts for LNG Gas Re-treatment Systems	CVMS	\$20,000
Construction Management	Hwang Seokyon	Liu, Z, Zhang J; Tolgoz, B	DARIS- Drone and Artificial Intelligence Reconsolidated Technological Solution for Increasing the Oil and Gas Pipeline Resilience	CVMS	\$20,000
Mechanical Engineering	Fan, Zhe	Fan, Z	Design and Surface Modification of Corrosion Resistant High Entropy Alloys for Oil and Gas Pipelines	CVMS	\$18,000
Industrial Engineering	Hamid, Maryam	Zhang J	Deep Learning based Defect Classification and Prediction for Midstream Compressors/Well Choked	CVMS	\$20,000
Chemical Engineering	Techou, Rafael and Gá, Tiago	Liu, S	Corrosion Detection Using Surface Characterization Development	CVMS	\$50,000
Industrial Engineering	Li, Yueqing	Liu, X	Develop a Hybrid Model to Detect Gude Oil Leak in Midstream Pipeline System	CVMS	\$20,000
Mechanical Engineering	Li, Xianchang	Liu, X; Zhou, J	Surge Analysis for LNG Loading Arms Using Fluid Dynamic Simulation for Suppression of Hydraulic Hammer and Optimization of Piping System	CVMS	\$19,998
Chemical Engineering	Chen, Daniel	Chen, D	Frack NGL Optimization	CVMS	\$16,212
Chemical Engineering	Jeffries, Clayton		Development of a Microwave Demulsifier	CVMS	\$20,000
Chemical Engineering	Sidney Lin	Lou, H	Development AI Algorithms for corrosion prediction	CVMS	\$20,000
Industrial Engineering	Li, Yueqing	Liu, X	Use of Drone Technology to Detect Gude Oil Leak in Pipeline Systems	OCE	\$4,000
Chemical Engineering	Xu, Qiang		Dynamic Simulation and Optimization for Distillation Column Shutdown Automation	OCE	\$4,000
Industrial Engineering	Badley, Robert Kelley		Process Development for Coating Single Wall Carbon Nanotubes	OCE	\$3,964

**Electrical
Engineering**

**English and Modern
Languages**

**Johnson
Getchen**

Accounting and Business Law	Colon, Ricardo	CoB	Departmental	\$5,000	Summer Research Faculty
Accounting and Business Law	Colon, Ricardo	CoB	Departmental	\$280	Overtime Pay
Accounting and Business Law	Colon, Ricardo	CoB	Departmental	\$2,000	Overtime Pay
Construction Management	Hwang, Seok Y	CoB	Departmental	\$1,167	Overtime Pay
Construction Management	Kim, Mirky	, Mirky	y	, Mirky	

	Accounting and Business Law	Swift, Orin	CoB	Departmental	\$5000	The purpose of the summer research stipend is to conduct research on textual analysis of the content of community benefit reports in California
	Information Systems and Analysis	Zhao, Yu	CoB	Departmental	\$408	One time Pay
	Information Systems and Analysis	Zhao, Yu	CoB	Departmental	\$10000	Learning Complex Technology Online: Effect of Challenge and Hindrance Techno Stressors on Student Satisfaction and Retention
	Information Systems and Analysis	Zhao, Yu	CoB	Departmental	\$2000	One time Pay
	Mechanical Engineering	Fan, Zhe	CoE	Departmental	\$15000	Research program development
% W •	Industrial Engineering	Kareisa, Acyut	CoE	Departmental	\$4500	Assist the department and faculty with lab work for various research projects
	Civil & Env. Engineering	Bale, Nicholas	CoE	Departmental	\$8733	Faculty Fellowship Award
†gP	Industrial Engineering	U & i • l				