2024 TSUS ANNUAL RESEARCH REPORT

Texas State University System

About TSUS

Research operations at Texas State University System's four-year universities are catalysts for discovery and innovation. As part of a fast-growing system, Lamar University, Sam Houston State University, Sul Ross State University and Texas State University are at the forefront of new ideas and discoveries that respond to today's scientific, environmental and societal challenges.

These institutions are building upon existing frameworks of academic excellence in teaching, research, and service. They are focused on fostering an environment of creativity and collaboration where student scholars, faculty researchers and industry partners generate solutions-based research relevant to a 21st century economy.

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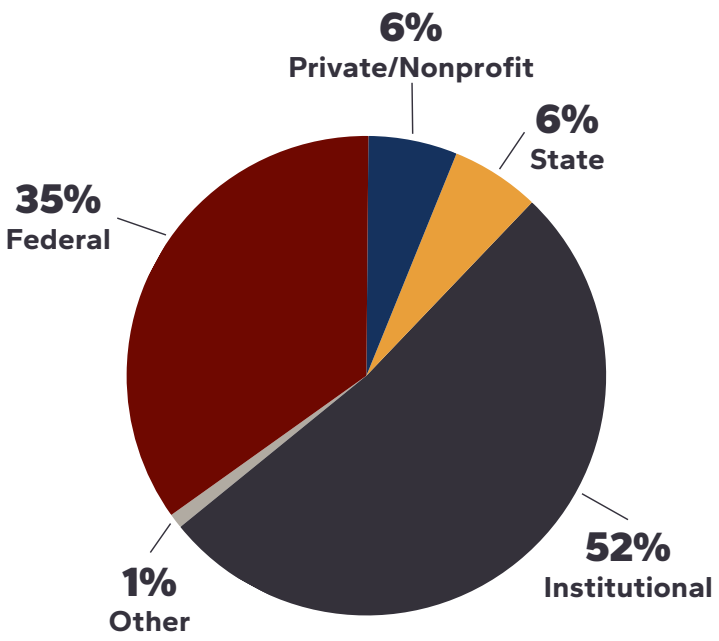
Texas State University System

FY 2022 Expenditures by Source



Total: **$129.94m**

TSUS Institution Proposals Submitted

FY 17 **813** → FY 22 **978**

20% Increase

TSUS Institution Funding Awarded

FY 17 **$49.8m** → FY 22 **$99.6m**

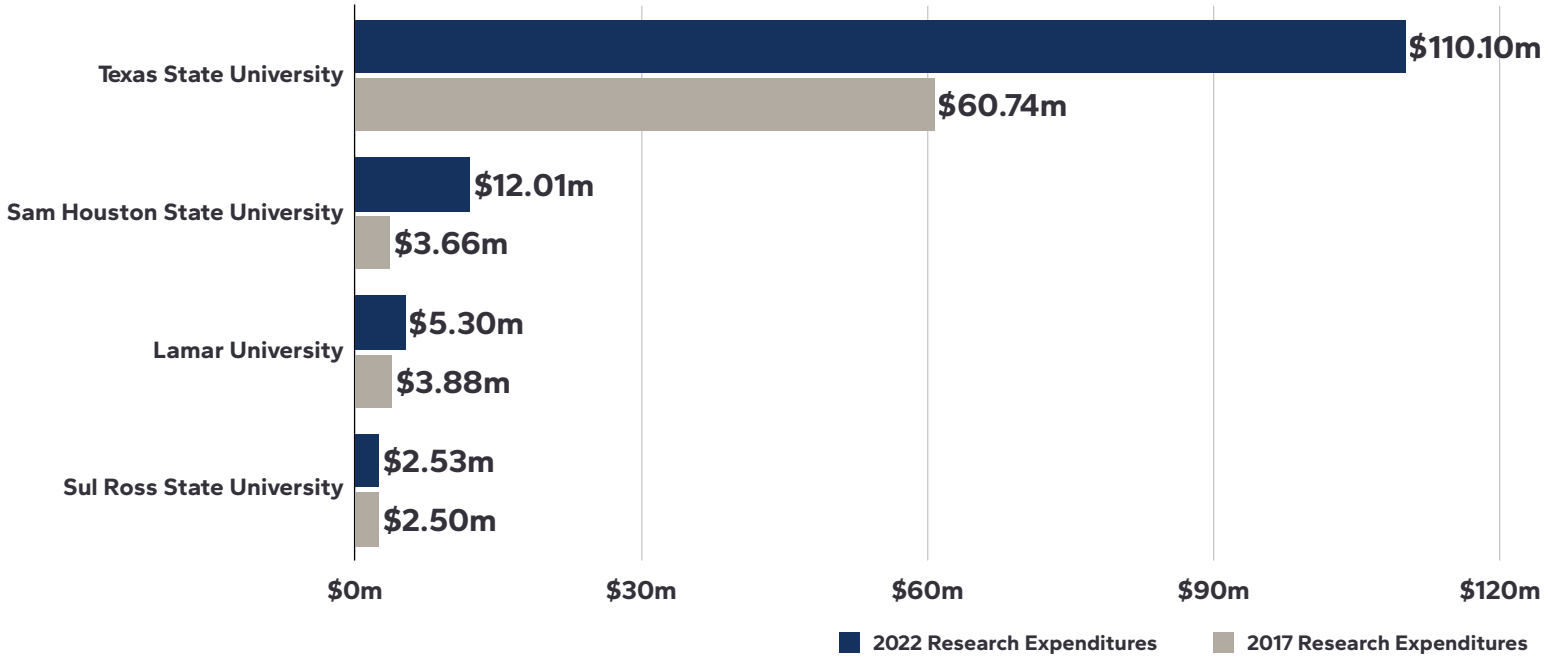
100% Increase

TSUS Research Expenditures

FY 17 **$70.78m** → FY 22 **$129.94m**

49% Increase

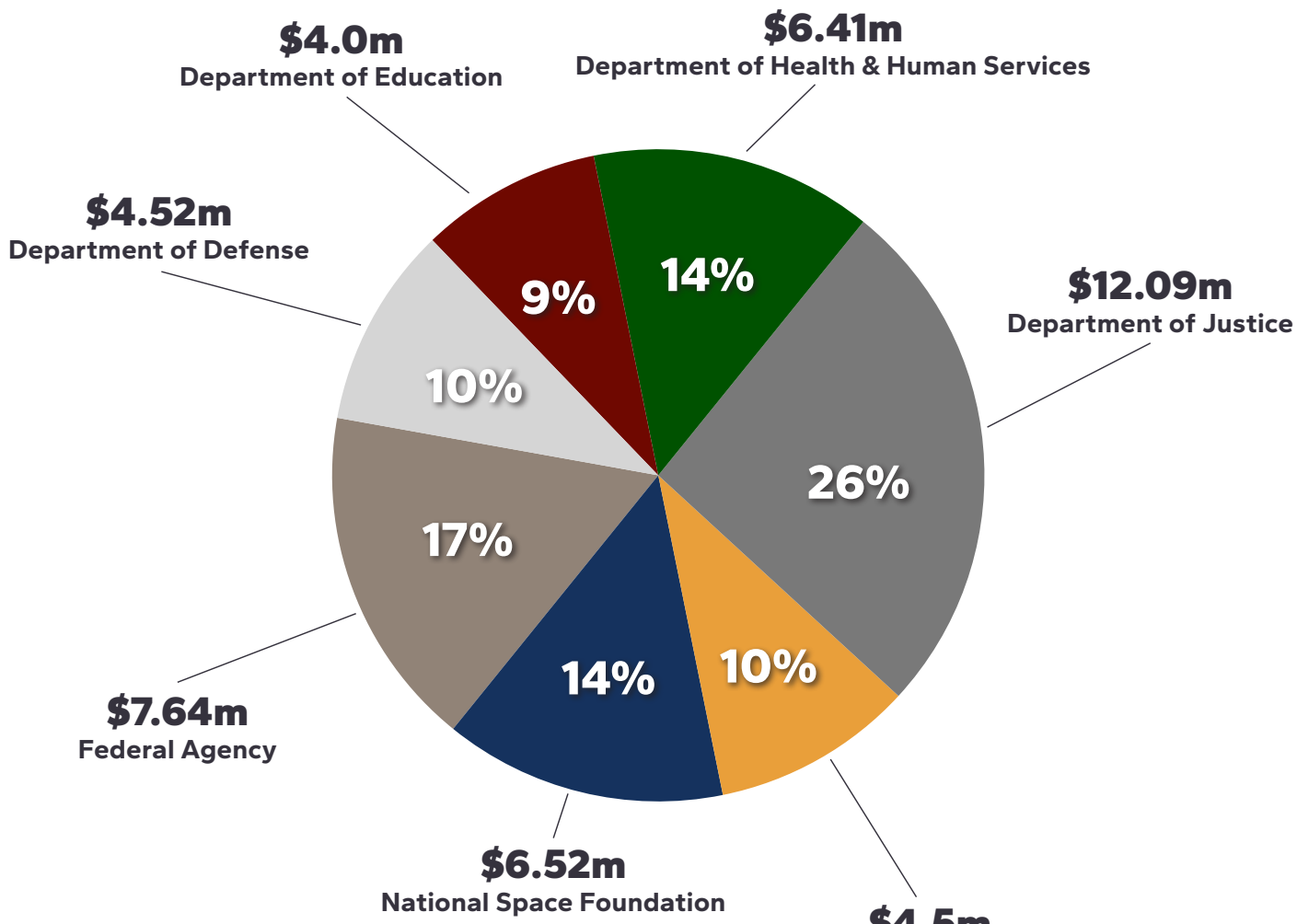
Research Expenditures by University



Note: FY 2022 data from most recent HERD and THECB data source.

