



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) during Fiscal Year 2021 (FY21, September 1, 2020 – August 31, 2021). Internal grant awards for strategic research development and faculty research support by colleges and LU research centers are also documented.

External Grant Efforts and Awarded Funds

In FY21, LU submits one hundred and five (105) external grant applications. The total requested amount is **\$39,603,404**. The total awarded grant fund is **\$4,046,553** for 42 applications. Other non-competitive requests include the Federal Higher Education Emergency Relief Funds (HEERFs) arranged as Department of Education (DEd) grants (7 requests) and the Texas Governor's Emergency Education Relief (GEER) Funds (1 request). The received HEERF and GEER funds total **\$37,728,877** in FY21.

Table 1 compares the three-year external grant performance from FY19 to FY21. Compared to FY19 and FY20, the grant efforts and received external funds in FY21 show significant growth. Excluding emergency assistance funds, the awarded grant funds through external competitive processes grow by \$0.868M from FY19 to FY20 and by \$1.90M from FY20 to FY21. As of February 8, 2022, seven (7) submitted proposals in FY21 are still pending for decision by the funding agencies, which total \$0.668M.

Table 1: Comparison of External Grant Performance from FY19 to FY21

	FY19	FY20	FY21 ^(a)
No. of Applications	62	90	105
No. of Awards	29	38	42^(b)
Awarded Grant Funds	\$ 1,277,370	\$ 2,145,691	\$ 4,046,553
Emergency Assistance Funds Received^(c)	\$ 2,636,616	\$ 7,393,842	\$ 37,728,877
Total Awarded Funds	\$ 3,913,986	\$ 9,539,533	\$ 41,775,430

(a) As of February 8, 2022.

(b) Currently there are 7 pending applications (requested amount: \$0.668 M).

(c) Include HEERFs, GEER funds and other emergency relief funds.

Grant Efforts and Awards by Academic College and Department

All five academic colleges have responded to external funding opportunities in FY21. Figure 1 shows the amount of funds requested and received by the academic colleges and LU's administrative offices/centers. The College of Arts and Sciences has the largest amount of external funding requests (\$19.3M), followed by the College of Engineering (\$10.9M), the College of Fine Arts of Communication (\$3.81M), the College of Education and Human Development (\$2.62M) and the College of Business (\$1.16M). The requests made by administrative offices/centers total \$1.82M. The College of Engineering leads the awarded funds at \$1.50M, followed by the College of Arts and Sciences at \$0.941M. All five colleges show growth in external grant revenues in FY21 compared to FY20.

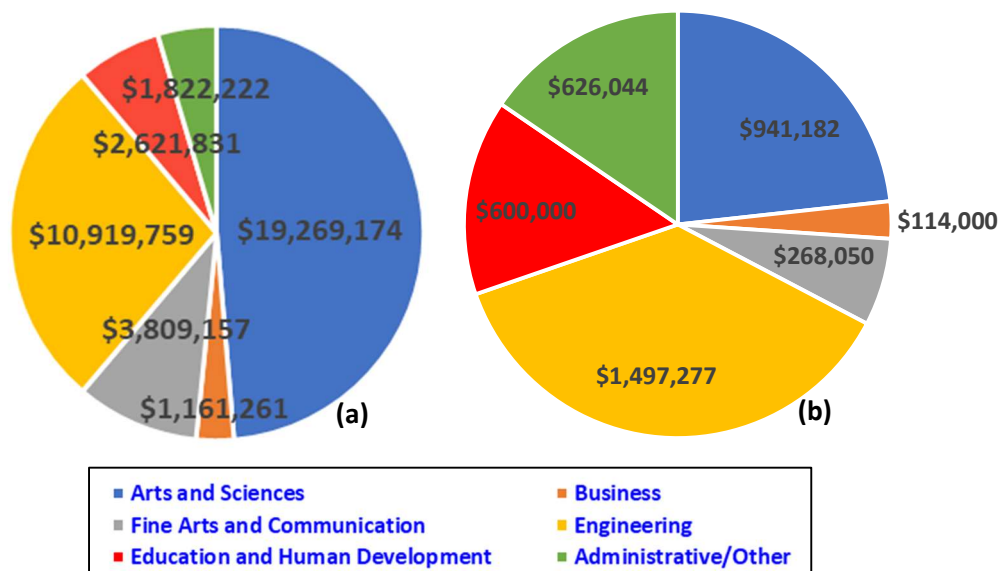


Figure 1. Amount of external funds (a) requested, and (b) received by college and LU administrative office/centers in FY21

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 with various levels of success. Table 3 shows the list of all submitted proposals in FY21 by principal investigator (PI), department, college, funding agency, and award status (yes, no, or pending).

Internal Grant Awards and Departmental Research Activities

The internal grant awards supported by the Center for Advances in Port Management (CAPM), the Center for Midstream Management & Science (CMMS), the Center for Innovation, Commercialization & Entrepreneurship (CICE) and the College of Arts and Sciences (CoAS) are listed in Table 4. The award summary is shown Figure 2. These grant programs are intended to develop strategic research capabilities that will lead to future research projects funded by external sponsors. In total, forty-six (46) projects are awarded with a total funding amount of **\$594,017** in FY21.

Select faculty members are supported by LU research centers (including CAPM, CMMS, Center for Advances in Water and Air Quality [CAWAQ], Texas Air Research Center [TARC], Texas Hazardous Waste Research Center [THWRC]) and by academic colleges to manage the centers' programs or perform summer faculty research. Such support in the form of faculty salaries is listed in Table 5, with a summary shown in Figure 3. In total, the internal research support amounts to **\$528,530** in FY21.

