



Annual Report of Research Activities

Fiscal Year 2024

(September 1, 2023 – August 31, 2024)



Office of Research & Sponsored Programs Administration

March 7, 2025

LAMAR UNIVERSITY, BEAUMONT, TEXAS, USA

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The Office of Research and Sponsored Programs Administration (ORSPA) presents the annual report documenting the internal and external funded research activities at Lamar University (LU) in Fiscal Year 2024 (FY24). The record documented in this report represents the research and grant efforts from September 1, 2023, to August 31, 2024.

External Grant Efforts and Awarded Funds

In FY24, LU submitted eighty-seven (87) external grant applications. The total requested funds were \$29,569,880 with awarded funds of \$5,383,597 for 36 applications. The received external funds in FY24 show a 27% decrease compared to those of FY23. The number of submitted applications decreased by 7% and the funded applications decreased by 27%. *Figure 1* demonstrates Lamar University’s historical funding and proposal submission trends. At the time of publication, there were 22 applications totaling \$8,470,297 pending funding decisions in FY24.

	FY20	FY21	FY22	FY23	FY24
No. of Submitted Proposals	90	105	90	94	87
No. of Awards	38	42	39	49	36
Awarded Revenue	\$ 2,145,691	\$ 4,046,553	\$ 6,011,879	\$ 7,370,661	\$5,383,597

Figure 1. Comparison of historical and current proposal submissions and funding amounts.

Grant Efforts and Awards by Academic College and Department

Figure 2 shows the amount of funds requested and received by the colleges and LU’s administrative offices and research centers. The College of Engineering leads among the academic colleges in the amount of awarded funds (\$2.1M), followed by the College of Arts & Sciences (\$.085M), and the College of Business (\$0.003M). The College of Fine Arts and Communication and the College of Education and Human Development do not have any funded projects to date in FY24. The interdisciplinary research centers and administrative offices have the most overall funding (\$2.4M).

NOTE: Final external funding figures for FY24 may change as funding decisions on pending submissions are completed by sponsors.

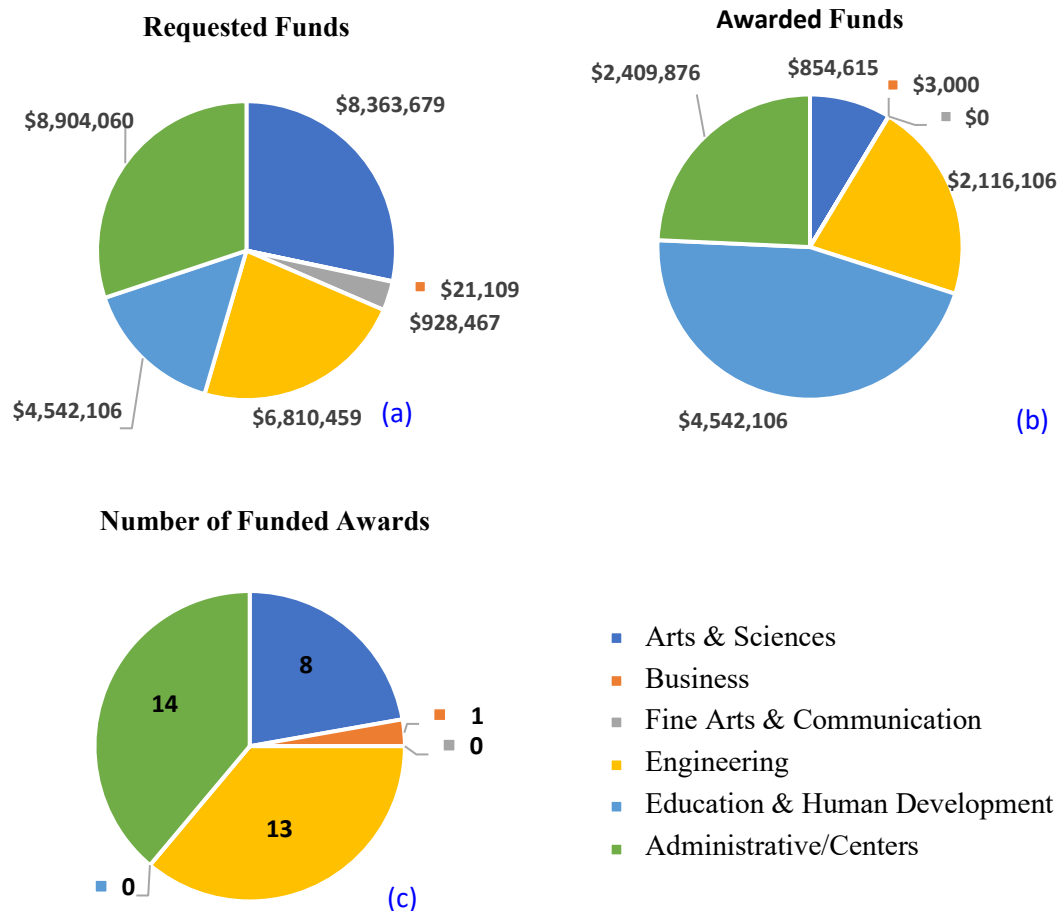


Figure 2. Amount of external funds (chart a) requested, and (chart b) received by college and LU administrative offices/centers in FY24 and the number of funded awards (chart c).