Texas State University System

2022 Federal Research Funds by Federal Agency (Over $500K)



Total: $45.68m

Note: FY 2022 data from most recent HERD and THECB data source.

Lamar University

Southeast Texas Data Analytics and Cybersecurity for Energy Supply Chain Resilience

The establishment of the Center for Data Analytics and Cybersecurity, led by Dr. Helen Lou, Professor of Chemical Engineering, aims to improve the security of critical infrastructure by encouraging and facilitating the deployment of threat detection technologies and systems. The center is supported by a $2 million grant from the Department of Energy with initiatives primarily focused on the security of critical energy infrastructure, which is a key driver of economic performance supporting jobs, businesses, and communities in Southeast Texas. The energy, petrochemical, and port industries are increasingly relying on the integration of operation, information, communication, and simulation technologies to drive automation and remote work. These integrations promise to save costs and improve operational performance, but also require sound data analytic technologies for critical decision-making and operational excellence. This project will deliver the needed tools and workforce that enable energy, petrochemical and port industries to achieve safer, more resilient, and economically viable operations in both physical and virtual space.

Using Safety Culture-related Assessment Results to Enhance the Effectiveness of Safety Management Systems

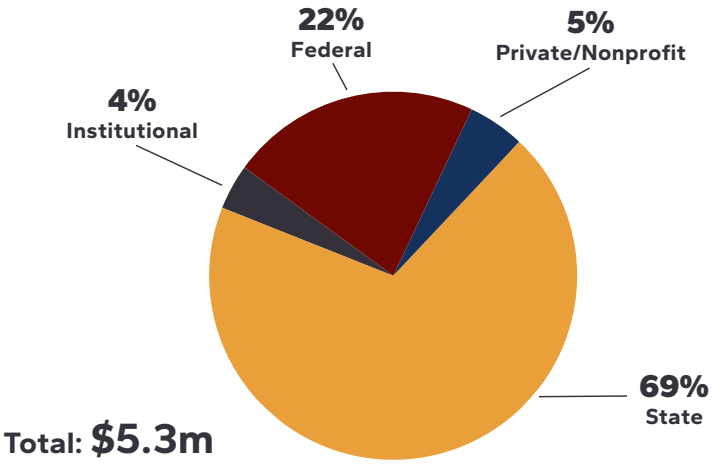
Dr. James Curry, Associate Professor of Industrial Engineering, received $257k from the American Bureau of Shipping to investigate and develop a methodology to help integrate safety culture-related assessment activities into the evaluation of an organization's Safety and Environmental Management System (SEMS). This project will utilize safety culture research conducted by the American Bureau of Shipping (ABS), Lamar University (LU), and the University of Houston (UH), along with industry participation. Safety culture activities (surveys, worker interviews, etc.) analysis, SEMS audit results, and other safety and health metrics (safety performance indicators) will be leveraged to help determine how safety culture-related data can support the enhancement of an organization's SEMS and lead to better safety and efficiency outcomes across the shipping industry.

Rotational Dynamics of PFOAs

Dr. Thinesh Selvaratnam, Associate Professor of Civil Engineering, received $68k to work in conjunction with National Resource Consultants, LLC. to support their efforts to develop and optimize a carbon capture system for algae cultivation and biochemicals production using hybrid solar lighting. The main objective of the proposed research is to determine the feasibility of using a hybrid solar/LED energy system to capture CO2 from point sources to grow algae at high areal productivity values and to process the algae to produce high-value bioproducts. The outcomes of the work at Lamar University will be the development of a deep algal photobioreactor with high volume to surface area and a series of experimental data obtained from light and productivity optimization experiments using the developed photobioreactor.

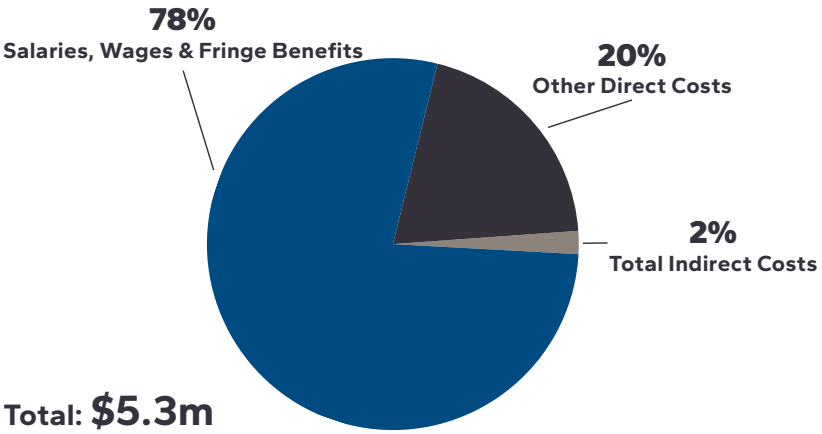
Lamar University

FY 2022 Expenditures by Source



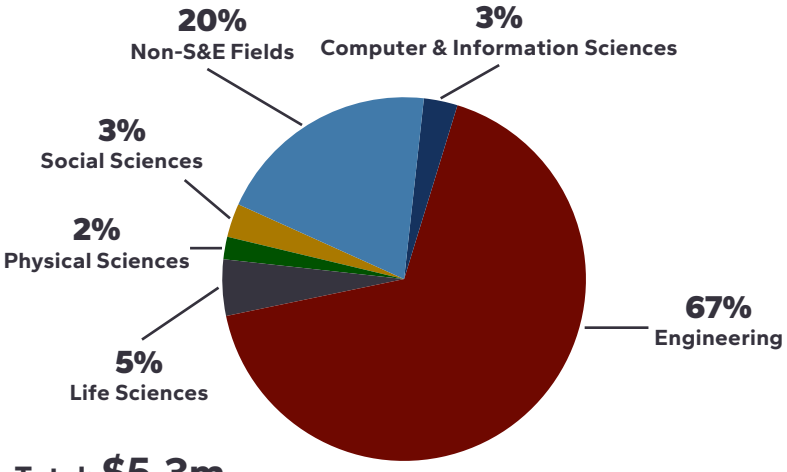
Total: **$5.3m**

FY 2022 Types of Costs



Total: **$5.3m**

FY 2022 Fields of Research



Total: **$5.3m**

University Research Centers

- ★ Center for Advances in Port Management
- ★ Center for Advances in Water and Air Quality
- ★ Center for Midstream Management and Science
- ★ Center for Resiliency
- ★ Small Business Development Center - Lamar University
- ★ Texas Air Research Center
- ★ Texas Hazardous Waste Research Center
- ★ Texas Manufacturing Assistance Center - SE Texas

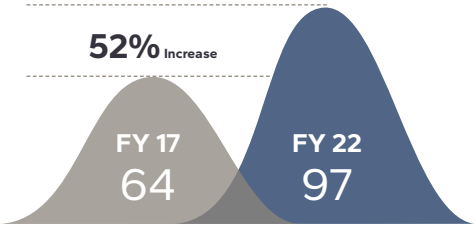
Funding Sources

- ★ American Bureau of Shipping
- ★ AT&T
- ★ Buckeye Partners, L.P.
- ★ Environmental Protection Agency (EPA)
- ★ National Institutes of Health
- ★ National Aeronautics and Space Administration
- ★ National Oceanic and Atmospheric Administration (NOAA)
- ★ National Science Foundation
- ★ S.A.L.T. Fisheries Research
- ★ Summerlee Foundation
- ★ Texas A&M Engineering Experiment Station
- ★ Texas A&M University
- ★ Texas Higher Education Coordinating Board
- ★ U.S. Department of Agriculture
- ★ U.S. Department of Commerce
- ★ U.S. Department of Defense
- ★ U.S. Department of Education
- ★ U.S. Department of Energy
- ★ U.S. Department of Health and Human Services
- ★ U.S. Department of the Interior
- ★ U.S. Environmental Protection Agency
- ★ University of Texas - Rio Grande Valley

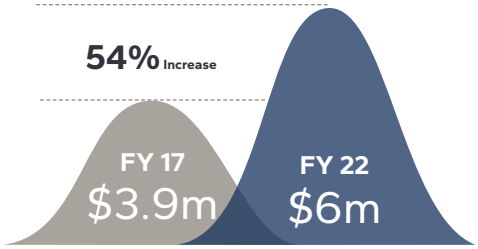
Note: FY 2022 data from most recent HERD and THECB data source.