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

College	Department	No. of Applications	Total Funds Requested	Total Funds Awarded
Arts & Sciences (25 projects)	Biology	7	\$988,335	\$10,925
	Chemistry	1	\$150,000	\$150,000
	Earth & Space Science	1	\$261,421	-
	Computer Science	3	\$279,596	\$279,596
	Nursing	2	\$1,841,976	\$230,167
	Physics	9	\$15,443,272	-
	Social Work/Criminal Justice	1	\$270,494	\$270,494
	Mathematics	1	\$34,080	-
Business (7 projects)	Information Systems	1	\$14,000	\$14,000
	Construction Mgmt.	2	\$199,300	-
	Finance and Economics	4	\$947,961	\$100,000
Education & Human Development (5 projects)	Pedagogy/Teacher Ed.	2	\$600,000	\$600,000
	Educational Leadership	2	\$108,606	-
	Counseling/Spec. Pop.	1	\$1,913,225	-
Engineering (42 projects)	Chemical Engineering	5	\$1,376,658	\$103,747
	Civil/Environmental	13	\$3,998,180	\$688,878
	Electrical Engineering	7	\$1,133,676	\$392,192
	Industrial Engineering	4	\$2,558,972	\$125,000
	Mechanical Engineering	13	\$1,852,273	\$187,460
Fine Arts and Communication (8 projects)	Speech and Hearing	2	\$2,238,045	\$1,149
	Music	1	\$46,652	-
	Deaf Studies/Deaf Ed	3	\$1,257,559	-
	KVLU	2	\$266,901	\$266,901
Admin/Centers		18	\$1,822,222	\$626,044
TOTAL		105	\$39,603,404	\$4,046,553
Emergency Relief Funds (HEERFs and GEER)		8	\$37,728,877	\$37,728,877

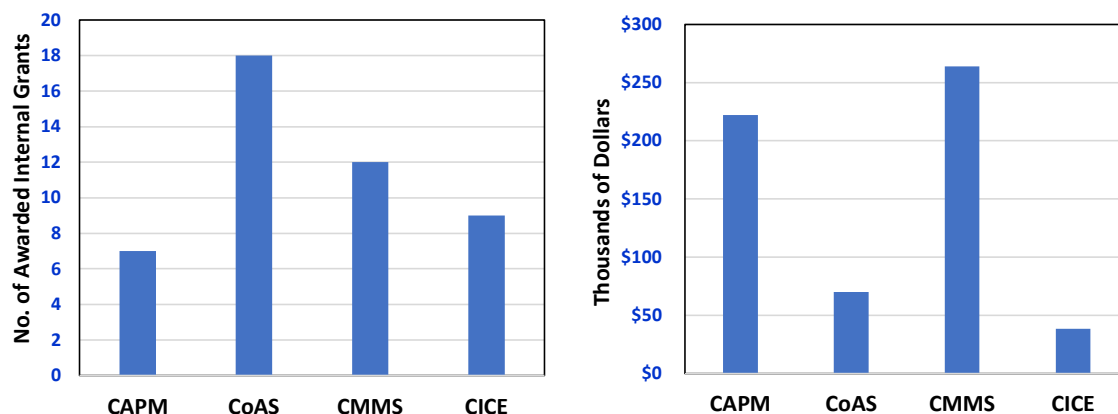


Figure 2. FY21 internal research grant activities funded by the Center for Advances in Port Management (CAPM), Center for Midstream Management & Science (CMMS), Center for Innovation, Commercialization & Entrepreneurship (CICE) and College of Arts and Sciences (CoAS): (a) number of internal grants awarded, and (b) funded dollar amounts.

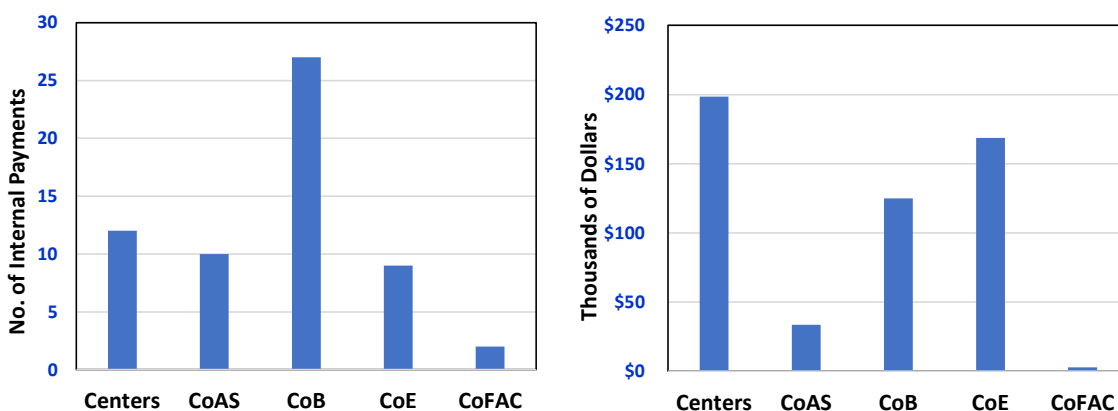


Figure 3. Faculty research support funded by research centers and academic colleges in FY21: (a) number of internal supports in the form of faculty salaries, and (b) expenditures on research-related salary payments.