Internal Research Programs and Departmental Research Activities

Lamar University supports several research centers, such as the Center for Midstream Management & Science (CMMS), the Center for Advances in Port Management (CAPM), the Center for Resiliency (CfR), the Center for Advances in Water and Air Quality (CAWAQ), the Texas Air Research Center (TARC), and the Texas Hazardous Waste Research Center (THWRC). These programs are intended to develop strategic research capabilities that will lead to future projects funded by externally sponsored programs. In summary, 58 total projects totaling \$2,114,194 were funded by internal research centers and administrative units.

Undergraduate Research

Undergraduate research serves as a critical pipeline that fosters future graduate students and professional researchers. In FY24, the Office of Undergraduate Research (OUR) supported a total of 24 projects, including 13 OUR awards and 11 Summer Undergraduate Research Fellowship (SURF) projects, by awarding students a grant ranging from \$500 up to \$2,000 per project. Students traveling to conferences also received up to \$500 to present their research. The outstanding work of undergraduate researchers was seen on display at the annual Spring Expo and Fall Conference (please see the [OUR website](#) for details).

Tables, Facts, and Figures

Table 1 shows the breakdown of external funds requested and received by the academic departments in FY24. Eighteen (18) departments submitted external grant applications with various levels of success. *Table 2* lists all submitted applications in FY24 by principal investigator (PI), department, college, funding agency, and current award status. *Table 3* demonstrates the salaries supported by research based on EPAFs (Electronic Personnel Action Forms), sorted by unit. *Table 4* displays total internal research programs distributed by departments and research centers, while *Table 5* provides details of each internal research project. *Table 6* details projects supported by the Office of Undergraduate Research.

Table 1: Statistics of college/department efforts and received external grants in FY24

College/Unit	Department	No. of Proposals	Total Funds Requested	No. of Awards	Awarded Funds
Arts & Sciences (27 projects)	Applied Arts & Sciences	1	\$13,061	1	\$13,061
	Biology	1	\$70,000	1	\$70,000
	Chemistry & Biochemistry	3	\$632,374	0	\$0
	Computer Science	1	\$464,642	0	\$0
	English & Modern Languages	1	\$9,997	1	\$9,997
	Earth and Space Science	1	\$38,415	1	\$38,415
	Mathematics	1	\$3,540	1	\$3,540
	Nursing	2	\$402,603	1	\$399,603
	Physics	12	\$3,640,489	1	\$199,999
	Sociology, Social Work & Criminal Justice	4	\$3,088,558	1	\$120,000
Business (2 projects)	Construction Management	2	\$21,109	1	\$3,000
Education & Human Development (3 projects)	Teacher Education	3	\$4,542,106	0	\$0
Engineering (28 projects)	Chemical & Biomolecular Engineering	15	\$2,890,367	10	\$2,031,606
	Civil & Environmental Engineering	4	\$1,594,774	0	\$0
	Electrical & Computer Engineering	2	\$708,198	0	\$0
	Industrial & Systems Engineering	4	\$1,347,129	1	\$10,500
	Mechanical Engineering	3	\$269,991	2	\$74,000
Fine Arts & Communication (2 projects)	Deaf Studies & Deaf Education	2	\$928,467	0	\$0
Admin/Centers (25 projects)		25	\$8,904,060	14	\$2,409,876
TOTAL		87	\$29,569,880	36	\$5,383,597

Table 2: List of college/department external grant efforts and awarded funds in FY24

Dept	PI	Co-PIs	Project Title	Agency	Requested	Status
College of Arts & Sciences						
Applied Arts & Sciences	Nordgren, Joseph		JAMP	Texas Higher Education Coordinating Board	\$13,061	Yes
Biology	Kucknoor, Ashwini		Beach Watch FY25	Texas General Land Office	\$70,000	Yes
Chemistry & Biochemistry	Chandrasekara, Perumalreddy		MRI: Track 1 Acquisition of a Single Crystal X-ray Diffractometer to Enhance Research and Teaching in the Southeast Texas Region	National Science Foundation	\$277,374	No
Chemistry & Biochemistry	Guo, Zhifo		Meta-Selective Nickel-Catalyzed C-H Activation of Aniline Derivatives	The Welch Foundation	\$300,000	Pending
Chemistry & Biochemistry	Guo, Zhifo		Nickel Catalyzed Meta-C-H Activation Assisted by Directing Groups: Arylation of Phenols	American Chemical & Biomolecular Society	\$55,000	No
Computer Science	Islam, Rakibul	Sifat, A.; Zhang, J.	Fostering Undergraduate Research in Multidisciplinary Engineering Applications using Generative AI and Deep Learning Algorithms	National Science Foundation	\$464,642	Pending
Earth & Space Science	Morris, Emma		Assessment, Characterization, and Planning for Carbon Ore and Critical Minerals/Materials Resources Utilization in the Rocky Mountain Region	US Department of Energy	\$38,415	Yes
English & Modern Languages	Smith, Amy		Educated, Empowered, Employed: Humanities Skills Training on the Gulf Coast	MLA Pathways Step Grants	\$9,997	Yes
Mathematics	Couch, PJ		MaPP Challenge '25 at Lamar University	Dolciani Mathematics Enrichment Grants	\$3,540	Yes
Nursing	Kostandy, Raouth		Nurse Use of Non-Pharmacological Intervention for Neonatal Care	Beta Alpha Chapter Nursing Research Award	\$3,000	Pending
Nursing	Tacy, Joseph		Nursing Shortage Reduction Program	Texas Higher Education Coordinating Board	\$399,603	Yes