Lamar University

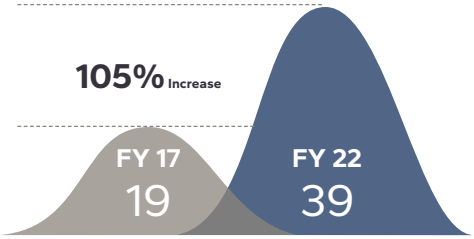
Proposals Submitted



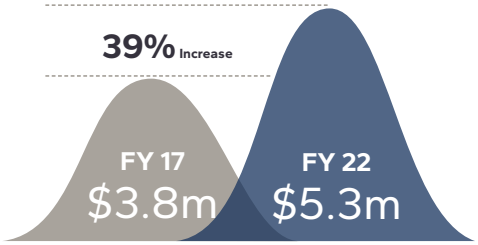
Funding Awarded



Proposals Funded



Research Expenditures



Note: FY 2022 data from most recent HERD and THECB data source.

Sam Houston State University

Cybersecurity Leadership Development at SHSU: The SFS Program

Sam Houston State University's (SHSU) Department of Computer Science has launched a dynamic Scholarship for Service (SFS) program aimed at cultivating the next generation of cybersecurity leaders. This initiative was awarded nearly $3 million by the National Science Foundation CyberCorps Scholarship for Service in Interdisciplinary Cyber Security and Cyber Forensics. The program focuses on both undergraduate and graduate cohorts, with an emphasis on providing a rich interdisciplinary education that integrates cybersecurity and cyber forensics. Through this program, 16 scholars will be trained to address the country's critical cybersecurity workforce needs.

SHSU's designation as a Hispanic-Serving Institution (HSI) and its recognition as a Center of Academic Excellence in Cyber Defense Education (CAE-CDE) by the National Security Agency (NSA) and Department of Homeland Security (DHS) position it as a pivotal player in cybersecurity education. As a partner in the United States Cyber Command's Academic Engagement Network, SHSU collaborates with a broad network of universities, community colleges, and federal academies, further enhancing students' educational experience. Students will receive mentorship, practical training, and research opportunities across multiple disciplines including Computer Science, Digital Forensics, and Criminal Justice. The program is structured to prepare students for cybersecurity careers through close partnerships with government agencies, industries, and academic institutions.

SHSU is now one of eight Texas universities that are a part of this program and one of four Texas universities that has received three top cybersecurity awards.

Advancing Global Health: SHSU's Study on Neurotoxicity in Bangladeshi Children

Sam Houston State University (SHSU) has secured a major National Institutes of Health (NIH) R01 grant to support a significant study on neurotoxicity in rural Bangladeshi children. Led by Associate Professor Khalid M. Khan from the Department of Public Health, the five-year project is funded with approximately $2.7 million and focuses on investigating the effects of toxic metal mixtures, such as arsenic, lead, cadmium, and manganese, on brain development during childhood. The grant is co-funded by two NIH centers—the National Institute of Environmental Health Sciences (NIEHS) and the Fogarty International Center (FIC).

The project, a collaboration between SHSU and several prominent local and international institutions, including Columbia University, University of Houston, University of Iowa, Baylor College of Medicine, and multiple research centers in Bangladesh, aims to understand how exposure to metal contaminants affects children's neurological health. With growing concerns about contaminated drinking water and other environmental factors contributing to health risks, this research will provide critical insights into the long-term effects of these exposures on brain development.

In addition to its scientific contributions, the project offers SHSU students, particularly those in the Public Health and Master of Public Health programs, an opportunity to engage in hands-on global health research. Students will gain practical experience in epidemiological and neurocognitive research methods, while working alongside leading scientists from international institutions.

Sam Houston State University

Lab to Market: SHSU's Partnership in Small Business Innovation Research

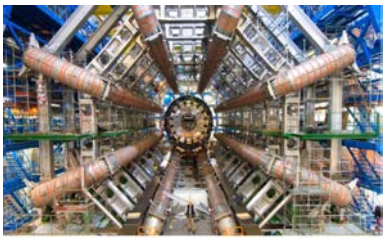
Sam Houston State University (SHSU) has partnered with Texas-based company Forward Edge-AI to develop cutting-edge technology for pathogen detection and outbreak analytics, supported by an Air Force/AFWERX Small Business Innovation Research (SBIR) Phase I contract. This collaboration leverages SHSU's forensic science expertise (Dr. Jorn Yu) and Forward Edge-AI's innovative AI algorithms to address critical public health and national defense needs.

The SBIR program is designed to foster partnerships between small businesses and research institutions, supporting projects with strong commercialization potential. This initiative brings together SHSU's academic research capabilities and Forward Edge-AI's technological innovations to create a product that can detect chemical and biological threats in the field, offering a powerful tool for real-time public health responses.

The technology in development combines artificial intelligence and machine learning with forensic trace chemical analysis to enable rapid detection and differentiation of viral and bacterial pathogens. This electronic detection method eliminates the need for traditional consumables like swabs and reagents, significantly reducing the cost of detection while providing unlimited scanning capability. The device is also designed to integrate with networked systems, allowing continuous updates to threat detection libraries and enhancing preparedness for future outbreaks.

The partnership between SHSU and Forward Edge-AI showcases how academic research can drive real-world innovation. By combining expertise in forensic chemistry with advanced AI technology, this collaboration is developing a scalable, cost-effective solution for pathogen detection in field environments. This technology has the potential to be a game changer in preventing and mitigating future outbreaks by providing a fast, affordable, and adaptable method for identifying biological threats.

Exploring Beyond the Standard Model: Theoretical Physics Research at SHSU



Researchers at Sam Houston State University (SHSU) are embarking on a cutting-edge exploration in the field of theoretical physics, delving into key areas such as the Standard Model Effective Field Theory (SMEFT), collider physics, primordial black holes (PBHs), dark matter, and gravitational wave phenomenology. Funded by the National Science Foundation and led by SHSU researcher Dr. James Dent, this research aims to address some of the most pressing questions in physics, using innovative approaches that combine collider data analysis, cosmological studies, and computational techniques.

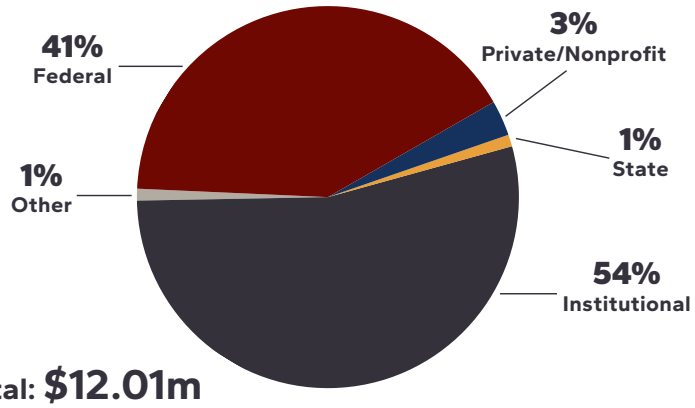
In the realm of collider physics, the project focuses on uncovering potential signatures of Beyond the Standard Model (BSM) physics at the Large Hadron Collider (LHC). These efforts are aimed at detecting elusive particles and interactions that could shed light on new physics. On the cosmological front, the research investigates the phenomenology of PBHs, dark matter, and gravitational waves. The goal is to develop models that can be tested using current and future experimental data. This includes exploring the role of PBHs in dark matter, direct and indirect detection of dark matter particles, and connections between particle physics and gravitational waves through observatories like NANOGrav, LIGO, and the upcoming LISA mission.