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	Hoch, Matthew		Sediment Coring in the Sabine-Neches Waterway Cut-Off for Metals Analyses	Tubal-Cain Industries Inc contract	\$10,925	Yes
Biology	Vasefi, Maryam	Selvaratnam, T.; Kucknoor, A.; Lian, I.; Henry J.; Nguyen T.; He, P.; Benson T.; Barzegaranbabol, R.	MRI: Acquisition of a Fluorescence Microscope at Lamar University/Non-Binding	National Science Foundation	\$380,710	No
Biology	Vasefi, Maryam		mGluR5 Modulation of NMDA Receptor in Alzheimer's disease	National Institute of Health	\$298,350	No
Biology	Hoch, Matthew		Chenier Plain Engineering with Nature (EWN) Enterprise/ Non-binding	UA Army Corps of Engineers	Letter of Intent	Not Invited
Biology	Vasefi, Maryam		mGluR5 Modulation of NMDA Receptor in Alzheimer's disease (Re-Submission)	National Institute of Health	\$298,350	No
Biology	Hoch, Mathew		Coastal Marsh Blue Carbon Potential Pre- and Post- BUDM Restoration	Texas General Land Office	Letter of Intent	Not invited
Biology	Vasefi, Maryam		mGluR5 Modulation of NMDA Receptor in Alzheimer's disease	Alzheimer's Association	Letter of Intent	Not Invited
Chemistry	Sen, Ozge Gunaydin		Enhancing Chemical Education via Research	The Welch Foundation	\$150,000	Yes
Computer Science	Wang, Sujing	Urbina, O.; Andrei, S.; Bradley, R.; Sisk, D.	Texas Workforce Commission (TWC) Governor's Summer Merit Program	Texas Workforce Commission	\$100,000	Yes

Computer Science	Zhang, Jing	Hamidi, 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		SUB AWARD: A Digital Rice Selection System that Integrates UAV Imaging, Machine Learning, and Multi-Trait Decision-Making	Department of Agriculture	\$159,596	Yes
Earth Space Science	Amer, Reda	Hoch, M.	Texas Coastal Wetlands Restoration Prioritization and Resilience under Sea Level Rise Scenarios	Subaward by Texas A&M University	\$261,421	No
Mathematics	Couch, P J		Mathematical Puzzle Programs Challenge	Southern Connecticut State University	\$34,080	No
Nursing	Robinson, Ruthie	Chisolm L.; Zhang J.; Makki S.; Kucknoor, A.; Vasefi, M.; Lian, I.	PHIT: LU Health Informatics Certificate Program	US Dep. Of Health and Human Services/Texas State University	\$1,607,000	No
Nursing	Chisolm, LeAnn	Pipkins, C.; Dockens, A.	LU Interprofessional Rural Health Literacy and Chronic Care CONNECT through Distance Education and Telemedicine Project	Department of Agriculture	\$234,976	Yes, at \$230,167
Physics	Cole, Philip		CDC: Mask Challenge	Center of Disease Control	\$10,000	No
Physics	Cole, Philip		Mid-scale RI-1 (M1:IP) Implementation Plans for the Infrastructure and the Super structure of the Beam-Dump Experimental (BDX) Hall at Jefferson Lab	National Science Foundation	\$12,950,310	No
Physics	Cole, Philip	De La Madrid, R.	MRI Consortium: Collaborative Research: Directional Nuclear Recoil Detector for Light Dark Matter at DarkMESA	National Science Foundation	\$1,700,378	No
Physics	Sen, Cengiz		RUI: Investigations of d-zero Magnetism in Model Hamiltonians using Monte Carlo Simulations	National Science Foundation	\$211,435	No

Physics	Cole, Philip	Bahrim, C; Bahrim, B.; Irwin, G.; Lou, M.; Nainabasti, B.; Sen, C.; Romashets, E.	A Unified Approach for Recruiting and Retaining Minority Students in a Departmental-wide Setting	Department of Energy	\$303,389	No
Physics	De La Madrid, Rafael	Cole, P.	Gadolinium-Loaded Plastic Scintillators for Dark Matter Search	Department of Energy	\$20,138	No
Physics	Sen, Cengiz		Monte Carlo simulations of realistic impurity-based model Hamiltonians for d0-magnetic materials	Cottrell-Scholar Program	\$100,000	No
Physics	Sen, Cengiz		LEAPS-MPS: Study of d0-Magnetism in Realistic Model Hamiltonians using Monte-Carlo Simulations	National Science Foundation	\$147,622	No
Physics	Cole, Phil	De La Madrid, R.	Detection of Light Dark Matter Particles with High-Intensity Electron Beams at DarkMESA through Nuclear-Recoil Signatures in the BDx-DRIFT Detector	Department of Energy	Letter of Intent	Invited, to be updated in FY22
Social Work and Criminal Justice	Clavijo, 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	Sargsyan, 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	Luo, 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	Slaydon, James	Sargsyan, G.; Colon, R.	Developing a Small Business Toolkit: SETRPC and LU partnership	Subaward by Southeast Texas Regional Planning Commission	\$100,000	Yes
Economics and Finance	Slaydon, James	Sargsyan, 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	Sargsyan, Gevorg	French, D.; Tovar-Silos, R.	Evidence of Optimal Dividend and Investment Policies of Real Estate Investment Trusts	Real Estate Research Institute	\$15,000	Pending
Information System and Analysis	Flosi, Alicen		Expansion of Electric Charging Stations at Lamar University for Sustainability	Entergy Foundation	\$14,000	Yes

College of Education & Human Development

Counseling and Special Pops	Weinbaum, Rebecca Karen	Gummelt, V.; Handley, V.	Partnerships for Relationships, Interventions, and Mental Health Effectiveness (PRIME)	Department of Health and Human Services	\$1,913,225	No
Educational Leadership	Brown, Kelly		A Community Engaged Approach to Reduce the Racial School Climate Gap-Equity Beyond Academics	Entergy Foundation	\$49,936	No
Educational Leadership	Brown, Kelly		Creating an Equity Readiness Scale for Leaders to Understand the Mindset of Educators: A Mixed Methods Study	Spencer Foundation	\$58,670	No
Teacher Education	Singh, Mamta Kumari	Mann J.; Knight, S.; Worley, V.; Stinson, C.; Badua, F.; Titus, F.	THECB Reskilling Grant Phase I	Texas Higher Education Coordinating Board	\$300,000	Yes

