

# RESEARCH:

# The Annual Report

2017: Driving Innovation

RESEARCH

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UNT<sup>®</sup>

UNIVERSITY OF NORTH TEXAS<sup>®</sup>

# UNT's Research Enterprise Drives Innovation

## WHO WE ARE

Since 1890, the University of North Texas has been a catalyst for discovery and innovation. Today, UNT is ranked a Tier One research university by the Carnegie Classification — a recognition that speaks to its quality and impact.

UNT creates leaders and doers, giving them a world-class education. UNT helps create bright, entrepreneurial graduates who lead the way to change in the workforce — and society. Through research support that drives innovation, students and researchers are discovering new solutions, technologies and perspectives.

## DEVELOPMENT: UNT RESEARCH HISTORY

Building on more than 125 years of excellence, UNT is leveraging key assets strategically and is at the forefront of new ideas and technologies.

Nationally and internationally recognized for its scholarship in all fields — from fine arts to technology, humanities to life sciences, and music to entrepreneurship — UNT is committed to the creation and advancement of innovative research, art and scholarship. And in just the last two decades, the university has been able to better support the demands of a technology-led marketplace, including the 2002 introduction of UNT's College of Engineering — one of the university's most innovative and fastest growing colleges.

Within the last eight years, UNT has made significant investments in key research areas that have helped the university earn top rankings, placing it at the forefront of innovation and market-centric solutions. In 2015, the Office of Research and Innovation launched four Institutes of Research Excellence and began investing even more in laboratories, equipment and technology. With additional strategic planning and support, the university already is beginning to see the payoff from its investments.



**Collaboration  
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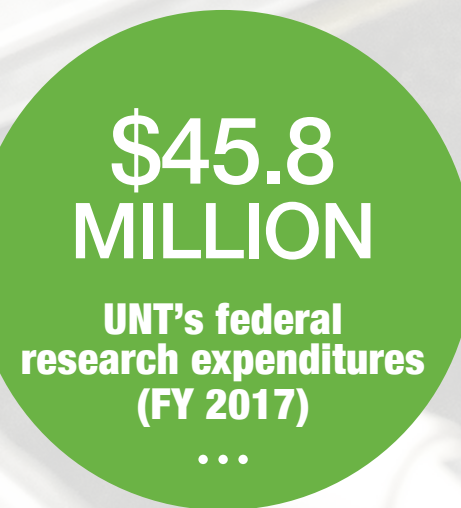
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## BUILDING

The history of research at UNT is still *in the making*. UNT has a great combination of excellence and potential. The university has begun to leverage its long-held strengths in the sciences, including a 100-year-old chemistry program, a nearly 90-year-old biological sciences program and a 75-year legacy in the environmental sciences.

UNT's research enterprise has been gaining momentum in recent years. Successful initiatives include the launch of the new Institutes of Research Excellence, building infrastructure such as purchasing additional high-powered technology, expanding facilities such as the Science Research Building and recruiting top-notch faculty.

UNT's 900-acre campus features research facilities, maker spaces and laboratories of all types, where faculty and student researchers push the boundaries of science, technology and creativity. Students experience hands-on, future-ready instruction. Industry partners share lab space for product development, beta testing, modeling and simulation.



## UNT RESEARCH INVESTMENTS

- **\$32.8 MILLION:** The total amount of research and development grants awarded in FY2017.
- **\$18 MILLION:** The amount proposed for the new biomedical engineering facility.
- **\$15.5 MILLION:** The amount spent to renovate the Science Research Building, which was completed in early spring 2017 and houses modular labs used by the university's BioDiscovery Institute (BDI) to allow for flexibility so researchers can move easily between labs to consult with each other and expand their work — and thinking.
- **\$2 MILLION+:** The amount invested to create the Institutes of Research Excellence, which build on key research areas with an emphasis on collaborative, applied research to foster creative and innovative research thinking.
- **\$2 MILLION+:** The amount secured in multi-user, university-managed equipment to increase and expand research capabilities.

## TOP FACULTY RESEARCHERS

- **Hiring of IMPACT FACULTY:** UNT is focusing on key areas to recruit faculty that will bring national research funding to UNT.
- **4:** The number of members in the National Academies — one in Engineering, one in Sciences and two Inventors.
- **2:** The number of prestigious NSF Industry/University Cooperative Research Centers and Sites.
- **12:** The number of UNT researchers who have been awarded a National Science Foundation CAREER award — the most prestigious recognition offered by the NSF for young researchers.

