

# Research Experiences for Undergraduates (REU) – UT Austin Program Offerings

The University of Texas at Austin hosts undergraduate research programs on campus each summer for academically talented and motivated students to participate in exciting research in a variety of disciplines. Follow the links below to program pages for more information about eligibility, application, and deadlines.

## Centralized Resource Site:

### [Summer Research Scholars Programs](#)

This one-stop site, maintained by Texas Undergraduate Studies, includes links to several of the REU programs listed in this guide that are offered specifically during summer months.

## Overview Table:

Host Unit	Host Dept	Program
Institution-Wide	All disciplines	1. <a href="#">McNair Summer Research Institute</a>
Natural Sciences	General	2. <a href="#">NSF LSAMP: Louis Stokes Alliance for Minority Participation Summer Research Academy</a>
Natural Sciences	Astronomy	3. <a href="#">Texas Astronomy Undergraduate Research Experience for Underrepresented Students (TAURUS)</a> 4. <a href="#">NSF REU: Frontier Research and Training in Astronomy for the 21st Century</a>
Natural Sciences	Molecular Biosciences	5. <a href="#">NSF REU: Summer Undergraduate Program for Experiential Research (SUPER)</a>
Natural Sciences	Chemistry	6. <a href="#">NSF REU: Frontiers in the Chemistry of Materials</a>
Natural Sciences	Integrative Biology	7. <a href="#">Summer research in switchgrass ecology and genetics</a> 8. <a href="#">Inclusive Student Training in Collections and field-based Topics</a>
Engineering	General	9. <a href="#">NSF LSAMP: Louis Stokes Alliance for Minority Participation Summer Research Academy</a>
Engineering	Biomedical Engineering	10. <a href="#">NSF REU: BME CUREs Cancer</a> 11. <a href="#">NIH BUILDing SCHOLARS Summer Research Program</a>
Engineering	Electrical and Computer Engineering	12. <a href="#">NSF MRSEC REU</a> 13. <a href="#">ECE Next</a>
Engineering	Petroleum and Geosystems Engineering	14. <a href="#">Summer Undergraduate Research Internship</a>
Engineering	Microelectronics Research Center	15. <a href="#">National Nanotechnology Coordinated Infrastructure</a>
Engineering	Microelectronics Research Center	16. <a href="#">NASCENT NSF REU Program</a>
Geosciences	Environmental Science Institute	17. <a href="#">NSF REU: Inclusive Student Training in Rapidly Urbanizing Climate-Sensitive Terrains (InSTRUCT)</a>
Liberal Arts	Population Research Center	18. <a href="#">NSF REU: Undergraduate Research in Race, Ethnicity and Family Demography</a>
School of Information		19. <a href="#">iSchool Inclusion Institute (i3)</a>
Oden Institute		20. <a href="#">Moncrief Undergraduate Summer Internship</a>
Texas Advanced Computing Center		21. <a href="#">Natural Hazards Engineering Research Infrastructure</a> 22. <a href="#">NSF REU: Cyberinfrastructure (CI) Research for Social Change</a>

## Detailed Program Descriptions, Organized by Research Topic:

### Institution-Level Programming:

[McNair Summer Research Institute](#) scholars work with both a faculty advisor (on graduate school literacy) and a faculty mentor (on research and scholarship) to define, develop, and deliver an independent research project.

Program Director: [Dr. Eric Dieter](#)

The [University of Texas System Louis Stokes Alliance for Minority Participation \(UT System LSAMP\)](#) comprises eight universities and six community colleges working synergistically to support historically marginalized students that pursue and earn STEM degrees. To date 357 LSAMP students have enrolled in graduate programs (at UT Austin or elsewhere). Both Natural Sciences and Engineering have LSAMP outposts at UT Austin.