This project is particularly timely as the LHC transitions into a high-luminosity data collection phase, where new physics may be hidden in subtle or rare processes. By contributing new tools, algorithms, and analyses within the SMEFT framework, this research will advance global efforts to uncover BSM physics. In addition, the work on PBHs and dark matter will provide fresh insights into their potential roles in the universe, while the exploration of gravitational waves will contribute to understanding the fundamental nature of particle interactions and cosmological events.

This research project not only pushes the boundaries of theoretical physics but also strengthens SHSU's role as a leader in developing the next generation of scientists.

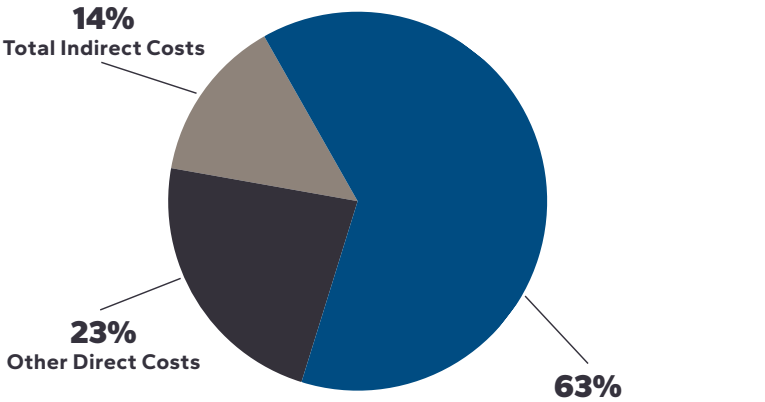
Sam Houston State University

FY 2022 Expenditures by Source



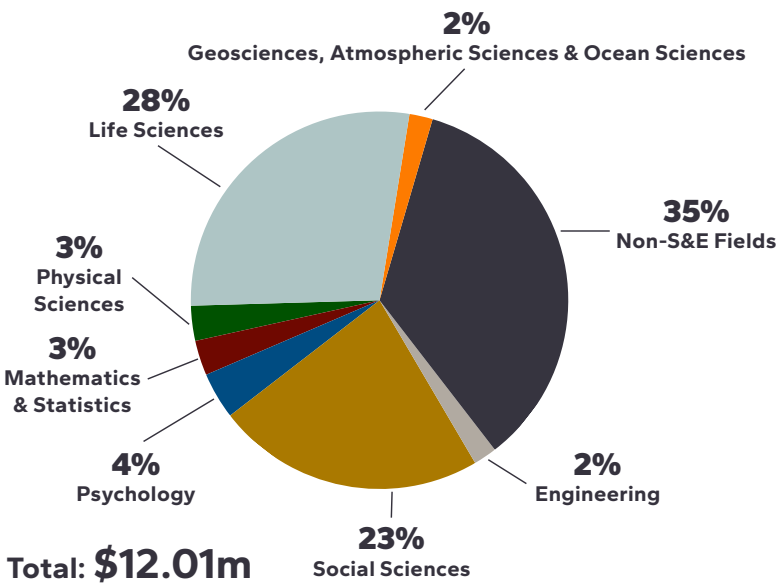
Total: **$12.01m**

FY 2022 Types of Costs



Total: **$12.01m**

FY 2022 Fields of Research



Total: **$12.01m**

Note: FY 2022 data from most recent HERD and THECB data source.

University Research Centers

- ★ Center for Assessment, Research, and Educational Safety (CARES)
- ★ Center for Innovation, Technology, and Entrepreneurship (CITE)
- ★ Center for Intelligence and Crime Analysis (CICA)
- ★ Cyber Forensics Intelligence Center (CFIC)
- ★ Eleanor and Charles Garrett Center on Transition and Disability Studies
- ★ Institute of Homeland Security (IHS)
- ★ Institute for Forensic Research, Training and Innovation (IFRTI)
- ★ Sam Houston State Natural History Collections
- ★ Southeast Texas Applied Forensic Sciences Facility (STAFS)
- ★ STEM Center
- ★ Texas Invasive Species Institute (TISI)
- ★ Texas Research Institute for Environmental Studies (TRIES)

Funding Sources

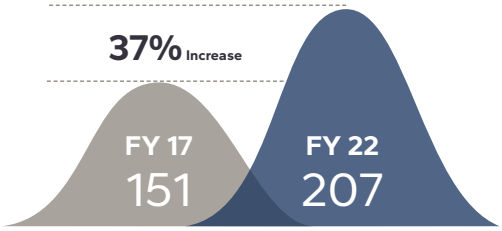
- ★ American Mathematical Society
- ★ American Psychological Foundation
- ★ American Society of Trace Evidence Examiners (ASTEE)
- ★ Arnold Ventures
- ★ Cancer Prevention & Research Institute of Texas (CPRIT)
- ★ Charles and Lynn Schusterman Family Philanthropies
- ★ Deans for Impact
- ★ Donaghue Foundation
- ★ Educause
- ★ Entergy
- ★ Florida International University
- ★ Forensic Sciences Foundation
- ★ Forward Edge AI, Inc.
- ★ Georgia Southern University Research and Service Foundation Inc.
- ★ Health Resources & Services Administration (HRSA)
- ★ Houston Endowment
- ★ Huntsville Memorial Hospital
- ★ Institute of Museum and Library Services
- ★ Joint Admission Medical Program Council
- ★ Justice Forward
- ★ Light and Salt Association

Sam Houston State University

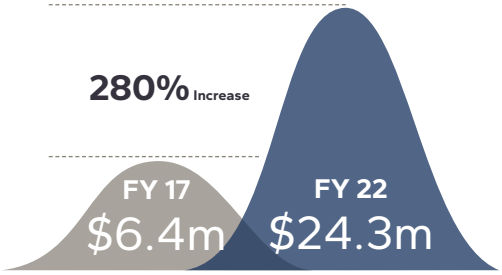
Funding Sources (cont.)

- ★ Massachusetts General Hospital
- ★ National Aeronautics and Space Administration (NASA)
- ★ National Institute for Student Success
- ★ National Institute of Justice
- ★ National Institutes of Health (NIH)
- ★ National Science Foundation (NSF)
- ★ National Security Agency (NSA)
- ★ New Jersey Institute of Technology
- ★ Oak Ridge Associated Universities (ORAU)
- ★ Office of National Drug Control Policy
- ★ Office of Naval Research (ONR)
- ★ Office of the Texas Comptroller
- ★ Partnership to End Addiction
- ★ Quanta Systems
- ★ Russell Sage Foundation
- ★ Society of Developmental Biology
- ★ State of Texas Office of the Governor
- ★ Taylor and Francis, LLD
- ★ Texas AgriLife Research
- ★ Texas Department of Agriculture
- ★ Texas Department of Public Safety
- ★ Texas Education Agency
- ★ Texas General Land Office
- ★ Texas Higher Education Coordinating Board (THECB)
- ★ Texas State Library and Archives Commission
- ★ Texas Workforce Commission
- ★ The Nemours Foundation
- ★ The Powell Foundation
- ★ The Welch Foundation
- ★ TLL Temple Foundation
- ★ United States Air Force
- ★ United States Department of Agriculture (USDA)
- ★ United States Department of Education (DOED)
- ★ United States Department of Education (DOED)
- ★ United States Department of Homeland Security (DHS)
- ★ United States Department of Homeland Security (DHS)
- ★ United States Department of Justice (DOJ)
- ★ United States Department of State
- ★ United States Small Business Administration
- ★ University of Minnesota Press
- ★ Venture Well

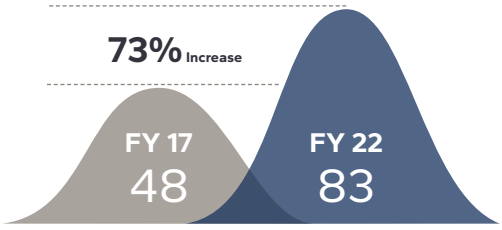
Proposals Submitted



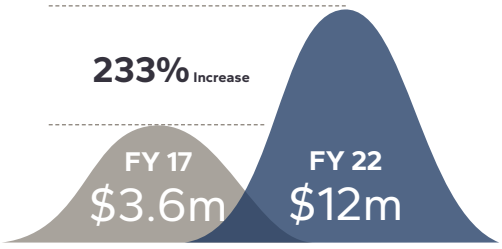
Funding Awarded



Proposals Funded



Research Expenditures



Note: FY 2022 data from most recent HERD and THECB data source.