## COMMERCIALIZATION AND LICENSING

This relatively new unit at UNT supports faculty in converting research discoveries into useful, marketable products.

Meeting the objectives of embracing innovation along with invention, UNT's Office of Research and Innovation has outreach across campus to encourage faculty creativity and innovation — research, discovery, invention, new business ideas and new business services.

Commercialization and licensing capabilities at UNT encourage efforts from all areas of campus — from the College of Music to the College of Business and from media arts to biology.

"It's imperative that we help students discover and faculty innovate through

their interdisciplinary settings and work," says Michael Rondelli, associate vice president for innovation and commercialization. "To be stewards of the public's trust, universities must find new ways to ensure that new ideas, new solutions — music therapy to materials technology — find a way to market

so that communities and people who live in these dynamic communities thrive. Universities like UNT are working to do just that."

Having previously directed licensing and commercialization at the University of Southern California's Stevens Center for Innovation and

leading technology transfer and commercialization efforts at San Diego State University, Rondelli is known nationally for his ability in enhancing the research and innovation enterprise at top universities.

"Michael brings a can-do attitude and energy to UNT," says Tom McCoy,

UNT's vice president for research and innovation. "He will be working with faculty to ready their products and innovations for the marketplace. Michael will contribute substantially to UNT's ability to positively impact the region, and beyond."

## TIER ONE RESEARCH

UNT is actively growing its research enterprise to improve the university's reach and more meaningfully impact the world. UNT is strengthening the research and innovation culture by investing in its people, collaborative programs and spaces, which is leading to an environment where innovation is rewarded and collaborative research efforts are lauded. One such example is the 2017 launch of the university's Innovator Awards.

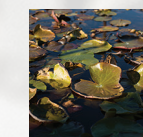
Achieving status as a Tier One research university is an important milestone, but it is not a "mission accomplished." Rather, it makes UNT "mission ready." Its Tier One ranking provides momentum, helping attract top faculty and student researchers — as well as industry partners — from around the world.

## AN INNOVATION MINDSET

*"To be stewards of the public's trust, universities must find ways to ensure that new ideas, new solutions — music to materials technology — find a way to market...."*  
— Michael Rondelli, associate vice president for innovation and commercialization

## THE INSTITUTES OF RESEARCH EXCELLENCE

The Institutes of Research Excellence bring together a critical mass of faculty collaborating on projects designed to create a stronger platform for interdisciplinary research and partnerships with industry to create solutions and further contribute to the North Texas region's economic growth.

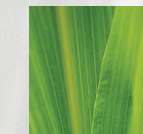


### ADVANCED ENVIRONMENTAL RESEARCH INSTITUTE

AERI features a thriving interdisciplinary research team exploring fascinating questions about our environment and uses basic and applied research to find solutions to the complex problems that we face. The team conducts ongoing research in a wide array of areas related to local, regional, national and international environmental problems.

### ADVANCED MATERIALS AND MANUFACTURING PROCESSES INSTITUTE

AMMPI brings together a diverse group of faculty members who are focused on structural materials, functional materials, computational tools and advanced manufacturing processes. The strength of the institute's members lies in designing high-performance materials for the aerospace, automotive and energy sectors including a \$20 million grant from the Army Research Lab for a project aimed at keeping soldiers safe.



### BIODISCOVERY INSTITUTE

BDI delivers research solutions to underpin the utilization of plants, forest products and other biomass for production of biopolymers, new bio-based materials for construction and transportation, biofuels and bioactive small molecules with applications in both agriculture and health care.

### JIM MCNATT INSTITUTE FOR LOGISTICS RESEARCH

The JMI research scholars provide the capability to solve complex problems confronting public and private organizations. Specialties include business logistics, socio-economics, information technology, transportation, emergency response, and health care.



***“At UNT, we are breaking down the barriers of linear thinking and fostering interdisciplinary collaborations to push innovation and breakthroughs across all disciplines. Investments in our people, programs and spaces are further strengthening our research enterprise and leading to important advances and game-changing discoveries.”***

— Tom McCoy, vice president for research and innovation at UNT

Learn more about partnering with UNT:

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**EST. 1890**

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