Physics	Bahrim, Bogdana		Hydrogen Interaction with Metallic Mineral Deposits in Petroliferous Basins	American Chemical & Biomolecular Society	\$70,000	No
Physics	Bahrim, Cristian	Tcheslavksi, G.	REU site: Optical and Electric Applications of Energy Harvesting and Energy Transfer	National Science Foundation	\$464,727	No
Physics	Cole, Philip	Lou, H.	Monitoring Methane Leakage for Energy Systems	US Department of Energy	\$500,000	Pending
Physics	Cole, Philip		PREP: SHSU & N3AS: Dense Matter and Neutron Stars (PFC Major Activity 3)	National Science Foundation	\$450,700	No
Physics	Cole, Philip		Collaborative Research: Equipment: Track 2 Acquisition of a 1.5-Meter Telescope for Imaging and Spectroscopy in the Greater Big Bend International Dark Sky Reserve	National Science Foundation	\$367,179	Pending
Physics	De La Madrid, Rafael	Cole, P.	Gadolinium-loaded Hydrogel Scintillators for Dark Matter Searches	US Department of Energy	\$25,562	Pending
Physics	Nainabasti, Binod	Bahrim, C.	Impact of Out-of-class Engagement on First-generation Underprepared STEM Majors	The Spencer Foundation	\$59,495	No
Physics	Nainabasti, Binod	Bahrim, C.; Cole, P.	TEAM UP	TEAM+UP TOGETHER	\$199,999	Yes
Physics	Romashets, Evgeny		SHINE: Flux Calibration of the Magnetic Field in Solar Corona	National Science Foundation	\$509,169	No
Physics	Romashets, Evgeny		CEDAR: Vector Alpha-beta Mapping of the IGRF Magnetic Field in the Ionosphere	National Science Foundation	\$260,421	No
Physics	Romashets, Evgeny		GEM: The Magnetopause Surface Currents and Energy Input Rate into the Magnetosphere	National Science Foundation	\$503,344	No
Physics	Romashets, Evgeny		HGIO: Reconstruction of the Magnetic Field in Solar Corona from Photospheric Vector Magnetograms	NASA	\$229,893	No
Sociology, Social Work & Criminal Justice	Clavijo, Angela	Wright, L.; Gummelt, G.; Aklamanu, I.	Title IV-E Child Welfare Enhancement Program	Title IV-E Training Program	\$382,214	Pending
Sociology, Social Work & Criminal Justice	Gummelt, Ginger	Wright, L.; Roebuck, L.; Malick, S.; Singh, M.	PROTECT: Planning, Response, & Outreach utilizing Training, Engagement, Collaboration, & Technology	Office of Justice Programs	\$682,556	No

Sociology, Social Work & Criminal Justice	Gummelt, Ginger	Dupre, M.; Thill, H.	LASSO: Leveraging Academic Student-athlete Success with Opportunities	National Collegiate Athletic Association	\$119,998	\$120,000 Yes
Sociology, Social Work & Criminal Justice	Gummelt, Ginger	Wright, L.	Family Intervention Recovery Support Treatment (FIRST) SETX Trauma-informed Expansion Project (STEP)	Substance Abuse and Mental Health Services Administration	\$1,903,790	No
College of Business						
Construction Management	Kim, Minkyum		Synthesis: Commercial Air-Coupled Ground Penetrating Radar Systems to Be Used for Pavement Evaluations in Texas	Texas Department of Transportation subaward of Texas State University	\$18,109	Pending
Construction Management	Kim, Minkyum	Hwang, S.	Procurement of Exoskeleton Suits for Improving the Quality of Construction Safety Education at the Reese Department of Construction Management	TEXO Foundation	\$3,000	Yes
College of Education & Human Development						
Teacher Education	Casey, Elizabeth	Singh, M.; Bradley, R.	Project iTECH: Innovative Technology-rich Experiences for Children	National Science Foundation	\$500,000	No
Teacher Education	Casey, Elizabeth	Terry, R.; Singh, M.	Project LEAN, Literacy, Engagement, Agriculture, and Innovation	US Department of Agriculture	\$499,998	No
Teacher Education	Slaughter, Jody	Casey, E.	Apprenticeship Building America, Round 2 (ABA2)	US Department of Labor	\$3,542,108	No
College of Engineering						
Chemical & Biomolecular	Benson, Tracy		HFTO - Equitable Workforce Opportunities, Engaging Gulf Coast Communities in their Clean Energy Economy	US Department of Energy	\$173,331	Yes
Chemical & Biomolecular	Benson, Tracy		Reaction of Isocyanates with H2S	BASF	\$50,312	Yes