Sul Ross State University

Recolonization of Black Bears to the Borderlands of Texas

Black bears (Ursus americanus) were once common throughout Texas until the early 1900s when they were extirpated. However, isolated mountains in northern Mexico provided bears with a refuge, allowing bears to naturally expanded back into Texas by the 1990s. Most recently, bears have begun to spread into many counties along the US-Mexico border. As bears continue to return, there are many potential challenges they face to coexist with the expanding human population in the borderlands. The Borderlands Research Institute (BRI) at Sul Ross State University has partnered with multiple private, state, and federal collaborators and initiated a large-scale, multi-year project on black bear ecology in the Texas borderlands. As part of the study, we have captured and radioed 23 adult bears (16 males, 7 females) to monitor movement, behavior, and recolonization strategies. We have found evidence that bears are highly adaptable to the unique desert ecosystem of Texas. We have documented patterns of space use and important behaviors for survival and reproduction. Bears move great distances in search of resources with many frequently crossing the Rio Grande. We will continue to monitor trends in black bear space use in the Texas borderlands to continue to provide meaningful insights for long-term conservation and management of this charismatic species.

A collaborative search for the First Peoples in West Texas

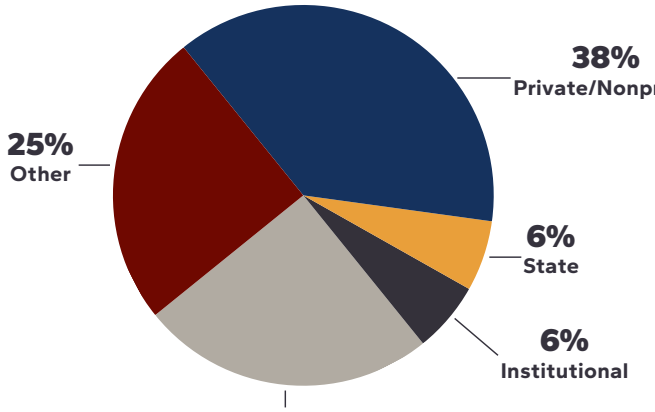
The Center for Big Bend Studies (CBBS) at Sul Ross State University, in collaboration with the University of Kansas (KU) Odyssey Archaeological Research Fund, conducted two 10-day field sessions at the Genevieve Lykes Duncan (GLD) site in West Texas this summer. During the summers of 2022 and 2023, the teams unearthed what was believed to be a Clovis-aged camp, dating to 12,800 years, but we needed some additional evidence. For reference, Clovis refers to a particular style of stone dart point found across most of North America, used between 13,200 and 12,800 years ago, commonly associated with extinct mammoth kill sites. During our 2024 field season, we were able to expand our work, and we came upon Clovis-aged deposits complete with large bone fragments, red ochre pigment nodules, and stone materials believed to have come from the Panhandle of Texas. This rare camp is currently the oldest known human occupation in West Texas and will allow us to understand how the First Peoples in North America lived.

Groundwater Contributes to International Water in the Rio Grande / Rio Bravo

The Rio Grande that flows through the Big Bend region of Texas is not the same as the Rio Grande that originates in Colorado. Most of the flow of that Rio Grande is allotted to various uses by the time the river passes El Paso, Texas. Above Big Bend National park, the river is rejuvenated to some extent by flow from the Rio Conchos, which originates near Chihuahua City, Mexico. A Treaty from 1944 stipulates the amount of water that the Rio Conchos and other tributaries must provide to the Rio Grande. This Treaty requires the delivery of 350,000 Acre-feet per year (AFY) into the Rio Grande for the US over 5-year cycles. Mexico is currently in the 4th year of the current cycle and is far behind on the Treaty-obligated water deliveries. As a result, over the last several years there have been extended periods of time when there is little or no flow in the Rio Grande in the Big Bend region. During these times, the only flow that reaches Amistad reservoir (excluding the Pecos and Devils rivers) is flow from the Edwards Trinity Plateau aquifer and a Mexican equivalent. The Rio Grande Research Center (RGRC) at Sul Ross State University has been studying this spring flow system that starts in the eastern portion of Big Bend National park, continues through the Lower Canyons south of Sanderson, and extends to below Langtry, Texas. This spring system greatly improves both water quality and quantity in the Rio Grande and is responsible for the addition of 180,000 AFY to the river, water that is shared 50/50 between the 2 countries. The RGRC plans to continue to study the groundwater flow system for this important water source and the 'groundwater dependent ecosystem' that it enables in light of the possible negative impacts of climate change or regional groundwater extraction.

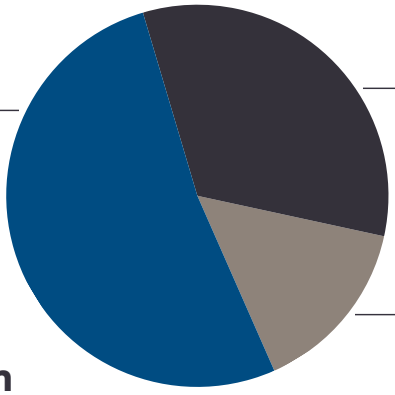
Sul Ross State University

FY 2022 Expenditures by Source



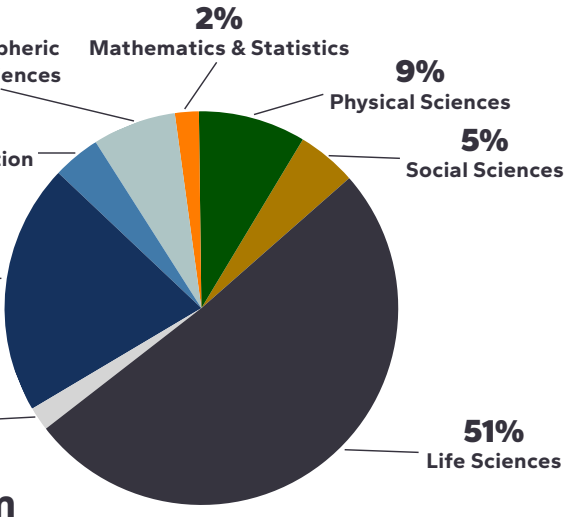
Total: $2.53m

FY 2022 Types of Costs



Total: $2.53m

FY 2022 Fields of Research



Total: $2.53m

Note: FY 2022 data from most recent HERD and THECB data source.

University Research Centers

- ★ Borderlands Research Institute
- ★ Center for Big Bend Studies
- ★ Rio Grande Research Center
- ★ La Frontera Research Initiative for STEM Education
- ★ West Texas Water Research Center
- ★ Center for Land Stewardship & Stakeholder Engagement

Funding Sources

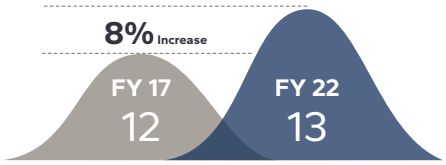
- ★ Apache Corporation
- ★ Boot Ranch
- ★ Borderlands Research Foundation
- ★ Brewster County HOT Funds
- ★ Brown Foundation, Inc.
- ★ Caesar Kleberg Wildlife Research Institute at Texas A&M University-Kingsville
- ★ Conoco-Phillips
- ★ Coypu Foundation
- ★ Cross Timbers Quail Coalition
- ★ Dallas Safari Club Foundation
- ★ Dixon Water Foundation
- ★ El Paso Chapter of Safari Club International
- ★ H.E.B.
- ★ Horizon Foundation
- ★ Houston Livestock Show and Rodeo
- ★ Houston Quail Coalition
- ★ Houston Safari Club Foundation
- ★ Humanities Texas
- ★ James A. “Buddy” Davidson Charitable Foundation
- ★ John L. Nau, III Foundation
- ★ Jorgensen Foundation
- ★ Lykes Brothers, Inc.
- ★ Mary Sloane & Andrew Wallerstein Weisberg Family Foundation
- ★ Mitchell Foundation
- ★ National Fish and Wildlife Foundation

Sul Ross State University

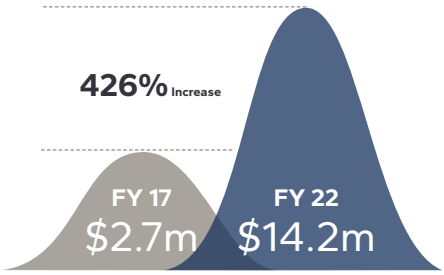
Funding Sources (cont.)