Teacher Education	Singh, Mamta Kumari	Mann J.; Knight, S.; Worley, V.; Stinson, C.; Badua, F.; Titus, F.	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 GOMCarb	Subaward by UT-Austin, Department of Energy	\$103,747	Yes
Chemical Engineering	Chen, Daniel Hao		IUCRC Preliminary Proposal Planning Grant Lamar University: Center for Carbon Reduction, Capture, Storage, and Utilization (CRCSU)	National Science Foundation	\$20,000	No
Chemical Engineering	Tadmor, Rafaell		Study of the Impingement of Drops as a Function of Body Forces	National Science Foundation (resubmission)	\$395,247	No
Chemical Engineering	Chen, Daniel Hao	Lin, S.; Li, X.	Experimental & Analytical Studies: NH3/NG Oxy-Cofiring Under CO2 atmosphere at Elevated Pressures	Department of Energy	\$707,664	No
Chemical Engineering	Jeffries, Clayton	Selvaratnam, T.; Haselbach, L.	PARTNERSHIP: Utilization of Agricultural Waste (Olive and Grape Pomaces) to Improve the Service Life and Sustainability of Roadways	Department of Agriculture	\$150,000	Pending
Civil & Env. Engineering	Haselbach, Liv		Southeast Texas Flood Coordination Study Nexus	Sabine River Authority	\$100,000	Yes
Civil & Env. Engineering	Haselbach, Liv	Qian, Q.; Wu, X.	CMP-26: Project of Special Merit: High Frequency Radar (HFR) Network for Texas Bays and Ports	Texas General Land Office	\$90,850	Yes

Civil & Env. Engineering	Haselbach, Liv		Understanding current and future coastal flood risk: How do local governance networks shape resilience efforts in response to perceived hazards	Subaward by UT-Austin, Department of Energy	\$49,403	Yes
Civil & Env. Engineering	Haselbach, Liv		CIVIC-PG Track B Engaged Research for Flood Resilience	National Science Foundation	\$12,687	No
Civil & Env. Engineering	Haselbach, Liv	Brake, N.; Wu, X.	Low-Cost Sensor Research Project	Texas General Land Office	\$385,216	No
Civil & Env. Engineering	Jao, Mien	Stromberg, E.; Haselbach, L.	Develop the Gulf Intracoastal Waterway Legislative Report	Texas Department of Transportation	\$76,929	No
Civil & Env. Engineering	Haselbach, Liv		Coastal Infrastructure and Resilient Community to Leverage Engagement: Adaptive, integrated, and participatory multi-infrastructure decision support for cascading impacts of coastal urban hazards	National Science Foundation	\$260,001	No
Civil & Env. Engineering	Qian, Qin	Gummelt, V.	Enhancing resilience of underserved communities in the Golden Triangle region of Texas against interconnected risk of catastrophic flooding and pandemic through collaborative planning	National Oceanic and Atmospheric Administration	\$69,473	No
Civil & Env. Engineering	Haselbach, Liv	Tindall, N.; Wu, X.; Diddi, P.; Tokgoz, B.	NSF SRS RN Track 1: Gulf Region Resilience Research and Engagement Network	National Science Foundation	\$1,500,000	No
Civil & Env. Engineering	Haselbach, Liv	Wu, X.; Tindall, N.	NSF Large-scale CoPe: CIRCLE: AI and Modeling for Collective Impact on Resilient Communities through Social Learning and Equity	Subaward by UT-Austin, National Science Foundation	\$999,996	No

Civil & Env. Engineering	Wu, Xing		SRS RN: 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, Qin	Sun, Bo; Zhang, Jing	Identify potential BMP tools to reduce bacteria loading in Neches River	Texas General Land Office	Letter of Intent	Invited, to be updated in FY22
Civil & Env. Engineering	Qian, Qin	Haselbach, Liv	Conjunctive deployment of distributed stormwater infiltration and Bioretention infrastructures to mitigate flooding and related non-point source pollution in Beaumont, Texas	Environmental Protection Agency	\$448,625	Yes
Electrical Engineering	Tokgoz, Cagatay		Application of Asymptotic Methods to Faceted Convex Surfaces for Radiation Problems	Riverside Research, Department of Defense	\$98,095	Yes
Electrical Engineering	Sayil, Selahattin	Tcheslavski, G.; Yoo, H.	Promoting engaged and active learning through collaborative online lab experiences	National Science Foundation	\$294,097	Yes
Electrical Engineering	Tcheslavski, Gleb	Vasefi, M.	An EEG-based study of human color perception with the focus on the dorsal pathway; linear modeling and "instantaneous" approaches	National Science Foundation	\$289,563	No
Electrical Engineering	Myler, Harley		Machine Consciousness	Amazon Web Service Imagine Grant	\$60,000	No
Electrical Engineering	Barzegaranbaboli, Mohammadreza		Real-time Hydrogen Leakage Detection and Mitigation: 5G-based Sensors Augmented by Hybrid Deep Networks for Anomaly Detection	Department of Energy	Letter of Intent	Not Invited