Chemical & Biomolecular	Cai, Tianxing		Advancing Animal Welfare: Applying Chemical & Biomolecular Engineering to Enhance Living Conditions in the Poultry Industries	American Society for the Prevention of Cruelty to Animals	\$30,000	Pending
Chemical & Biomolecular	Cai, Tianxing		Multi-dimensional Quantitative Structure-Property Relationship (QSPR) Modeling for Predicting Pour Point, Cold Point and Cloud Point of Petroleum Compounds	American Chemical & Biomolecular Society	\$110,000	Pending
Chemical & Biomolecular	Chen, Daniel	Sargsyan, G.; Lin, S.	Characterize Expected CO2 Specification Ranges for Various Product Streams.	Pipeline Research Council International	\$150,000	Pending
Chemical & Biomolecular	Chen, Daniel	Lin, S. Sargsyan, G.	Characterize Expected CO2 Specification Ranges with Thermodynamic, Safety, and Profitability Considerations	US Department of Transportation (sub to UND)	\$150,000	Yes
Chemical & Biomolecular	Chen, Daniel		Transforming Landfill Gas to Renewable Natural Gas: Lamar Students Facilitate Research and Integrate Findings in University Curriculum and Community Outreach	US Department of Energy	\$15,000	Yes
Chemical & Biomolecular	Henry, James		Development of Regulatory Guidance Document for Aboveground Storage Vessel Safety Program	Texas Commission on Environmental Quality	\$103,706	Yes
Chemical & Biomolecular	Jeffryes, Clayton		Development of Jasmine and Basmati Rice Cultivars Acceptable to US Rice Consumers	US Department of Agriculture	\$50,000	Yes
Chemical & Biomolecular	Jeffryes, Clayton	Haselbach, L.	Pyrolysis Conversion of Olive and Grape Pomaces to Bio-oil and Biochar for Carbon-neutral Asphalt Pavements	University of California San Diego	\$49,999	Yes
Chemical & Biomolecular	Lou, Helen	Roden, T.; Liu, X.; Cai, T.; Richmond, P.	Sul Ross: Midstream Critical Manufacturing Industry Cybersecurity Hub	US Department of Energy	\$600,000	Yes
Chemical & Biomolecular	Lou, Helen	Zhang, X.; Bandyopadhyay, K.; Zhang, J.; Richmond, P.	Southeast Texas Data Analytics and Cybersecurity for Energy Supply Chain Resilience Project	US Department of Energy	\$770,426	Yes
Chemical & Biomolecular	Xu, Qiang		Deep Decarbonization Based on Methanol Fuel and CO2-Removal Membranes for Long-range Marine Transportation	US Department of Energy	\$68,832	Yes
Chemical & Biomolecular	Xu, Qiang		Membrane-Based Carbon Capture System for Long-range Marine Transportation	US Department of Energy	\$68,832	No

Chemical & Biomolecular	Jeffryes, Clayton	Haselbach, L.	FMRG ECO: Molecular Engineering of Chemo-Physical Inhibition Pathways to Advance Green Anti-Corrosion Coating	National Science Foundation subwards to TEES	\$499,929	Pending
Civil & Env	Kim, Yong Je	Hoch, M.	Optimizing Dredged Material Placement for Wetland Restoration using Remote Sensing and Spatial Analysis	Texas General Land Office	\$338,919	No
Civil & Env	Qian, Qin		Neches River Tidal Watershed On-site Sewage Remediation	Texas Commission on Environmental Quality	\$80,000	Pending
Civil & Env	Uddameri, Venki	Hernandez, A.; Wu, X.; Kim, Y.	Design of a Modernized Database to Integrate Publicly Available Climate-and Geohazard-Related Data to Assist and Assess Pipeline Failure Risks	US Department of Transportation	\$1,000,000	Pending
Civil & Env	Uddameri, Venki	Hernandez, A.; Jao, M.	Evaluation of Impacts of Using Brackish Groundwater as a Nontraditional Irrigation Source on Food, Soil, and Water in the Texas High Plains	US Department of Agriculture	\$175,855	Pending
Electrical & Computer	Tcheslavski, Gleb	Felipe, L.	Developing a Wearable Device for a Real-time Detection of Auditory Hallucinations from EEG	US Department of Defense	\$327,953	No
Electrical & Computer	Tokgoz, Cagatay		Establishment of Skills and Experience Required to Develop Computational Tools to Predict Radar Signature	Naval Engineering Education Consortium (NEEC)	\$380,245	Pending
Industrial & Systems	Bradley, Kelley		CAREER: Discrete Event Compressive Creep Model for Thermoplastics	National Science Foundation	\$575,414	Pending
Industrial & Systems	Hamidi, Maryam	Zhang, J.; Henry, J.	A Digital Twin for Port Operation, Anomaly Detection and Prediction	Cross-Border Threat Screening and Supply Chain Defense (CBTS)	\$500,000	Pending
Industrial & Systems	Li, Yueqing	Tcheslavski, G.; Felipe, L.; Jordan, S.	NSF MRI (Track I): Acquisition of a Functional Near-Infrared Spectroscopy (fNIRS) System for Multidisciplinary Research and Education Using Brain Activities Data	National Science Foundation	\$261,215	No
Industrial & Systems	Liu, Xinyu		Creating Your Own Industrial & Systems Control and Information Systems	Halliburton Foundation, Inc.	\$10,500	Yes
Mechanical	Doranga, Sushil		"ERI": A Novel Nonlinear Dynamic Model for Structural Health Monitoring and Early Damage Detection	National Science Foundation	\$195,991	No
Mechanical	Doranga, Sushil		Development of an Electronic packaging system using Heterogeneous Integration	Octavo System LLC	\$9,000	Yes
Mechanical	Fan, Xuejun		Texas Instruments (TI) Moisture-Sensitive Package Root-Cause Study: Multiphysics Modeling and Experiment	Texas Instruments	\$65,000	Yes

College of Fine Arts & Communication

Deaf Studies & Deaf Education	Clark, Diane	Greene-Woods, A.	Trilingual STEM Career Stories for Middle Grade and High School Students Who Are Deaf or Hard of Hearing	National Science Foundation	\$151,815	No
Deaf Studies & Deaf Education	Greene-Woods, Ashley	Clark, D.	Doctoral Research in Education And Multilingualism--Leaders Empowering All Deaf Students (DREAM-LEADS)	US Department of Education	\$776,652	Pending