- ★ National Park Foundation
- ★ National Science Foundation
- ★ Nine Point Mesa Ranch
- ★ Orr Family Foundation
- ★ Park Cities Quail
- ★ Permian Basin Area Foundation
- ★ Permian Basin Quail Coalition
- ★ Pevehouse Family Foundation
- ★ Potts Sibley Foundation
- ★ Presidio County Underground Water Conservation District
- ★ Rio Grande Joint Venture
- ★ Roper Technologies, Inc.
- ★ San Antonio Livestock Exposition
- ★ Science Mill
- ★ Shelburne Foundation
- ★ Solar Eclipse Across America
- ★ Southwest Border Protection
- ★ Stewards of the Wild & the Austin Chapter of Stewards of the Wild
- ★ Still Water Foundation
- ★ Summerlee Foundation
- ★ Texas Bighorn Society
- ★ Texas Department of Transportation
- ★ Texas Historical Foundation
- ★ Texas Ornithological Society
- ★ Texas Parks and Wildlife Department
- ★ Texas Parks and Wildlife Foundation
- ★ Tides Foundation
- ★ Trans-Pecos Bird Conservation
- ★ U.S. Customs and Border Protection
- ★ U.S. Department of Agriculture-Grazing Land Conservation Initiative
- ★ U.S. Department of Agriculture-Natural Resource Conservation Service
- ★ U.S. Department of Education
- ★ U.S. Department of Education
- ★ U.S. Fish and Wildlife Service
- ★ U.S. National Park Service
- ★ Wayne and JoAnn Moore Foundation
- ★ Welder Wildlife Foundation
- ★ West Texas Chapter of Safari Club International
- ★ West Texas National Bank
- ★ Wild Sheep Foundation

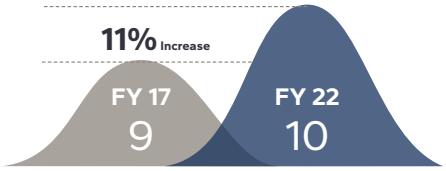
Proposals Submitted



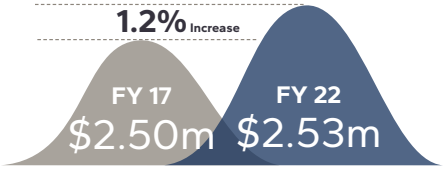
Funding Awarded



Proposals Funded



Research Expenditures



Note: FY 2022 data from most recent HERD and THECB data source.

Texas State University

ALERRT at Texas State Expands Active Shooter Training with $9.8M COPS Grant

The Advanced Law Enforcement Rapid Response Training (ALERRT) Center at Texas State University received a $9.8 million grant from the U.S. Department of Justice's Community Oriented Policing Services (COPS) to expand its active shooter training program. This grant supports ALERRT's Integrated Response Training Program, designed to prepare law enforcement, fire, and EMS personnel to respond to violent threats. Since 2017, COPS funding has trained 55,000 first responders, and this grant will fund training for an additional 16,755. ALERRT, a partnership with local law enforcement, has been recognized as the national standard for active shooter response training by the FBI.

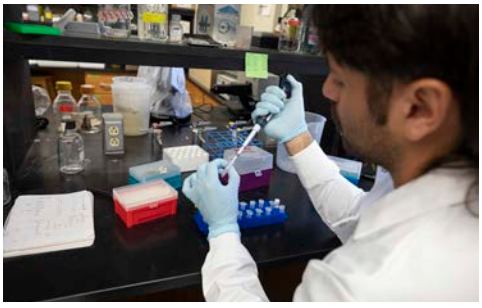
Texas State's Generación STEM Project Secures $4.95M to Boost Hispanic and Low-Income Student Success

Dr. Paula Williamson, associate dean for research in the College of Science and Engineering at Texas State University, has received a $1 million grant from the U.S. Department of Education's HSI STEM and Articulation Program for the "Generación STEM" project. This initiative aims to support Hispanic and low-income (HLI) students by enhancing STEM degree completion through individualized coaching, retention strategies, and career preparation. The project focuses on improving student success from enrollment to STEM career attainment and seeks to close achievement gaps through culturally responsive teaching and strong partnerships with employers. Continued funding could reach $4.95 million over five years.

Turning the TIDE: $2.9M Award to Texas State Professors to Enhance Writing Instruction for Students with Disabilities

Dr. Alyson Collins, assistant professor, and Dr. Stephen Ciullo, associate professor, both in the Department of Curriculum and Instruction at Texas State University, have been awarded a U.S. Department of Education grant for their project, "Turning the TIDE: Building Teacher Capacity to Accelerate Text-Based Writing Performance of Students With and At Risk for Disabilities." Running from 2022 to 2025, the program provides professional development for educators to improve writing instruction for students with disabilities. The initiative aims to enhance teacher effectiveness and deliver intensive intervention in writing, addressing a critical need in both general and special education classrooms.

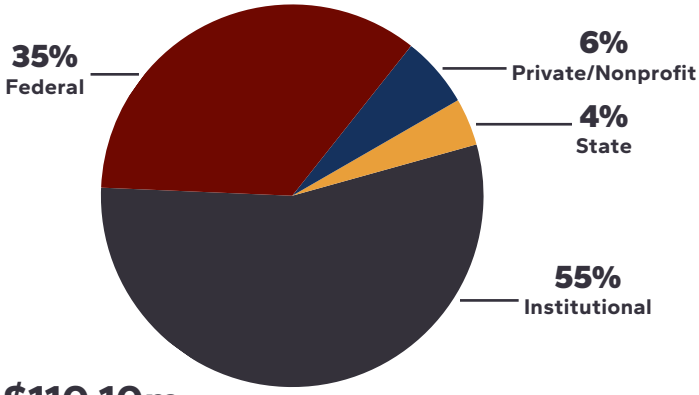
Institute for Molecular Life Sciences (IMLS) at Texas State Receives $2.81M NIH Grant to Advance Disease Research with Unique Fish Models



The Institute for Molecular Life Sciences (IMLS) at Texas State University received a $2.81 million NIH grant to advance the use of Xiphophorus fish as a model for studying human diseases. The project is led by Dr. Yuan Lu, Dr. Caitlin Gabor, and Dr. Manfred Heinz Schartl. Known for their unique genetic features and ability to produce hybrids, Xiphophorus fish serve as vital biomedical models for researching cancer, metabolic disorders, and other diseases. The project aims to enhance these resources, investigate genetic signaling related to disease progression, and provide training in animal husbandry, furthering translational research with broad international impact.

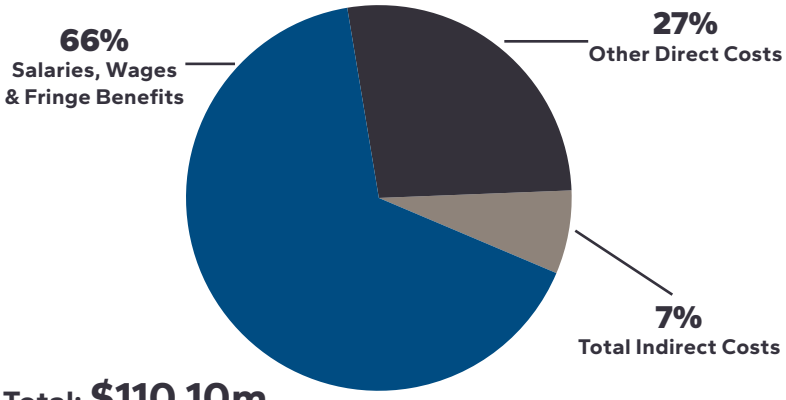
Texas State University

FY 2022 Expenditures by Source



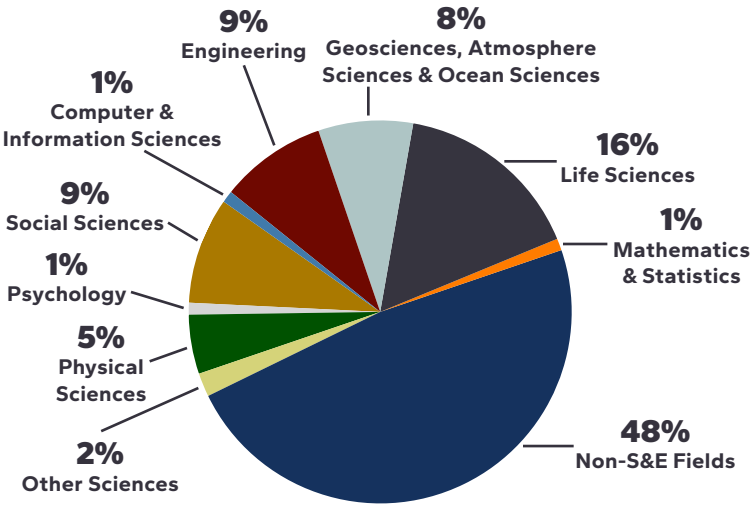
Total: $110.10m

FY 2022 Types of Costs



Total: $110.10m

FY 2022 Fields of Research



Total: $110.10m

Note: FY 2022 data from most recent HERD and THECB data source.