[Natural Sciences](#) LSAMP Program Coordinator: [Lynda Gonzales](#)

[Engineering](#) LSAMP Program Coordinator: [Shawntal Brown](#)

### Astronomy

The [Texas Astronomy Undergraduate Research experience for Under-represented Students \(TAURUS\)](#) prepares students for graduate school astronomy programs or the STEM workforce by providing authentic research experiences, ongoing professional development, and community support beyond the conclusion of the summer program.

Program Director: [Dr. Caitlin Casey](#)

[Frontier Research and Training in Astronomy for the 21st Century](#), an NSF REU, provides students the opportunity to conduct research in frontier areas of astronomy, including star formation, planetary systems science (the Solar System, exoplanets), stellar astrophysics, black holes, galaxy evolution, dark matter, dark energy, cosmology, and instrumentation.

Program Director: [Dr. Shardha Jogee](#)

### Biomedical Research

[Biomedical Engineering Community of Undergraduate Research Scholars for Cancer \(BME CURes Cancer\)](#) scholars address nationally identified key challenges in cancer research using an engineering approach. Scholars have dedicated mentoring, seminars, and a real-world capstone experience.

The NIH-funded [BUILDing SCHOLARS Summer Research Program](#) gives participating undergrads one-on-one guidance from faculty mentors on a cutting-edge biomedical research project in one of seven research nodes: addiction, cancer, degenerative and chronic diseases, environmental health, health disparities, infectious diseases and translational biomedicine.

## Cellular and Molecular Biology

[Summer Undergraduate Program for Experiential Research \(SUPER\) – REU](#) provides broad research opportunities in Biochemistry, Cell and Molecular Biology, and Microbiology for rising Sophomores, Juniors, and Seniors who are considering a career in life-science research.

Program Director: [Dr. Alan Lloyd](#)

## Race, Ethnicity and Demography

UT's Population Research Center hosts an [NSF REU for Undergraduate Research in Race, Ethnicity, and Family Demography](#), which offers undergraduates the opportunity for classroom training and hands-on research experience working directly with faculty, policy analysts, and senior graduate students on issues related to race, ethnicity, and American families.

Program Director: [Dr. Shannon Cavanagh](#)

## Materials Science and Engineering

UT's [NSF Materials Science and Engineering Research Center \(MRSEC\)](#) hosts an [REU program](#) in which students work directly with faculty on interdisciplinary materials research projects involving chemistry, physics, materials science, and engineering.

Program Coordinator: [Abbey Stanzione](#)

[Frontiers in the Chemistry of Materials](#), an NSF REU, provides students intensive training and research-focused mentoring to undertake research projects in three primary research areas development and applications of biomaterials, design, characterization and applications of energy materials, and innovative methodologies and instrumentation for materials characterization.

Program Director: [Dr. Jennifer S. Brodbelt](#)

## Climate Change, Resilience and Sustainability

New for Summer 2022, the [NSF REU for Inclusive Student Training in Rapidly Urbanizing Climate-Sensitive Terrains \(InSTRUCT\)](#) will focus on the key connections between the integrated natural, social, and engineered subsystems. Whereas an individual student research project will emphasize one subsystem, students will gain an appreciation of all three subsystems as guided by program elements such as research roundtables, co-mentoring, and peer shadowing. Program information will be posted on the [Environmental Science Institute's](#) website (ESI oversees this program).

Program Director: [Dr. Jay Banner](#)

## Plant Biology and Biodiversity

[Summer research in switchgrass ecology and genetics](#) is an opportunity for undergraduate students to participate in mentored independent research (field work, molecular lab work, and controlled chamber/greenhouse experiments) on the biology of Switchgrass (*Panicum virgatum*), its related genetic model *P. hallii*, as well as other plant systems.

Program Director: [Dr. Thomas Juenger](#)

[Inclusive Student Training in Collections and field-based Topics \(INSTInCT\)](#) participants partake in an inclusive professional development curriculum that highlights careers in the biodiversity sciences, applying to graduate school, and thriving as a scientist. Students have multiple opportunities to engage with the broader community of field- and collections-based researchers at UT through weekly socials, grad student mentors, facility tours, and field trips.

