



The University of Texas at Austin  
College of Natural Sciences

## Fall 2024 Strategic Plan Update

The University of Texas at Austin's College of Natural Sciences aims to become the world's highest-impact public research university for science, mathematics and computing. See our plan and progress at:

<https://cns.utexas.edu/about-the-college/strategic-plan>





## OUR FOCUS IS ON PEOPLE AND THEIR EXPERIENCES

### We are developing faculty and staff.

#### Excellence & advancement

The college welcomed and hired 22 new tenured/tenure-track faculty across disciplines and celebrated outstanding faculty achievements and awards over the last academic year, from new members of the National Academies to new early-career honors. The dean's office launched a multi-year professional development series related to effective mentoring of students and early-career researchers, and we began executing on a multi-tiered plan to support the advancement and mentoring resources available for hundreds of CNS professional-track faculty. The college fostered the growth and learning of its third cohort of trainees in the CNS LEAD program, whose participants are all supervisors across the college.

#### → Mentoring & leadership

Our continued attention to mentoring initiatives will ensure that more community members have clear opportunities to align with the people they work most closely with around expectations, personal and professional development needs and what it means to play a role in our unique scientific community. Particular areas of focus include graduate student and postdoc mentoring by faculty, as well as mentoring of undergraduates, with new professional development opportunities provided by the Center for Improvement of Mentored Experiences in Research (CIMER) and STEM Muse. A new Staff Leadership Fellows program will launch this year as a part of ongoing staff development programming.

### We are fostering supportive environments.

#### Well-being across domains

Our recently opened CNS Wellness Center has expanded and now offers a one-stop for college wellness and health services including counseling services, a food pantry and more. To support affordability in education, we fundraised at near-record levels for scholarships and fellowships for CNS students.

#### → Listening & responding

We are continuing to focus on connecting with and listening to community members with renewed conversations between the college and departments, along with mechanisms for gathering ideas for process improvement. We also are leveraging data from the "Change Starts with You" campus-wide survey and the preceding year's CNS climate survey to prioritize a series of data-driven actions to support staff, students and faculty, based on feedback submitted in these surveys.

### We are paying attention to our culture.

#### Gathering to learn

The college continued to host interesting and engaging guest authors for conversations at the intersection of personal identity and our disciplines. These special lunch-and-learn-style opportunities have allowed for conversation, often centered on experiences of belonging and acceptance in spaces for science and technology. We also shepherded a series of department-level retreats to support strategic decision-making and broad-based buy-in for more local-level priorities and concerns across the natural sciences.

#### → Graduate student-faculty relations

As noted earlier, mentorship initiatives are a key area of focus. With a new associate dean for graduate education joining the dean's office, the college is increasing its focus on supporting faculty members' ability to be outstanding mentors, while highlighting and celebrating those within the faculty who are effectively leading the way.



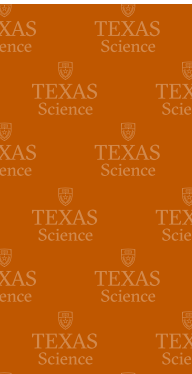
### We are pursuing meaningful organizational improvements.

#### Monitoring climate concerns

Data experts in the college have assessed information gathered both from the college climate survey and the University's employee survey (in partnership with KornFerry), resulting in new measures related to helping students build resilience and know about resources available to them; showing appreciation for staff, such as through the recurring Staff Celebration; and increasing attention of the needs of early-career researchers.

#### → Sustainable budgeting

Many schools of science, including our own, have seen recent cost increases brought about by everything from new technologies needed for labs to competitive pressures in the marketplace. To ensure continued budget solvency and strength, CNS is revisiting its policies with a focus on how best to anticipate costs effectively, support critical priorities and meet needs for years to come. Making the best use of our existing endowments and resources unique to Texas, like the Governor's University Research Initiative, will further allow us to be well positioned financially.



## OUR FOCUS IS ON EDUCATION IN OUR UNIQUE PLACE.

### We are partnering across Austin and Texas.

#### Attention to STEM learning in Texas

With our Charles A. Dana Center and a collaboration with the Texas Higher Education Coordinating Board, we are developing open-source curriculum for introductory college-level mathematics courses to improve math readiness among students in high schools and community colleges statewide. To help classrooms, youth and families navigate STEM offerings available through UT Austin specifically, we also entered a new phase in development for the way-finding website that serves this purpose, STEM Starts. Bold new directions also opened in our work to inspire young science-lovers—from extensive outreach linked to recent total and annular solar eclipses to the reopening of the Texas Science & Natural History Museum.



#### → Focusing on AI

The impact of artificial intelligence (AI) for Texas is clear, so the college is turning its attention to university-wide educational and operational initiatives to help UT set a standard across Texas and higher education in integrating AI thoughtfully into classrooms, research and operations. From curriculum design for AI literacy courses to seed-funding initiatives for projects to promote best practices with AI in teaching to leading the University's public-facing "Year of AI" initiative—with its requisite events, new media products and resources—the College of Natural Sciences is at the forefront of conversations about a critical inflection point in AI.

### We are advancing teaching excellence.

#### Investing in creative faculty ideas

Involving faculty in developing useful new approaches in education, we have sought to improve educational outcomes through a new "Pathways" grants program. The program supports thoughtful new approaches in teaching, leadership development in undergraduate education as well as exciting projects across the college around themes such as AI in education, ethics in mathematics, career exploration and communities of practice.