Electrical Engineering	Tcheslavski, Gleb Valeryevich	Myler, Harley; Yoo, H.; Barzegaranbaboli, R.	Virtual Reality In Teaching Applied Science (VeRITAS)	National Science Foundation	\$299,081	No
Electrical Engineering	Barzegaranbaboli, Mohammadreza		Real-time Hydrogen Leakage Detection and Mitigation: 5G-based Sensors Augmented by Hybrid Deep Networks for Anomaly Detection	Department of Energy	\$92,840	No
Industrial Engineering	Curry, James		Developing an Integrated Offshore Energy Industry Safety Culture Evaluation and Improvement Toolbox	American Bureau of Shipping	\$25,000	Yes
Industrial Engineering	Hamidi, Maryam	Craig, B.	A Railyard Management Software: Iron Horse Terminal Application (Phase II)	Iron Horse, 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	Tokgoz, Berna	Bradley, R.; Curry, J.; Marquez, A.; Tcheslavski, G.	Supporting Continuing Online Regional Engineering Education - Preparing the Academically Talented for Transfer Highways (SCORE)	Subaward by San Jacinto College, National Science Foundation	\$2,348,647	No
Mechanical Engineering	He, Ping	Bahrim, C.; Liu, Xi.; Luo, Z.; Yoo, H.	REU Site: Enriching the Undergraduate Research Experience for Underrepresented Students	National Science Foundation	\$353,294	Pending
Mechanical Engineering	Yao, Chun-Wei		RUI: Studying the Early Stages of Pitting Corrosion on Superhydrophobic Interfaces	National Science Foundation	\$83,339	Pending
Mechanical Engineering	Yao, Chun-Wei	Lian, I.	Superhydrophobic Surfaces with Anti-Biofouling Properties	Dr. Tu's Taiwan Clinic	\$10,000	Yes
Mechanical Engineering	Yao, Chun-Wei		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, Chun-Wei		RUI: Study of the dynamics of Water Droplet on Superhydrophobic Surfaces in Supercooled Environment	National Science Foundation	\$72,010	No
Mechanical Engineering	Aung, Kendrick Than	Zhou, J.; Jordan, J.; Bahrim, C.	Fuel-cell Powered Air Vehicle with 50-lb Payload	National Aeronautics and Space Administration	\$78,619	No
Mechanical Engineering	He, Ping	Yao, C.	RUI: Developing a Realistic Contact Line Dynamics Model for Wetting Phenomena based on Rigorous Experimental Validations	National Science Foundation	\$58,642	No
Mechanical Engineering	Aung, Kendrick		PLEAIDES	National Aeronautics and Space Administration	\$166,890	No
Mechanical Engineering	He, Ping		Collaborative Research: Spreading and Wetting of Liquid Films on Chemically Complex Surfaces: A Combine Spectroscopic and Computational Study	National Science Foundation	\$135,617	No
Mechanical Engineering	He, Ping		Collaborative Research: Understanding Cassie stability on superhydrophobic surface: Theory and application	National Science Foundation	\$147,267	No
Mechanical Engineering	He, Ping	Liu, X.; Luo, Z.; Roden, T.; Couch, PJ; Yoo, H.	Promoting Engaged and Active Classroom Learning using Multiple Asynchronous Screens	National Science Foundation	\$299,876	No
Mechanical Engineering	Fan, Zhe		ERI: Mechanical behavior of dualphase complex concentrated alloys at elevated temperatures	National Science Foundation	\$177,460	Yes
Mechanical Engineering	He, Ping		ERI: Theoretical and Numerical Research on Oil-Water Separation using Hierarchical Microporous Membranes	National Science Foundation	\$199,901	No

College of Fine Arts & Communication

Deaf Studies & Deaf Education	Greene, Ashley	Buchanan, B.	Strategies to disseminate proactive COVID-19 vaccinate education to the Deaf community	TX Vaccine Education Grants	\$93,629	No
Deaf Studies & Deaf Education	Musyoka, Millicent	Morris, L.	Special Education - Personnel Development to Improve Services and Results for Children with Disabilities	Department of Education	\$1,163,930	No
Music	Frost, Brielle		The Flute Music of Daniel Cueto	Edaren Foundation	\$46,652	No
Speech & Hearing	Azios, Jamie Hartwell		Identifying factors related to the maintenance and dissolution of friendship after aphasia: Perspectives from key stakeholders	Texas Speech Language Hearing Association, Inc.	\$1,149	Yes
Deaf Studies & Deaf Education	Clark, Mary	Musyoka, M.	Fingerspelling to Accelerate Reading Recovery in Deaf Students	Institute of Educational Sciences	Letter of Intent	Not Invited
Speech & Hearing	Manchaiah, Vinaya		Re-envisioning Tinnitus Service Delivery: Personalizing Internet-based Psychological Intervention for Individuals with Tinnitus Using a Stepped Care Approach	National Institute of Health	\$2,236,896	No
KVLU	Balentine, Byron		Public Radio Station of Lamar University	Corporation for Public Broadcasting	\$183,223	Yes
KVLU	Balentine, Byron		Public Radio Station of Lamar University Community Service Grant	Corporation for Public Broadcasting	\$83,678	Yes

Administrative Offices & Centers

Assistant to President	Bellard, Norman		VITA / VITA PLUS Lamar University	Entergy Foundation	\$18,400	Yes at \$10,000
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Assistant to President	Bellard, Norman		Entergy VITA Plus	Entergy Foundation	\$9,000	Yes
Community Relations	Simpson, Teresa		NEST Service Grant	HEB Foundation	\$15,000	Yes
Community Relations	Bellard, Norman		NEST - Navigating Excellence Success and Triumph	State Farm	\$25,000	Pending
Library Services	Clark, Penny		The Davis P Lewis Collection	Subaward by University of North Texas	\$1,000	Pending
Prov and VP for Acad Affairs	Mann, Judith R	Bellard, N.	Lamar University Educational Collaborative	Charles Koch Foundation	\$968,116	No
Small Business Development Center	Mulcahy, David		Small Business Proposal	Department of Commerce	\$130,500	Yes
Small Business Development Center	Mulcahy, David		Small Business Proposal	BBVA Bank	\$7,500	Yes
Spindletop Gladys City	Gray, Troy		Spindletop Gladys City Boomtown	Summerlee Foundation	\$5,000	Yes
Spindletop Gladys City	Gray, Troy		Reskinning Buildings	Foundation of SE Texas	\$14,172	Yes
Spindletop Gladys City	Gray, Troy		The Cawley Steam Engine Project	Junior League of Beaumont	\$5,000	Yes
Spindletop Gladys City	Gray, Troy		Reskinning Buildings at Gladys City	Junior League of Beaumont	\$5,000	No