Program Director: [Dr. Melissa Kemp](#)

## Nanotechnology, Nanomanufacturing and Microelectronics

[National Nanotechnology Coordinated Infrastructure \(NNCI\) Research Experience for Undergraduates](#) program provides access to university user facilities with leading-edge fabrication and characterization tools, instrumentation, and expertise within all disciplines of nanoscale science, engineering and technology. Students have the opportunity to work on research projects in Societal and Ethical Implications (SEI) and Engineering.

UT Austin's Nanomanufacturing Systems for Mobile Computing and Mobile Energy Technologies (NASCENT) REU Program, hosted by the NSF NASCENT Engineering Research Center (ERC), gives students the opportunity to be mentored by a faculty member, join a team of researchers and scientists, participate in professional development workshops, produce results and present research, and gain hands-on research experience nanomanufacturing, nanodevices, graphene and 2D materials, flexible nanoelectronics, and nanometrology.

Program Director: [Risa Hartman](#)

## Petroleum and Geosystems Engineering

[The Hildebrand Department of Petroleum and Geosystems Engineering \(UT PGE\) Summer Undergraduate Research Internship \(SURI\)](#) program brings together undergraduate students to research significant energy topics with world-class faculty members. Interns receive an insider's look at graduate-level work conducted at UT PGE, participate in meaningful academic research, learn about the diverse areas of petroleum and geosystems engineering, and build strong relationships with their cohort.

## Computational Engineering and Sciences

The Oden Institute's [Moncrief Undergraduate Summer Internship](#) provides students an opportunity to work with faculty and research staff from Oden Institute research centers on developing modeling and simulation methods to study problems in areas such as energy, environment, advanced materials, biomedical research, nanomanufacturing, autonomous systems and other scientific and engineering areas that draw on applied and computational mathematics, computing, fluid mechanics, solid mechanics, mathematical physics, and biology.

Program Director: [Stephanie Rodriguez](#)

## High-Performance Computing and Cyberinfrastructure

[Natural Hazards Engineering Research Infrastructure \(NHERI\) REU Summer Program](#), hosted by the Texas Advanced Computing Center (TACC), provides research opportunities at the ten NHERI multi-hazard engineering and interdisciplinary research sites helping undergraduate college students experience multi-hazard engineering as well as reconnaissance, cyberinfrastructure, data management, and simulation research.

[Cyberinfrastructure \(CI\) Research for Social Change Research Experience for Undergraduates \(REU\) at TACC](#) is actively engaging undergraduate students in solving real-world problems of national relevance, teaching them to not only be critical thinkers, but to be creative and reflective as well. Students gain skills in advanced programming and problem solving and use the CI to conduct cutting-edge research in engineering, science, and computational medicine.

Program Director: [Marques Bland](#)

## Information Science

UT Austin's School of Information will launch [The iSchool Inclusion Institute \(i3\)](#) in summer 2022. The i3 is an undergraduate research and leadership development program that prepares students from underrepresented populations for graduate study and careers in the information sciences. The students selected as i3 scholars (about 20-30 per year) will undertake a yearlong experience that includes two summer institutes at UT Austin. The Introductory Summer Institute in Year 1 is 4 weeks long, and the Concluding Summer Institute in Year 2 is 2 weeks long.

## Electrical and Computer Engineering

[ECE Next](#) is a yearlong, industry-sponsored series of workshops and mentoring activities for juniors and seniors aimed at increasing and maintaining the number of women, Black, and Hispanic (WBH) students in ECE. Attendees include Texas ECE and non-UT undergraduate students, in particular undergrads from HBCUs and HSIs from partner institutions in Texas. The workshops for junior and senior students provide the support and self-efficacy tools that WBH students may find useful to move forward from undergrad to grad school, while getting involved in summer undergraduate research in the process.

Program Directors: [Dr. Seth Bank](#) and [Dr. Deji Akinwande](#)