University Research Centers

- ★ Center for Innovation and Entrepreneurship
- ★ Freeman Center
- ★ Materials Applications Research Center
- ★ Texas School Safety Center
- ★ The Meadows Center for Water and the Environment
- ★ The Translational Health Research Center
- ★ Xiphophorus Genetic Stock Center

Funding Sources

- ★ Acacia Heritage Consulting LLC
- ★ Advanced Micro Devices
- ★ Agency for International Development (USAID)
- ★ Alfred P. Sloan Foundation
- ★ Amaterra Environmental, Inc.
- ★ American Chemical Society
- ★ American Concrete Institute Foundation
- ★ American Council of Learned Societies
- ★ American Psychological Foundation
- ★ Animal Welfare Institute
- ★ Arizona State University
- ★ Barton Springs Edwards Aquifer Conservation District
- ★ Bastrop County
- ★ Battelle Savannah River Alliance LLC
- ★ Bill and Melinda Gates Foundation
- ★ Bio-West, Inc.
- ★ BlueTriton Brands
- ★ Braun & Gresham, Attorneys at Law
- ★ California State University Fullerton Auxiliary Services Corporation
- ★ Carleton University Carleton Office for Research Initiatives
- ★ Cheney Crow
- ★ City of San Marcos, Texas
- ★ Cobb Family Foundation
- ★ Colorado State University
- ★ Daniel B. Jay
- ★ Doucet & Associates, Inc.
- ★ Ejaj Ahmed via Intel Foundation's Employee Giving Program
- ★ Electroninks, Inc.
- ★ Environmental Protection Agency

Texas State University

TEXAS STATE UNIVERSITY

Funding Sources (cont.)

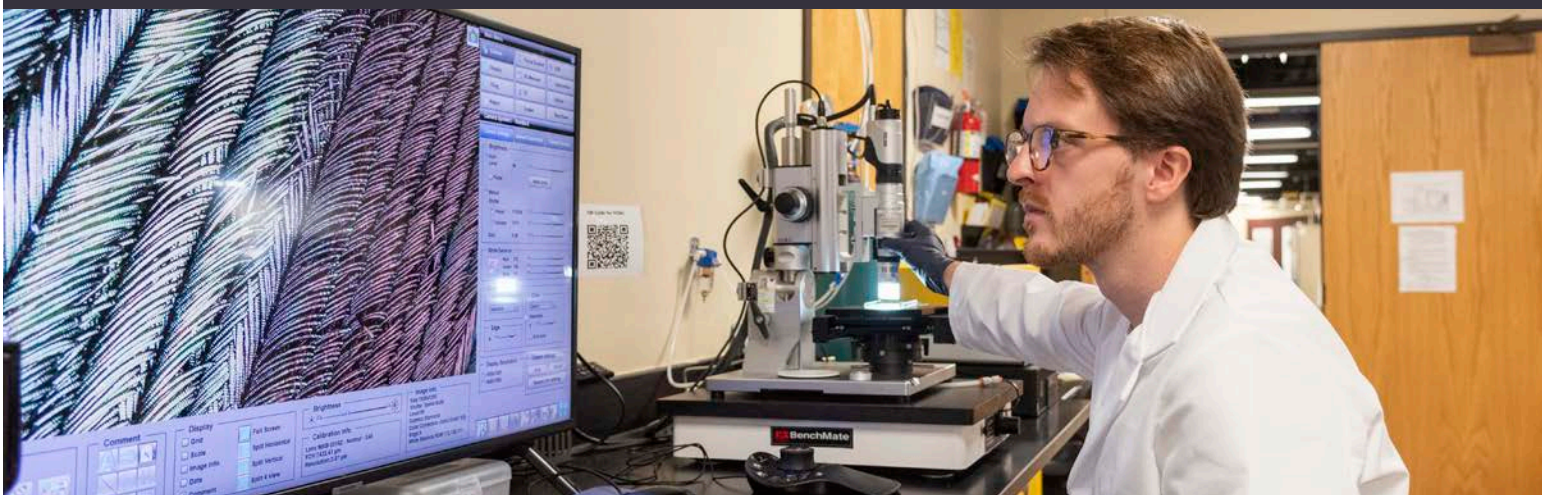
★ Environmental Protection Agency OSAPE
★ Ewing Marion Kauffman Foundation
★ Facebook Technologies LLC
★ Freeport Minerals Corporation Freeport-McMoRan
★ Gillingham Donor Advised Fund
★ Graves T. Owen
★ Hays County
★ Head of the River Ranch Endowment Fund
★ Houston Zoo Inc.
★ Intel Foundation's Match to Ejaj Ahmed
★ Jacob & Terese Hershey Foundation
★ Jacobs Technology, Inc.
★ James L. Wittliff
★ James S. Gillingham
★ Jane Cappe
★ Jo A. Webber
★ Joanne H. Smith
★ Justices of the Peace & Constables Association of Texas, Inc
★ Kansas State University Sponsored Programs Accounting
★ Kevin L. Blewett
★ Korea Energy Economics Institute _KEEI
★ Langford Community Management Services Inc.
★ Lawrence Livermore National Laboratory Supply Chain Management Department
★ Learning Policy Institute
★ Marvin Gohlke
★ Matagorda Bay Mitigation Trust
★ Matthew A. Edgar
★ Meta Platforms Technologies, LLC
★ Metascape, LLC
★ Michael C. Padula
★ Michael E. Bowman
★ Mitsubishi Electric Corp. Advanced Technology R&D Center
★ Moonis Ali
★ Nanohmics, Inc.
★ National Aeronautics and Space Administration
★ National Endowment for the Humanities
★ National Institute of Standards & Technology
★ National Institutes of Health
★ National Institutes of Health National Institute of General Medical
★ National Science Foundation
★ National Water Research Institute
★ Native Plant Society of Texas
★ New South Associates, Inc.
★ North Carolina State University Research Administration/SPARCS
★ Oak Ridge Institute for Science and Education
★ Phillip M. Campbell
★ Pierce M. Williamson and Jeanette G. Williamson Foundation
★ Pines & Prairies Land Trust
★ Poinix, Inc.
★ POWER21 Corporation
★ Predictive Wear Inc
★ Project Lead The Way, Inc
★ Purdue University Sponsored Program Services
★ Rob & Bessie Welder Wildlife Foundation
★ Rowan University
★ San Diego State University Foundation
★ Simons Foundation
★ Southern Methodist University Office of Research
★ Space Telescope Science Institute Grants Administration
★ Steven A. Beebe
★ Stratajam LLC
★ SurgePower Materials, Inc
★ SWCA Environmental Consultants
★ Terracon Consultants Inc
★ Texas A&M AgriLife Extension Service
★ Texas A&M Engineering Extension Service
★ Texas Comptroller of Public Accounts
★ Texas Council for Developmental Disabilities
★ Texas Department of State Health Services
★ Texas Department of Transportation
★ Texas Department of Transportation Civil Rights Division
★ Texas Department of Transportation Research & Technology
★ Texas Floodplain Management Association
★ Texas General Land Office
★ Texas Historical Commission Historic Sites Division

Texas State University

TEXAS STATE UNIVERSITY

Funding Sources (cont.)