Administrative Offices & Centers

Admin	Titus, Freddie		VITA / VITA Plus	Entergy	\$21,700	\$15,000 Yes
Center for Advances in Water & Air Quality	Jeffryes, Clayton		Research Agreement	NuEnergy Partners, LLP	\$5,905	Yes
Center for Port Management	Hamidi, Maryam		Digital Twin of the Texas Gulf Intracoastal Waterway	Texas Department of Transportation	\$1,908,938	No
Center for Resiliency	Brake, Nicholas	Haselbach, L.	SETX Regional Flood Sensor System--Update Sensor Systems #9257	Texas General Land Office	\$239,976	Yes
Center for Resiliency	Gummelt, Ginger	Wright, L.; Williams, B.	Climate and mental Health Assessments & Resources for Gulf-coast Environments (CHARGE)	National Academies	\$999,995	No
Center for Resiliency	Haselbach, Liv		NSF SRS RN: Gulf Region Resilience Research and Engagement Network	National Science Foundation	\$599,999	Pending
Center for Resiliency	Haselbach, Liv		Research Center on the Use of Steel Slag in Transportation Infrastructure (ReCUSSiTI)	US Department of Transportation	\$242,503	No
Center for Resiliency	Haselbach, Liv	Jeffryes, C.	EcoMat Gulf Center (EMGC) - Reducing Carbon in Construction Materials	Environmental Protection Agency	\$399,994	No
Center for Resiliency	Haselbach, Liv	Qian, Q.	GRACEFUL: Galvanizing Resources to Address Community Equity for Urban Livelihood	University of Texas	\$1,499,997	Pending

Center for Resiliency	Haselbach, Liv		Field Investigations on the UT Road Elevation Model	Texas Division of Emergency Management	\$99,928	No
Center for Resiliency	Haselbach, Liv	Lin, S.; Cai, T.; Jeffryes, C.; Qian, Q.; Brake, N.; Hoch, M.	Southeast Texas Urban IFL: Equitable Solutions for Communities Caught Between Floods and Air Pollution	US Department of Energy	\$1,000,000	Yes
Center for Resiliency	Haselbach, Liv	Brake, N.; Williams, B.; Selvaratnam, T.	Research Center of Climate Change and Transportation Subcontract to Washington State University	US Department of Transportation	\$175,651	No
Honors College	Thibodeaux, Tilisa	Craig, T.; Kemerly, T.	Governor's Summer Merit Program	Texas Workforce Commission	\$99,282	Yes
Library Sciences	Clark, Penny		Women in the Workplace: Images from Special Collections	Rescuing Texas History	\$1,000	Yes
McNair Scholars	Comer, Pam	Bahrim, C.; Thibodeaux, T.	McNair Scholars Program	US Department of Education	\$259,198	Yes
Small Business Development Center	Lee, John		SBDC CY25	University of Houston	\$144,000	Yes
Spindletop Gladys City	Summy, Jeanna		Spindletop Boomtown Museum Advertising Proposal	Jefferson County HOT Tax	\$30,495	\$6,004 Yes
Spindletop Gladys City	Summy, Jeanna		City of Beaumont, HOT TAX	City of Beaumont CDBG	\$31,500	Pending
Student Health Center	Grey, Shawn		2023-2024 College/University challenge vaccine assistance	Alana's Foundation	\$3,951	Yes
TMACSE	Brewer, Christopher		HAAS Grant Application	HAAS	\$12,000	Yes
TMACSE	Jones, Gavin		Manufacturing Day 2024: Rosie the Riveter	Entergy Foundation	\$8,565	No
TMACSE	Jones, Gavin		Skills Development Fund Training Grant - Entergy	Texas Workforce Commission	\$41,200	\$13,560 Yes

TMACSE	Jones, Gavin	TMAC-SE GY 10	University of Texas - Arlington	\$305,000	Yes
TMACSE	Jones, Gavin	Strengthening Manufacturing in Southeast Texas and the Gulf Region through Upskilling	University of Texas - Arlington	\$305,000	Yes
TMACSE	Sargsyan, Gevorg	Integrating Workforce for AI	US Economic Development Administration	\$468,283	No

Table 3. Salaries supported by LU centers and academic colleges in FY24

Unit	Funded Amount
Center for Resiliency (CfR)	\$437,913
Center for Midstream Management & Science (CMMS)	\$135,056
College of Arts & Sciences	\$97,500
College of Business	\$48,000
Texas Air Research Center (TARC)	\$15,097
Texas Hazardous Waste Research Center (THWRC)	\$21,358
Office of Undergraduate Research	\$11,000
Total	\$765,924

Table 4. Internal research programs funded by LU Centers in FY24

Unit	No. of Projects	Funded Amount
Center for Resiliency (CfR)	45	\$1,586,524
Center for Midstream Management & Science (CMMS)	9	\$419,670
Texas Air Research Center (TARC)	2	\$54,000
Texas Hazardous Waste Research Center (THWRC)	2	\$54,000
Total	58	\$2,114,194

*Center for Advances in Port Management (CAPM) did not fund any internal research programs in FY24.