#### → Redesigning courses for career relevance

Real-world research experiences have been closely tied to positive career outcomes, so the college is expanding its already notable authentic research offerings to reach nearly every CNS undergraduate. A redesigned general chemistry course will allow some 4,000 students per year to have such an experience. A major introductory biology course also was recently redesigned, resulting in what may be the largest-ever course-based research experience at a university. Hundreds of students are benefiting from hands-on experience, including through opportunities to present at conferences and contribute meaningfully to research in areas like combatting antibiotic resistance. Finally, a new CNS Foundations seminar for first-year students provides opportunities for student problem-solving, as well as exploring various career paths, available resources and opportunities to build relevant skills and relate to key characteristics and values of STEM professionals.

### We are ensuring education meets emerging needs.

#### Cross-cutting experiences

The college has made important progress towards its goal of engaging all undergraduate students in at least one career-relevant experiential learning activity and extending interdisciplinary course offerings. Natural Sciences is shepherding efforts to develop some of the first truly interdisciplinary degree offerings for undergraduates at UT in areas like robotics, public health and computing as it's applied in the life sciences, history and linguistics.

#### → Career readiness

To increase students' knowledge and confidence around major-specific career opportunities, support their recruitment into relevant careers and internships (including with involvement from alumni), the college is focusing on a range of ways to connect students to career trajectories. Many undergraduates in our college and elsewhere at UT plan to enter health professions but may feel ill equipped, so we have launched a new recurring seminar series that provides training, mentorship and key experience for these students. We also are continuing an AI literacy course available and open to all students across UT to learn skills they will almost surely need, regardless of career path.

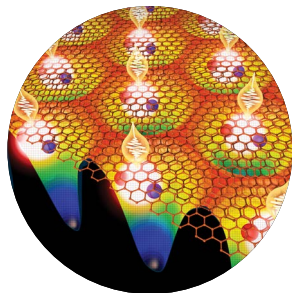


## OUR FOCUS IS ON RESEARCH IN OUR UNIQUE PLACE.

### We are tackling boundary-breaking research.

#### New initiatives & advances

New funding from the legislature, along with our recent expansion of the Texas Field Station Network, have necessitated new efforts in coordinating activities across multiple sites and disciplines in environmental education, research and outreach. The college and its units are spearheading these initiatives, which stand to benefit communities around Texas, including on the Texas Gulf Coast Research Center, where \$10 million in new legislative funding was targeted, and in the Hill Country, where a new UT field station is being planned. Other cross-cutting new directions in research relate to supporting our understanding of the fundamentals of machine learning and generative AI applications. The college and others at UT invested in hundreds of NVIDIA GPU computing resources and added researchers to help establish a new, multidisciplinary Center for Generative AI that will work on problems ranging from computer vision to protein folding. Finally, with the Cockrell School of Engineering, we launched the new Texas Quantum Institute, bringing together researchers in physics, electrical and computer science whose focus lies with harnessing quantum phenomena for new technologies.



#### → AI & life science innovation

In our technology-driven city of Austin, extensive expertise in artificial intelligence meets a growing biomedical research apparatus. In this context, UT stands to be a bridge as a research powerhouse. The college, in collaboration with other schools across campus and the central administration, is actively planning around a life science innovation strategy to benefit the University and the city.

### We are supporting the success of our researchers.

#### Research connections & investments

The college hosts series of research symposia, collaboration retreats and other events, bringing hundreds of researchers together for collaboration around specific priority areas. These included an NSF Build-A-Cell workshop, a Texas Biologics Showcase, a Center for Planetary Systems Inhabitability research retreat, a Texas Quantum Institute kick-off, a two-day symposium that brought Department of Marine Science researchers from Port Aransas to Austin to connect with colleagues. Investments and expenditures in research increased 18% over the last year. The college also directly invested in faculty members' interdisciplinary and high-risk, high-reward research efforts, through dedicated research grant programs.

#### → Infrastructure focus

Cutting-edge research often demands updated, modern or new facilities. The college completed comprehensive studies about what might be involved next with planning for space for the work currently housed in two aging buildings: the Physics, Math and Astronomy building and Patterson Labs. As building costs in Austin rise, adequately planning for, addressing and finding pathways to finance infrastructure needs are top priorities, with implications for both research and education on campus.



### We are engaging the public with science.

#### Raising our outreach profile

To build public awareness about the value of the scientific work our researchers do that transforms lives for the benefit of society, we have amped up visitor-focused communications, program offerings and outreach. Among the most notable efforts bridging between scientists at UT and ordinary Texans is the reopening of what was the Texas Memorial Museum, now the Texas Science & Natural History Museum. The space now showcases people and discoveries from across the College of Natural Sciences and UT. During its first few months alone, the museum welcomed more than 50,000 visitors, hosted more than 200 tours for school and community groups and held over 30 private events.

#### → Series for the community

To help showcase AI work across campus, College of Natural Sciences staff and faculty have played an active role in the many-pronged Year of AI campaign throughout 2024—with bold events, podcast series, media engagement and more. As another installation in the Texas Science Festival series approaches, the college is planning lively talks and interactive events from around the college and around campus (in-person, as well as hybrid) to engage the public with the latest in science and technology from UT Austin.