Spindletop Gladys City	Gray, Troy	Updating the Electricity at Spindletop Gladys City Boomtown Museum	Entergy Foundation	\$11,395	No
TMAC	Palanki, Srinivas	NIST MEP Disaster Assessment Program - Hurricane Laura	Subaward by UT-Arlington, National Institute of Standards and Technology	\$28,534	Yes
TMAC	Palanki, Srinivas	Development of a Lean Six Sigma Program for Natgasoline	Natgasoline, LLC	\$100,000	Yes
TMAC	Palanki, Srinivas	Development of a Lean Six Sigma Green Belt Certification Program for Natgasoline	Natgasoline, LLC	\$18,000	Yes
TMAC	Palanki, Srinivas	Development of Simulation Models for Natgasoline's Methanol Process	Natgasoline, LLC	\$40,000	Pending
TMAC	Palanki, Srinivas	Texas Manufacturing Assistance Center-Southeast at Lamar University	Subaward by UT-Arlington, National Institute of Standards and Technology	\$283,338	Yes
Finance		Governor's Emergency Education Relief (GEER Grant) #2020-GE-84425C	Texas Higher Education Coordinating Board	\$1,621,021	Yes
Finance		HEERF-II Student Portion, Emergency Relief, GAN_P425E200485-20A.2.1	Department of Education	\$3,524,387	Yes
Finance		HEERF-II Institutional Portion, Emergency Relief, GAN_P425F201103-20A.2.1	Department of Education	\$9,353,709	Yes

Finance	HEERF III Student Portion, Emergency Relief, GAN_P425E200485-20B.4.1	Department of Education	\$11,380,397	Yes
Finance	HEERF III Institutional Portion, Emergency Relief, GAN_P425F201103-20B.5.1	Department of Education	\$10,363,762	Yes
Finance	HEERF III Programs, Emergency Relief, GAN_P425M200088-20B.3.1	Department of Education	\$943,965	Yes
Finance	HEERF III Programs, Emergency Relief, GAN_P425M200088-20C.5.1	Department of Education	\$537,637	Yes
Finance	HEERF III Programs, Emergency Relief, GAN_P425M200088-20C.5.1	Department of Education	\$3,999	Yes

Table 4: List of internal research grants awarded in FY21

Department	Investigator	Co-PIs	Project Title	Internal Sponsor	Award
Construction Management	Hwang, Seokyon	Luo, Z.; Tokgoz, B.; Zhang, J.	Increasing Resiliency and Safety of Waterways and Ports: A Noble Approach Based on Drone and Artificial Intelligence	CAPM	\$35,000
Earth and Space Science	Amer, Reda		Vulnerability Assessment and Resilience of Port Systems Under Extreme Weather Conditions	CAPM	\$34,961
Chemistry	Bernazzani, Paul	Nguyen, T.; Luo, Z.; Jao, M.; Li, X.; Qian, Q.	Establishing a Solution to the Problem of Managing Dredge Waste	CAPM	\$33,000
Chemical Engineering	Xu, Qiang	Wang, S.	Resilience Study for Port-related Refinery Supply Chain Management	CAPM	\$35,000
Industrial Engineering	Li, Yueqing	Wu, X.	Use Autonomous Driving to Improve Resiliency and Safety of Freight Transportation System in Port Industry in Severe Climate Change in Southeast Texas	CAPM	\$33,172
Mechanical Engineering	He, Ping		Advanced Wetting Dynamics Study: Understanding the Fundamental Physics of Anti-fouling, Anti-Corrosion and Friction Reduction	CAPM	\$26,000
Business	Weeks, Kelly		Implementation of Manufacturing Execution System (MES) in Port & Terminal Facilities	CAPM	\$24,750
Physics	Bahrim, Bogdana		H- lateral collisions with alkali-covered Cu and Ag surfaces	COAS	\$5,000
History	Gillis, Brendan		The Legal Career of George Washington	COAS	\$5,000
Social Work, & Criminal Justice	Lin, Cheng-Hsien		Drug Control Policy Research and Self-Efficacy Research	COAS	\$5,000
Earth and Space Science	Pujols, Edgardo		A Deeper Understanding of the Forces Modulating Thrust-Belt Deformation and Arc-Volcanism in the Cordilleran Orogenic System	COAS	\$5,000

Sociology	Gage, Margot		Women Leaders & Human Rights: Exploring the Influence Women in Politics Has on Population Health	COAS	\$5,000
Biology	Hoch, 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 drop on a surface	COAS	\$5,000
Math	Daniel, Dale		Investigations in Network Theory via the Erdos-Gyarfas Conjecture	COAS	\$3,000
Biology	Kucknoor, Ashwini		Rhomboid gene silencing using synthetic siRNAs in Trichomonas foetus	COAS	\$3,000
Nursing	Long, Elizabeth		Cardinal Cares Project	COAS	\$3,000
English	Nemmers, Adam		Neither 'Squaw'" Nor "Savage': Eroticism and Exoticism in Native American Sexual Stereotypes	COAS	\$3,000
Nursing	Pipkins, 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 Invisible Man and Iris Murdoch's Moral Theory	COAS	\$3,000
Chemistry	Twagirayez, Sylvestre	Wei, S.	Highly Selective Sensor based on Molecular Rotational Resonance Technique for Fast Monitoring Sulfur Dioxide in Ambient Air	COAS	\$3,000
Computer Science	Zhang, Jing		High-throughput Phenotyping of Rice Growth and Development Using UAV Imaging and Advanced Machine Learning Technology	COAS	\$3,000
Biology	Terry, Randall		Conservation genetics of California cypresses	COAS	\$3,000
Nursing	Knight, Stacey		No Visitors: Family perceptions of separation from hospitalized loved ones	COAS	\$3,000
Mechanical Engineering	Yao, Wei		A Novel Approach for Evaluating the Pitting Corrosion	CMMS	\$20,000