Table 5: List of internal research programs funded in FY24

Department	Investigator	Co-PIs	Project Title	Sponsor	Award
Accounting, Finance & Economics	Kukeli, Agim	Jator, S.	Resiliency of Business Entry: The Effect of Natural Disaster Damage's Uncertainty on Decision to Enter a Market Area	CfR	\$25,000
Accounting, Finance & Economics	Sargsyan, Gevorg	Chen, D.	Springboard grant to pursue external funding for C1H2 Extension Service for Southeast Texas Sustainable Economic Development (C1H2SET)	CfR	\$24,943
Accounting, Finance & Economics	Sargsyan, Gevorg	French, D. and Wang, T.	Do Mergers, Acquisitions, and Corporate Takeovers Benefit Shareholders of Firms in Energy Businesses and Related Industries?	CMMS	\$51,714
Accounting, Finance & Economics	Slaydon, James	Sargsyan, G.	Seed Funding to Apply for External Grants to Establish Economic Resiliency and Sustainability Fund for Small and Medium Businesses	CfR	\$22,500
Administrative	Dockens, Ashley	Shelton, J.; Smith, T.; Jones, A.; Welch, B.	Enhancing Faculty Attitudes and Self-Efficacy in Artificial Intelligence (AI) Integration for Post-Disaster Higher Education Resiliency	CfR	\$45,504
Biology	Hoch, Matthew	Kubicek, K.	Importance of Shallow Dredge Placement Area Lagoonal Habitat to Resiliency and Sustainability of Fisheries of Commercial and Recreational Value: Addition of Larval Settlement Assessment	CfR	\$15,800
Biology	Hoch, Matthew	Harden, G.; Hamidi, M.; Cai, T.; Qian, Q.; Kim, Y.; Liu, X.; Luo, Z.; McCollough, J.	Sociological-Ecological Restoration Group -Year Three (CSERG-3): On-going Initiatives, Capacity Building, and TxDOT GIWW Study	CfR	\$48,611
Biology	Kucknoor, Ashwini		Microbial Source Tracking and Pathogen Identification Before and After Storm-water Surges in Jefferson County Beaches	CfR	\$20,000
Biology	Vasefi, Maryam	Makki, K.; Gummelt, V.; Knight, S.; Shackelford, S.	Cognitive Resiliency After Disaster: An Investigation of Risk and Intervention Strategy	CfR	\$20,000

Biology	Yoder, H. Randall		Biodiversity of Parasites of Fishes from the Big Thicket Region of Southeast Texas	CfR	\$14,810
Center for Resiliency	Chargois, Davon		The Palms at Pleasure Island Green Space	CfR	\$9,000
Center for Resiliency	Guidry, Marilyn		Levingston Nature Park	CfR	\$9,000
Chemical & Biomolecular Engineering	Benson, Tracy		CfR Corps: Hurricane Preparedness	CfR	\$100,000
Chemical & Biomolecular Engineering	Henry, James		Data Mining of EnerG-ID Site Data to Identify Potential Correlations and Predictive Patterns	CMMS	\$44,733
Chemical & Biomolecular Engineering	James, Henry		Utilizing Augmented Reality (AR) and Standard Alarm Management Practices to Provide Real-time Information to Refinery Workers in High-stress, Dangerous Environments	CfR	\$24,439
Chemical & Biomolecular Engineering	Lin, Sidney		Finite Element Analysis of Ethylene Combustion in Flare	TARC	\$38,000
Chemical & Biomolecular Engineering	Lin, Sidney		Produced Water Corrosion in Hydraulic Fracturing	THWRC	\$27,000
Chemical & Biomolecular Engineering	Xu, Qiang	Wang, S.	Improving Sustainability of the Natural-gas Midstream Value Chain via Advanced Digital Twin Development	CMMS	\$50,000
Chemical & Biomolecular Engineering	Xu, Qiang		Novel Design and Operating Studies for Emission-free LNG Export Terminals	TARC	\$16,000
Chemical & Biomolecular Engineering	Xu, Qiang		Comprehensive Analysis of Primary and Secondary Pollutants Induced by Planned and Emergency Shutdown Operations of Chemical & Biomolecular Plants	THWRC	\$27,000
Chemistry & Biochemistry	Bernazzani, Paul	Fan, X.; Doranga, S.; He, P.; Li, X.; Tokgoz, B.; Yao, C.; Yoo, J.	Research, Education, and Outreach toward a Center for Resiliency and Reliability of Semiconductor Packaging – Phase II	CfR	\$49,679
Chemistry & Biochemistry	Chandrasekaran, Perumalreddy		Developing and Formulating Metal Dithiolene Near-IR Tracers for Pipeline Leak Detection	CMMS	\$50,000
Chemistry & Biochemistry	Wei, Suying	Chandrasekaran, P.; Sen, O.; Twagirayezu, S.	Quantification of Organic Contaminants in Southeast Texas Surface Water Bodies, and In-depth Analysis of Thallium in Sabine Lake	CfR	\$25,000
Civil & Env Engineering	Brake, Nicholas		Flood Sensor Network	CfR	\$100,000
Civil & Env Engineering	Haselbach, Liv	Kruger, J.	Flood Coordination Study Main	CfR	\$150,000
Civil & Env Engineering	Qian, Qin	Liu, X.	Flood and Surface Water Quality Coordination	CfR	\$50,000
Civil & Env Engineering	Selvaratnam, Thinesh	Jeffryes, C.	Resilience and Assessment Science	CfR	\$100,000
Computer Science	Sun, Bo	Qian, Q.; Zhang, J.; Selvaratnam, T.; Sun, F.	Securing the Internet of Things (IoT) Water Quality Monitoring System through LoRaWAN and Cloud Computing	CfR	\$50,000