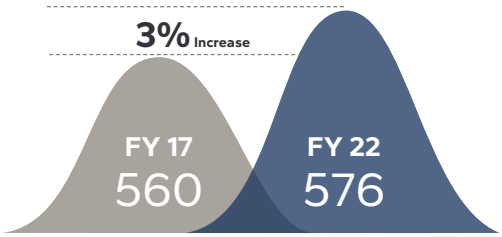
- ★ Texas Instruments, Inc.
- ★ Texas Military Department
- ★ Texas Nursery & Landscape Association
- ★ Texas Parks & Wildlife Department
- ★ Texas Parks & Wildlife Department Wildlife Diversity Program
- ★ Texas Search & Rescue
- ★ Texas Society of Allied Health Professions
- ★ Texas Southern University
- ★ The Texas Academy of Science
- ★ The Trull Foundation
- ★ The University of Wisconsin at Madison Office of Research & Sponsored Program
- ★ Translational Research Institute For Space Health
- ★ Travis County Auditor's Office Patti Smith
- ★ U.S. Department of Agriculture
- ★ U.S. Department of Agriculture- NIFA National Institute of Food & Agriculture
- ★ U.S. Department of Commerce
- ★ U.S. Department of Commerce NOAA
- ★ U.S. Department of Defense
- ★ U.S. Department of Education
- ★ U.S. Department of Energy
- ★ U.S. Department of Energy Office of Acquisition & Assistance
- ★ U.S. Department of Energy Office of Science CSO
- ★ U.S. Department of Health & Human Services
- ★ U.S. Department of Health & Human Services Administration for Community Living
- ★ U.S. Department of Health & Human Services Division of Grants Management Operation
- ★ U.S. Department of Health & Human Services Health Resources and Services Admin
- ★ U.S. Department of Homeland Security
- ★ U.S. Department of Justice
- ★ U.S. Department of Justice Community Oriented Policing Services
- ★ U.S. Department of Justice Office of Justice Programs
- ★ U.S. Department of Labor
- ★ U.S. Department of Labor Occupational Safety & Health Admin
- ★ U.S. Department of the Interior
- ★ U.S. Department of the Interior National Park Service
- ★ U.S. Department of the Interior U.S. Fish & Wildlife Service
- ★ U.S. Department of Transportation
- ★ U.S. Food & Drug Administration Forest Services
- ★ U.S. Food & Drug Administration White Oak Campus, Building 75
- ★ United Methodist Health Ministry Fund
- ★ United States Army
- ★ Universities Space Research Association Attn:
- ★ University of Arkansas
- ★ University of New Mexico -Albuquerque
- ★ University of Texas at Austin Texas Space Grant Consortium
- ★ Way Family Foundation
- ★ Wichita State University
- ★ William & Loma Hobson Donor Advised Fund



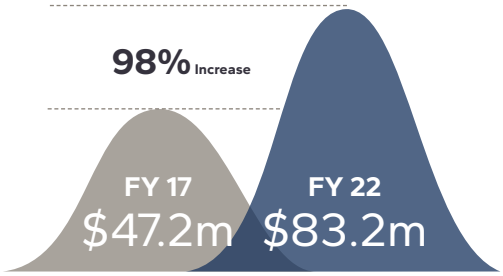
Texas State University

TEXAS STATE UNIVERSITY

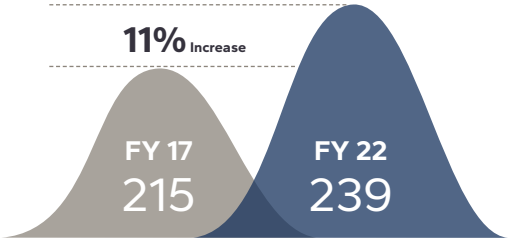
Proposals Submitted



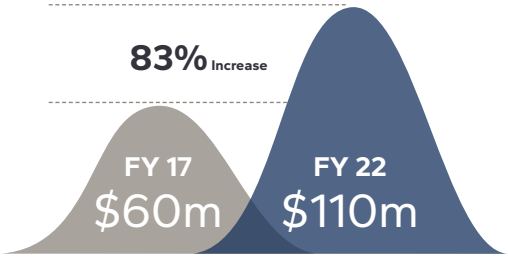
Funding Awarded



Proposals Funded



Research Expenditures



Note: FY 2022 data from most recent HERD and THECB data source.

Texas State University System

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Chairman

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Russell Gordy
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Regent

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Regent

William F. Scott
Regent

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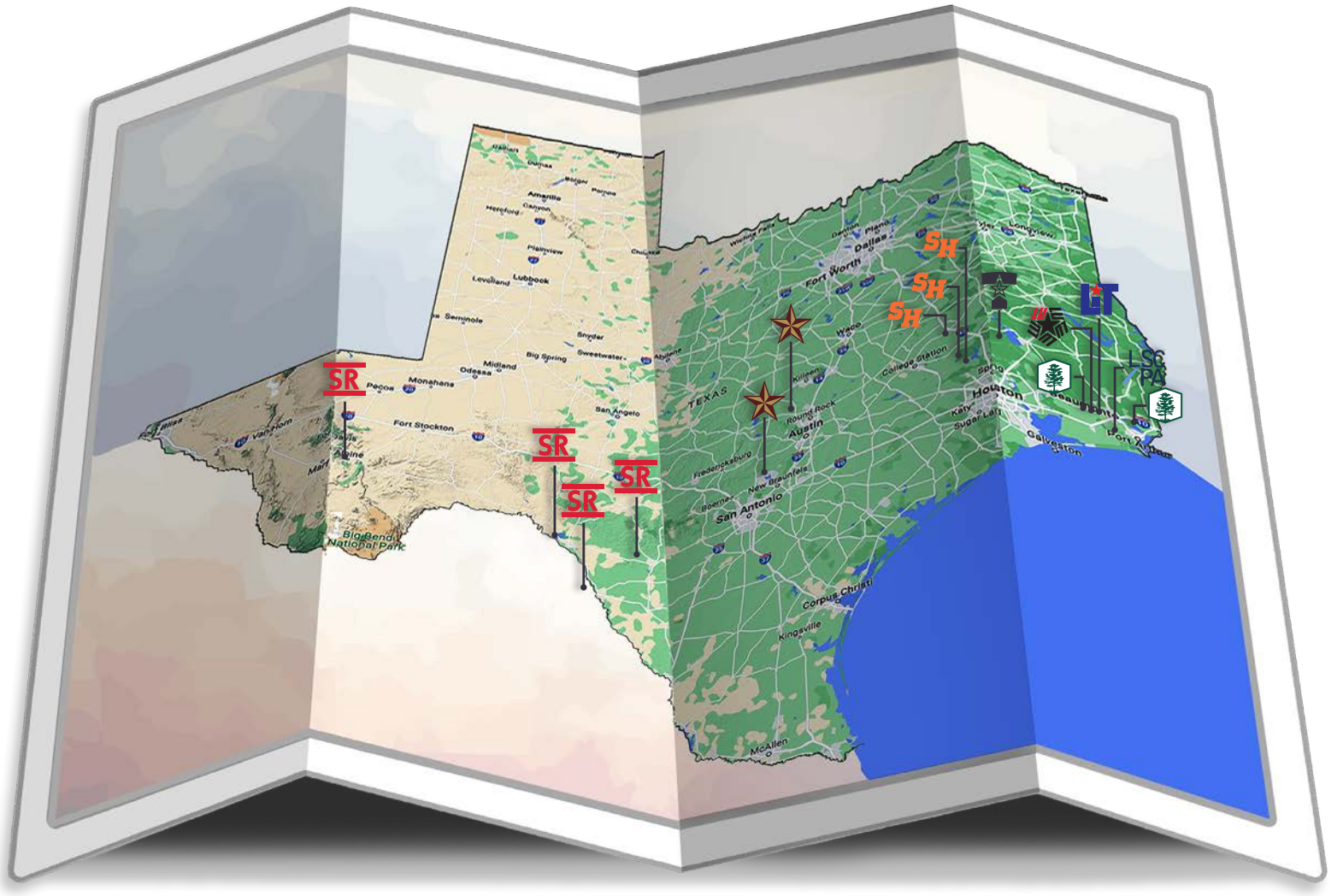
Student Regent



TSUS Quick Facts

- The Texas State University System (TSUS) is the third-largest university system in Texas and 21st nationally based on enrollment.
- The System is based in Austin, Texas and is governed by a nine-member Board of Regents appointed by the Governor and led by a board-appointed Chancellor.
- 91,500 students (33% Hispanic, 17% African-American, and 46% Pell undergraduate students) are enrolled at TSUS's seven member institutions, a 27% increase since 2010.
- The System awards more than 22,000 degrees and credentials per year, a 47% increase since 2010.
- Approximately 14,580 are employed across the system, including 4,337 faculty, 5,543 staff and administrators, and another 4,700 student workers.
- The System has a combined operating budget of approximately $1.69 billion.
- TSUS receives 28% of its operating revenue from the state, down from 32% in 2010.
- Total research expenditures across TSUS have increased 305% since 2010, to $129.9 million.
- The System's endowment across all institutions has increased by 252% since 2010, to $722 million.
- TSUS's administrative office has the fewest employees and the smallest budget — by far — of any university system in Texas.
- The System's administrative cost as a percentage of total operating revenue is 8.4%, down from 9.6% in 2010.

The Texas State University System
601 Colorado Street
Austin, TX 78701