Computer Science	Liu, Xingya	Sun, B., Wang, R.	A BLE-based Cognitive IoT system for Pipeline Sensor Networks	CMMS	\$19,749
Chemical Engineering	Xu, Qiang	Wang, S.	A Comprehensive Study on Sloshing Impacts for FLNG Gas Pre-treatment Systems	CMMS	\$20,000
Construction Management	Hwang, Seokyon	Luo, Z., Zhang, J.; Tokgoz, B.	DARTS – Drone and Artificial Intelligence Reconsolidated Technological Solution for Increasing the Oil and Gas Pipeline Resilience	CMMS	\$20,000
Mechanical Engineering	Fan, Zhe	Fan, Z.	Design and Surface Modification of Corrosion Resistant High-Entropy Alloys for Oil and Gas Pipelines	CMMS	\$18,000
Industrial Engineering	Hamidi, Maryam	Zhang, J.	Deep Learning-based Defect-Classification and Prediction for Midstream Compressors/Well Checked	CMMS	\$20,000
Chemical Engineering	Tadmor, Rafael and Cai, Tianxing	Lin, S.	Corrosion Detection Using Surface Characterization Development	CMMS	\$50,000
Industrial Engineering	Li, Yueqing	Liu, X.	Develop a Hybrid Model to Detect Crude Oil Leak in Midstream Pipeline System	CMMS	\$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	CMMS	\$19,993
Chemical Engineering	Chen, Daniel	Chen, D.	Enlink NGL Optimization	CMMS	\$16,212
Chemical Engineering	Jeffryes, Clayton		Development of a Microwave Demulsifier	CMMS	\$20,000
Chemical Engineering	Sidney Lin	Lou, H.	Development AI Algorithms for corrosion prediction	CMMS	\$20,000
Industrial Engineering	Li, Yueqing	Liu, X.	Use of Drone Technology to Detect Crude Oil Leak in Pipeline Systems	CICE	\$4,000
Chemical Engineering	Xu, Qiang		Dynamic Simulation and Optimization for Distillation Column Shutdown Automation	CICE	\$4,000
Industrial Engineering	Bradley, Robert Kelley		Process Development for Carding Single Wall Carbon Nanotubes	CICE	\$3,964

Electrical Engineering	Barzagaranbaboli, Mohammadreza		Utilizing AI in Nonintrusive Condition Monitoring for Fault and Leakage Diagnosis and Prognosis	CICE	\$4,000
Civil & Env. Engineering	Selvaratnam, Thenish	Jeffries, C.	Evaluating the scale-up potential of an algal based landfill leachate treatment system	CICE	\$3,750
Chemical Engineering	Jeffries, Clayton	N/A	Combined Microwave Gas-Flotation Prototype for Petroleum Stream Demulsification	CICE	\$3,986
Chemical Engineering	Henry, James	N/A	Feasibility Analysis of a FRET-based Gold Nanoparticle Sensor Platform for the Monitoring of Glucose Concentration	CICE	\$6,600
Computer Science	Sun, Bo	Zhang, J., Qiang, Q.	Water Quality Evaluation on Neches River Watershed Upstream using Wireless Sensor Networks and Deep Learning Neural Network	CICE	\$3,000
Speech and Hearing Sciences	Felipe, Lilian	N/A	Manned Mission to Mars and Beyond: Controlling Astronauts' Space Sickness	CICE	\$4,880

Table 5: Faculty research support by centers and colleges

Department	Faculty	Center/ College	Funding Source	Payment Amount	EPAF Description
Business Law	Baldo, Melissa	CAPM	Center	\$17,423	Perform summer research on multiple deliverables.
Civil & Env. Engineering	Brake, Nicholas	CAPM	Center	\$5,232	Installation Workshop Development for the IOT Low-Cost Flood Sensor Project with the SETx Flood Control District and the Department of Homeland Security
Industrial Engineering	Curry, James C.	CAPM	Center	\$15,601	Summer Research
Industrial Engineering	Hamidi, Maryam	CAPM	Center	\$15,770	Summer Research
Industrial Engineering	Hamidi, Maryam	CAPM	Center	\$5,000	CAPM Salary
Industrial Engineering	Hamidi, Maryam	CAPM	Center	\$5,000	CAPM Salary
Chemical Engineering	Jeffryes, Clayton	CAWAQ	Center	\$24,712	Director for CAWAQ
Chemical Engineering	Ho, Tho C.	TARC	Center	\$27,386	Director for TARC
Chemical Engineering	Ho, Tho C.	THWRC	Center	\$41,111	Director for GHWRC
Chemical Engineering	Lou, Helen	CMMS	Center	\$37,665	Associate director for CMMS
Chemical Engineering	Chen, Daniel H.	CMMS	Center	\$2,000	CMMS Student Project Summer 2021
Economics and Finance	Sargsyan, Gevorg	CMMS	Center	\$1,650	CMMS Student Project Summer 2021
Mathematics	Daniel, Bobby	CoAS	Departmental	\$3,000	Summer Research Faculty
Mathematics	Daniel, Bobby	CoAS	Departmental	\$3,000	Summer Research Faculty
Chemistry and Biochemistry	Wei, Suying	CoAS	Departmental	\$1,500	Summer Research Faculty
Political Science	Easterly, Bianca	CoAS	Departmental	\$3,000	Perform summer research on project COAS Summer Research Award for working on publications.
Sociology, Social Work and Criminal Justice	Fagen, Jennifer	CoAS	Departmental	\$3,000	Perform summer research on project COAS Summer Research Award for working on publications.