Computer Science	Wang, Sujing		A Comprehensive Social Media Data Analysis Framework for Community Disaster Resiliency	CfR	\$24,939
Computer Science	Wang, Sujing	Tsado, L.; Doe, R.	College of Arts & Sciences Summer Camp: Fostering Youth Resilience in the Southeast Texas Region through Summer Camp Program	CfR	\$40,222
Computer Science	Zhang, Jing		A Pioneering Study: Unleashing the Potential of Augmented Reality (AR) for Flood and	CfR	\$23,738
Construction Management	Hwang, Seokyon	French, D.	Enhancing Resilience of Construction Companies in SETX: Developing a Theory of Change for Disaster Preparedness and Recovery Capacity	CfR	\$27,568
Curriculum & Instruction	Singh, Mamta		Assessing STEM Teaching, Socio-Emotional Learning & Resilience Among Elementary Preservice Teachers	CfR	\$20,000
Curriculum & Instruction	Yan, Yan	Killough, J.; Akkurt, M.	Reframing Resilience for Disadvantaged Children through Storybook Reading Practices and Implementing Mental Health Facilitator and Emotional Responsive Teaching Training	CfR	\$29,992
Earth & Space Sciences	Kruger, Joseph	Tucker, C.	Assessing New Methodologies for Predicting Wildfires, Acquiring One-Hour Fuel Moisture, and Delineating the Wildland Urban Interface	CfR	\$18,000
Electrical & Computer Engineering	Wang, Ruhai	Sayil, S.; Eldek, A.	Design of Internet Protocols Resilient to Link Outage Caused by Hurricanes/Storms	CfR	\$25,408
Electrical & Computer Engineering	Zargarzadeh, Hassan		Machine Learning based Defect Detection in Automated Ultrasonic Testing for Weld	CMMS	\$42,732
Electrical & Computer Engineering	Zargarzadeh, Hassan		Phase II: Incipient Leakage Detection Through Embedded Sensors and AI on Drones	CMMS	\$33,732
Health & Kinesiology	Jordan, Shannon	Killough, J.	STEM Basketball Camp	CfR	\$27,784
Industrial & Systems Engineering	Liu, Xinyu	Xu, Q.	Development of a Digital Twin by Integrating DeltaV DCS and Aspen Dynamic Model as a New Operator Training Tool to Improve Industrial Resilience	CfR	\$25,000
Industrial & Systems Engineering	Tokgoz, Berna	Tokgoz, C.; Gummelt, V.; Williams, B.; Hwang, S.; Clavijo, A.	CRISys - Community Resilience Indicator System: Developing a Community Resilience Framework in Response to Natural Disasters – Phase II	CfR	\$49,061
Industrial & Systems Engineering	Bradley, Robert		A Prototype Thermoplastic Composite Pipe Support Pad for Preventing Corrosion	CMMS	\$49,933
Industrial & Systems Engineering	Liu, Xinyu	Li, X. and Li, Y.	Digital Transformation of Industrial Asset Performance Management: Development of Physics-Informed Machine Learning Methods & Addressing Challenges to Deployment	CMMS	\$46,856
Mechanical & Computer Engineering	Li, Xianchang	Tucker, C.; Zargarzadeh, H.; Sargsyan, G.; Liu, X.; Zhou, J.; Williams, B.	Completing the Net Zero Energy Building and Integrating with the Weather Station to Facilitate Research and Education of Green Energy and Power Resilience at Lamar	CfR	\$50,000
Mechanical & Computer Engineering	Li, Xianchang	Jao, M.; Nguyen, T.	Towards Building Construction Resiliency: Development of Low Cost and Sustainable Bricks from Dredged Materials with Improved Thermal and Mechanical Properties Enhanced through Novel Bioenzyme Additives	CfR	\$24,996
Mechanical & Computer Engineering	Zhou, Jiang	Li, X.	Multi-scale Modeling of LNG Pipeline Risk Assessment under Dual Impact of Flow-induced Vibrations and Severe Weather Events	CMMS	\$49,970

Music	Greschner, Debra		Strength through Song: Building Resiliency One Voice at a Time	CfR	\$7,255
Music	Dueppen, Tim	Broussard, J.; Gomez, V.; Paulus, M.	Cardinal Brass Quintet (Lamar Faculty Brass Quintet): Gulf Coast Resiliency Project	CfR	\$14,000
Music	Fresne, Jeanette	Smith, A.; Han, J., Forcier, S.; McMahan, A.	COFAC Summer camps (4): Band, Dance, Choir and Art	CfR	\$38,450
Nutrition, Hospitality and Human Services	White, Janeal	Wallet, K.	We're Ready! Family Resilience Building through Access, Awareness, and Preparation	CfR	\$20,000
Physics	Cole, Philip	Chen, D.	Seeing and Hearing Methane Emissions in the Midstream Sector: Detecting Methane Leaks in SETX Soils from Buried Pipelines through Employing Infrared Optical Imaging and Acoustical Emission Systems with Addendum	CfR	\$50,000
Political Science	Gregory, Christina		A Resilient Guard? A Comparative Study of the National Guards of Texas and Louisiana	CfR	\$14,900
Political Science	Williams, Brian	Collins, M.	An Investigation of the Challenges of Resource Dependency on Community Disaster Resilience: The Case for State Assets	CfR	\$17,595
Social Work	Clavijo, Angela	Loya-Boggs, A.	Disaster Experiences and Perspectives through Immigration and Cultural Themes and Storytelling (DEPICTS)	CfR	\$24,160
Social Work	Gummelt, Ginger	Wright, L.; Singh, M.; Malik, S.; Roebuck, K.	Mental Health Intervention, Networking, & Diversion (MIND)	CfR	\$49,670
Sociology	Chang, Chiung Fang		Moms Are Not Alright (MANA)!! —The Impact of the COVID-19 Pandemic on Postpartum Depression in Southeast Texas	CfR	\$32,000
Speech & Hearing Sciences	Whisenhunt Saar, Karen		Community and Communication Support for Southeast Texans Living with Dementia Phase 2: Implementation of Cognitive Stimulation Group Program	CfR	\$9,500
Speech & Hearing Sciences	Jilla, Anna		Characterizing Dispersion of Audiologists in Texas: A study of workforce sufficiency for public health in rural and border communities	CfR	\$18,000

