

The University of Texas Rio Grande Valley Capability Statement

Institution: The University of Texas Rio Grande Valley

UEI: L3ATVUT2KNK7 Cage Code: 6Y726 NAICS ID: 611310 SIC: 8221

Federal EIN No: 46-5292740

Certificates, Registrations, Accreditations: SACSCOC, SAM

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OVERVIEW

The University of Texas Rio Grande Valley (UTRGV) was established by the Texas Legislature in 2013 and welcomed its inaugural class in the fall of 2015, marking the creation of the first major public university of the 21st century in Texas. This transformative initiative expanded access to higher education in the Rio Grande Valley and introduced a new School of Medicine, while also allowing the region to benefit from the Permanent University Fund—a public endowment supporting The University of Texas System and its institutions.

Located in one of the fastest-growing regions in the nation, the Rio Grande Valley spans four counties—Hidalgo, Cameron, Starr, and Willacy—along the Texas-Mexico border. The region plays a vital role in both state and national contexts, contributing to economic development, cultural richness, and educational advancement.

UTRGV maintains campuses and off-campus research and teaching sites throughout the Valley, including locations in Boca Chica Beach, Brownsville (formerly The University of Texas at Brownsville), Edinburg (formerly The University of Texas-Pan American), Harlingen, McAllen, Port Isabel, Rio Grande City, and South Padre Island. The School of Medicine welcomed its first class in the summer of 2016, further strengthening the university's commitment to health education and biomedical research.

As a comprehensive academic institution, UTRGV is dedicated to empowering communities across the Rio Grande Valley. It fosters successful futures, enhances quality of life, and positions the region as a global leader in higher education, bilingual education, health care, research, and emerging technologies that drive positive change.

UTRGV's mission is to transform the Rio Grande Valley, the Americas, and the world through an innovative and accessible educational environment. The university promotes student success, research, creative works, health and well-being, community engagement, sustainable development, and the commercialization of university discoveries.

RESEARCH CAPABILITIES

The University of Texas Rio Grande Valley is home to 19 organized research centers and institutes that are integral to advancing our research enterprise and solidifying our position as a leading

regional research university. These centers and institutes are at the forefront of innovation, driving impactful research across multiple disciplines and delivering regional impact. These areas highlight major research activity and foster collaboration between faculty. These include:

- Center for Aerospace Research (CAR)
- Center for Broadening Participation in Engineering (CBPE)
- Center For Community Resilience Research, Innovation, and Advocacy (CCRRIA)
- Center for Latin American Arts (CLAA)
- Center for Sustainable Agriculture and Rural Advancement (SARA)
- Center for Vector-Borne, Zoonotic, and Emerging Diseases (CVBZED)
- Human Mobility Institute (HMI)
- Industrial Training and Assessment Center (ITAC)
- Institute for Advanced Manufacturing (IAM)
- Institute of Neuroscience (ION)
- Marine Ecosystems Institute (MEI)
- Maternal Health Research Center (MHRC)
- Nanotechnology Center of Excellence (NCE)
- South Texas Center of Excellence in Cancer Research (ST-CECR)
- South Texas Diabetes and Obesity Institute (STDOI)
- South Texas Space Science Institute (STSSI)
- Texas Manufacturing Assistance Center (TMAC)
- Center of Excellence in STEM Education (C-STEM)
- University Transportation Center For Railway Safety (UTCRS)

As research activity and productivity within UTRGV continues to expand, several Research Pathways have been identified as areas for potential growth:

- Data Sciences, Analytics and Security;
- Living on the U.S.-Mexico Border;
- Environment and Sustainability;
- Clinical and Translational Research;
- Space Sciences:
- Materials and Advanced Manufacturing;
- Innovation and Economic Impact.

These pathways were strategically identified not only because of growth potential, but also for the possibilities for multidisciplinary engagement. Additionally, these are all subject areas and topics of great importance to the Rio Grande Valley and the communities and populations this region encompasses.

These two structures allow for UTRGV to grow innovative and collaborative research.

FACILITIES & INSTRUMENTATION

Together, our facilities and advanced equipment form a comprehensive innovation ecosystem designed to accelerate discovery, creativity, and impact. Through cutting-edge microscopy and imaging systems, we gain unparalleled insights at the material level, visualizing structures at the nanoscale. Our heating and processing capabilities enable precise control over advanced material synthesis, driving the development of novel compounds and composites. In additive manufacturing and machining, we support next-generation fabrication by combining rapid prototyping with high-precision engineering. The integration of robotics and laser technologies enhances precision manufacturing and enables hybrid approaches that bridge traditional and emerging methods. Instruments for sediment grain size analysis, acoustic surveying, and topographic mapping provide detailed evaluations of landscape changes across Earth's surficial environments. Our extraterrestrial environment simulators advance space exploration efforts beyond Earth, supporting both uncrewed missions—such as Europa Clipper and Dragonfly—and human exploration of the Moon and Mars. Finally, our electronic test and measurement platforms lay the groundwork for pioneering research in communications, electronics, and timing, ensuring that ideas are not only conceived but rigorously tested and refined. Collectively, these assets foster an environment where transformative research and innovation can thrive.

PAST PERFORMANCE

For the past several years, The University of Texas Rio Grande Valley has been on an upward trajectory for bringing in research funding. In Fiscal Year 2024, the total amount for research funding was over \$200M with close to \$90M of expenses as reported in the NSF HERD. In addition to NASA, some of the top federal sponsors UTRGV receives funding from include National Institutes of Health (NIH), National Science Foundation (NSF), US Department of Agriculture (USDA), Department of Energy (DOE), Department of Defense (DOD), Department of Education (ED), and Department of Transportation (DOT).

The UTRGV Division of Research supports research through the following services areas:

Research Operations (Office of Sponsored Programs (proposal preparation and submission),

Grants and Contracts (financial compliance and regulation) Grants Accounting Office (financial compliance and accounting); Research Enhancement (identifying funding opportunities, proposal development, building collaborative research groups, trainings and workshops); Research Compliance and Export Control (research integrity, compliance with federal, state, and internal policies/procedures), Technology Licensing and Commercialization (technology transfer services, transfer of research products (discoveries, creative works, inventions, and processes) to the private sector), and Research Data Analytics (collects, verifies, and presents data to internal and external customers, develops research administration tools and systems for the Division of Research).