English and Modern Languages	Johnson, Gretchen	CoAS	Departmental	\$3,000	Perform summer research on project COAS Summer Research Award for working on publications.
History	Muzorewa, Gwinyai	CoAS	Departmental	\$5,000	Summer Research Faculty
Physics	Sen, Cengiz	CoAS	Departmental	\$3,000	Perform summer research on project COAS Summer Research Award for working on publications.
Earth and Space Sciences	Amer, Reda M.	CoAS	Departmental	\$4,500	Summer Research
Earth and Space Sciences	Amer, Reda M.	CoAS	Departmental	\$4,500	One time pay; Geo Alumni Expense
Construction Management	Kim, Minkyum	CoB	Departmental	\$14,167	For developing a problem statement and a proposal for an external funding
Construction Management	Luo, Zhe	CoB	Departmental	\$14,167	Research plan development, literature review, model development, data processing and visualization, research paper writing and paper submission
Accounting and Business Law	Ruseva, Marina	CoB	Departmental	\$10,000	To examine the effect of stock liquidity on executive equity compensation design.
Economics and Finance	Sargsyan, Gevorg	CoB	Departmental	\$10,000	A submitted manuscript to a peer-reviewed ABDC-listed journal, A presentation on the research findings to CoB faculty during Fall 2021/Spring 2022.
Service Management and Marketing	Sen, Kabir	CoB	Departmental	\$10,000	A submitted manuscript to a peer-reviewed ABDC-listed journal. 2. A presentation on the research findings (or the current state of progress) to CoB faculty during Fall 2021/Spring 2022.
Accounting and Information System	Badua, Francisco	CoB	Departmental	\$1,000	One time Pay
Accounting and Information System	Badua, Francisco	CoB	Departmental	\$10,000	A submitted manuscript to a peer-reviewed ABDC-listed journal by the end of the Spring, 2022 term
Accounting and Information System	Badua, Francisco	CoB	Departmental	\$1,800	One time Pay
Accounting and Information System	Badua, Francisco	CoB	Departmental	\$700	One time Pay

Accounting and Business Law	Colon, Ricardo	CoB	Departmental	\$5,000	Summer Research Faculty
Accounting and Business Law	Colon, Ricardo	CoB	Departmental	\$280	One time Pay
Accounting and Business Law	Colon, Ricardo	CoB	Departmental	\$2,000	One time Pay
Construction Management	Hwang, Seok Y.	CoB	Departmental	\$1,167	One time Pay
Construction Management	Kim, Minkyum	CoB	Departmental	\$1,167	One time Pay
Construction Management	Kim, Minkyum	CoB	Departmental	\$380	One time Pay
Information Systems and Analysis	Large, Jennifer	CoB	Departmental	\$10,000	Impact of the Covid-19 Pandemic on Autistic Individuals and Communities. A submitted manuscript to a peer-reviewed ABDC-listed journal by the end of the Spring, 2022 term
Construction Management	Luo, Zhe	CoB	Departmental	\$2,017	One time Pay
Construction Management	Luo, Zhe	CoB	Departmental	\$2,250	One time Pay
Service Management and Marketing	Natarajan, Vivek	CoB	Departmental	\$10,000	The Buying Center Concept: A Bibliometric Analysis. A submitted manuscript to a peer-reviewed ABDC-listed journal by the end of the Spring, 2022 term.
Service Management and Marketing	Natarajan, Vivek	CoB	Departmental	\$450	One time Pay
Service Management and Marketing	Natarajan, Vivek	CoB	Departmental	\$275	One time Pay
Economics and Finance	Sargsyan, Gevorg	CoB	Departmental	\$280	One time Pay
Business	Slaydon, James	CoB	Departmental	\$280	One time Pay

Accounting and Business Law	Swift, Orrin	CoB	Departmental	\$5,000	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	\$10,000	Learning Complex Technology Online: Effect of Challenge and Hindrance Techno-Stressors on Student Satisfaction and Retention
Information Systems and Analysis	Zhao, Yu	CoB	Departmental	\$2,000	One time Pay
Mechanical Engineering	Fan, Zhe	CoE	Departmental	\$15,000	Research program development
Industrial Engineering	Kaneria, Acyut	CoE	Departmental	\$4,500	Assist the department and faculty with lab work for various research projects
Civil & Env. Engineering	Brake, Nicholas	CoE	Departmental	\$8,753	Faculty Fellowship Award
Industrial Engineering	Curry, James	CoE	Departmental	\$8,753	Faculty Fellowship Award
Industrial Engineering	Curry, James C.	CoE	Endowment	\$10,000	Faculty Stipend
Mechanical Engineering	Fan, Xuejun	CoE	Endowment	\$36,296	Submit a paper to IEEE Sensors; Submit a paper to Microelectronics Reliability; Prepare an external proposal
Mechanical Engineering	Fan, Xuejun	CoE	Endowment	\$10,000	Faculty Fellowship Award
Electrical Engineering	Myler, Harley	CoE	Endowment	\$48,004	Summer Research
Chemical Engineering	Ho, Tho C.	CoE	Endowment	\$27,386	Investigate on the resiliency for natural gas supply chain to identify solutions for supply chain management in Texas under the impacts of natural disasters.
Deaf Studies and Deaf Education	Hauschildt, Sean	CoFAC	Departmental	\$2,000	Summer Faculty Admin Stipend
Speech and Hearing Sciences	Manchaiah, Vinaya	CoFAC	Endowment	\$1,000	Faculty Award