Table 6: Projects funded by the Office of Undergraduate Research in FY24

Faculty Advisor	Student/Department	Title	Grant Type
Musyoka, Millicent & Worley, Vidisha	Aaron Tabor/Criminal Justice	Deaf Interactions within the First Responder World: The Communication Issue	OUR
De La Madrid, Rafael	Caleb Gregory/Physics	Numerical Calculation of the Energies and the Decay Energy Spectra of Quantum Mechanical Resonances	SURF
Bradley, Kelley & Henry, James	Alireza Godsi/Biology	Effects of Pore Size and Length on Release Rate of Drug-Analog Dyes in TwoPhoton 3D Stereolithography Printed Microstructures.	OUR
Chilek, Daniel	Michael Bellot/Exercise Science	A Comparison of Abdominal Contraction Bracing Method (CBM) and the Glass Cup Abdominal Bracing Method (GCM).	SURF
Forret, Jeffrey	Brandon Stumpf/History	Crimes in Antebellum Courts: Slavery, Freedom, and the Law in Middle Georgia	SURF

Gregory, Christina	Audrey Vincent-Eze/Political Science	The Gender Equality Blueprint: Analyzing the Symbiosis of FML Policies and Cultural Attitudes in Western Europe and the United States	SURF
Gregory, Christina & Thibodeaux, Tilisa	Chloe Doyle/Political Science	Digital Capital: The Effect of the Duration of Acquisition on Social Spaces	OUR
Hale, Gina	Natalie Bean/Dishman School of Nursing	Firearm Safety and Injury Prevention in Healthcare	OUR
Hoch, Matthew	Philippine Broussard/Biology	Limno-terrestrial Tardigrades from Lichen Habitats on Quercus Virginiana	OUR
Jordan, Shannon	Kayla McKinley/Exercise Science	Trees at Different Exposure to Sea Salt Aerosols in Southeast Texas	SURF
Jordan, Shannon & Mullican, Jeanne	Keyera Lane/Exercise Science	Does Vaping Nicotine and/or THC Produce Different Levels of Oxidative Stress for Men and Women: An Examination of Markers of Oxidative Stress (8-Isoprostanes) in Expired Respiratory Condensate	SURF
Kucknoor, Ashwini	Mohamed Irhabi/Biology	Parental Involvement in Youth Sports	OUR
Musyoka, Millicent	Maddison Bean/Deaf Studies and Deaf Education	DNA Barcoding and Species Identification of Mosquitos in Jefferson County	OUR
Prezas, Raul	Harvest Prater/Speech and Hearing Sciences	A Three- Dimensional Narrative Exploration of the Life of D/HH Individuals Who Use Assistive Hearing Technologies	OUR
Sanders, Elizabeth & Favors, Andre	Harvest Prater/Communications	"Hair Depression" in African American College Youth	SURF
Selvaratnam, Thinesh	Eunice Yi/Civil Engineering	Asexuals of Color: Experiences of an Invisible Identity	OUR
Sen, Cengiz & Lin, Sidney	Ryan Wilson/Chemistry and Biochemistry	Bioremoval of Heavy Metals from Synthetic Wastewater Using Galdieria sulphuraria.	OUR
Tcheslavski, Gleb & Kirk, Edythe	Sharon Katoh-Jones/Electrical and Computer Engineering	Effects of Engineering Oxygen Vacancies in Copper Oxides for WaterSplitting Photocatalyst Applications	SURF
Vasefi, Maryam	Jacob Thompson/Biology	EEG (Electroencephalography) - Based Biofeedback for Arachnophobia Reduction	OUR
Wang, Sujing	Bradley Stone & Danae Garza/Computer Science	CBD-modulated Synaptic Plasticity and BDNF Expression in Alzheimer's Disease	SURF
Yan, Yan	Lindsey Barrera/Teacher Education	Advanced Sentiment Analysis for Mental Health based on Social Media Data	OUR
Yan, Yan	Laci Graham/Teacher Education	Increasing Compliance in Elementary Ages Students with Autism	OUR
Yan, Yan	Ashlin Stinson/Teacher Education	Emotionally Responsive Teaching Through "Read Aloud" for Pre-K Children in Southeast Texas	SURF
Yan, Yan	Chantri Grant/Teacher Education	Elementary School Classroom Physical and Social Environment effects on Students' affective Performance	SURF
		Supporting English Language Learners in the Multilingual Mathematics Classroom in Southeast Texas	SURF