

Undergraduate Research Annual Report

2019-2020

Empowering students to learn outside of the classroom



LAUNCH
UNDERGRADUATE RESEARCH

LETTER FROM THE ASSOCIATE DIRECTOR FOR UNDERGRADUATE RESEARCH

The 2019-2020 academic year presented challenges in the spring as the COVID-19 pandemic interrupted normal operations on the Texas A&M campus and around the world. However, our students demonstrated great resilience as they adapted their projects and completed their Undergraduate Research Scholars (URS) theses on time, often without access to labs, computers, and equipment they would normally use on campus. Students continued to attend virtual informationals and workshops hosted by the LAUNCH: Undergraduate Research office in spring and summer of 2020. Virtual meetings offered a new opportunity to connect with students on the Qatar, Galveston, Caruth School of Dentistry, and McAllen campuses. Unfortunately, all in-person summer activities were curtailed, and only three summer undergraduate research programs were able to offer online summer undergraduate research programs.

Despite the effects of the pandemic, LAUNCH: Undergraduate Research continued to increase campus partnerships, provide funding, and create new initiatives. We expanded the URS thesis program through a new partnership with students studying Dental Hygiene, which included the development of new thesis template and program guidelines for undergraduate students at the Caruth School of Dentistry. Participation in the URS program by students at the Qatar campus grew to the largest cohort we have ever had at 18 scholars, 15 of whom traveled to the College Station campus in February 2020 to attend and present their research at the URS Symposium.

Additionally, we were able to pilot a new summer program with the department of Architecture as a gateway into the URS program, and we sponsored six students during their summer research activities. These successes augment our ongoing partnerships with the Galveston campus, the Glasscock Summer Scholars program, and the Aggie Creative Collective.

Although the pandemic persists, the LAUNCH: UGR office continues to transition programs into virtual formats that will allow us to offer the same services and high-impact activities without interruption in the coming year.



Dr. Sarah M. Misemer

Associate Director for Undergraduate Research, LAUNCH, and Full Professor, Hispanic Studies

ARTS/HUMANITIES AND CREATIVE WORKS RESEARCH IS GROWING

OF STUDENTS USING THE ARTS/HUMANITIES & CREATIVE WORKS THESIS TEMPLATES

2016-2017
32
STUDENTS

NEW ARTS/HUMANITIES
TEMPLATE RELEASED

2017-2018
38
STUDENTS

NEW CREATIVE WORKS
TEMPLATE RELEASED

2018-2019
55
STUDENTS

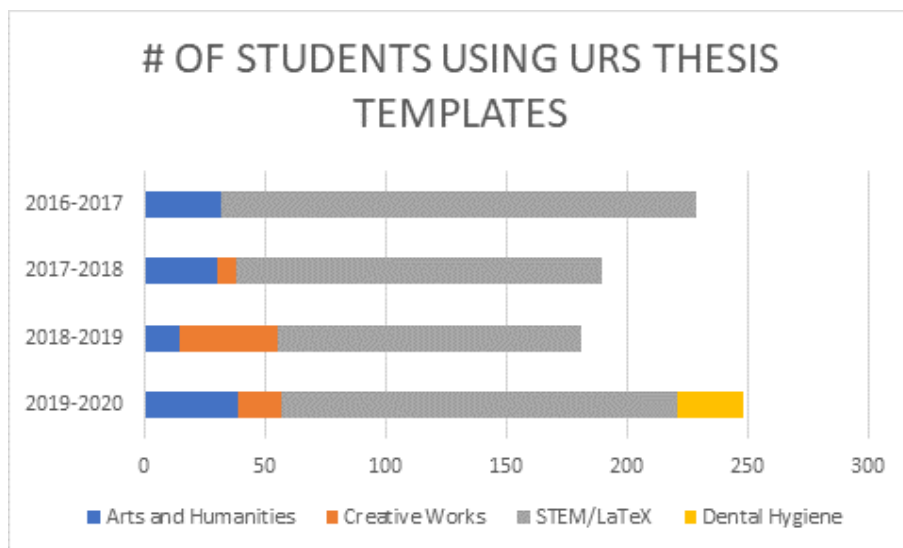
EST. PARTNERSHIPS WITH THE
TEXAS A&M SCHOOL OF LAW,
AGGIE CREATIVE COLLECTIVE,
AND HAGLER INSTITUTE

2019-2020
57
STUDENTS

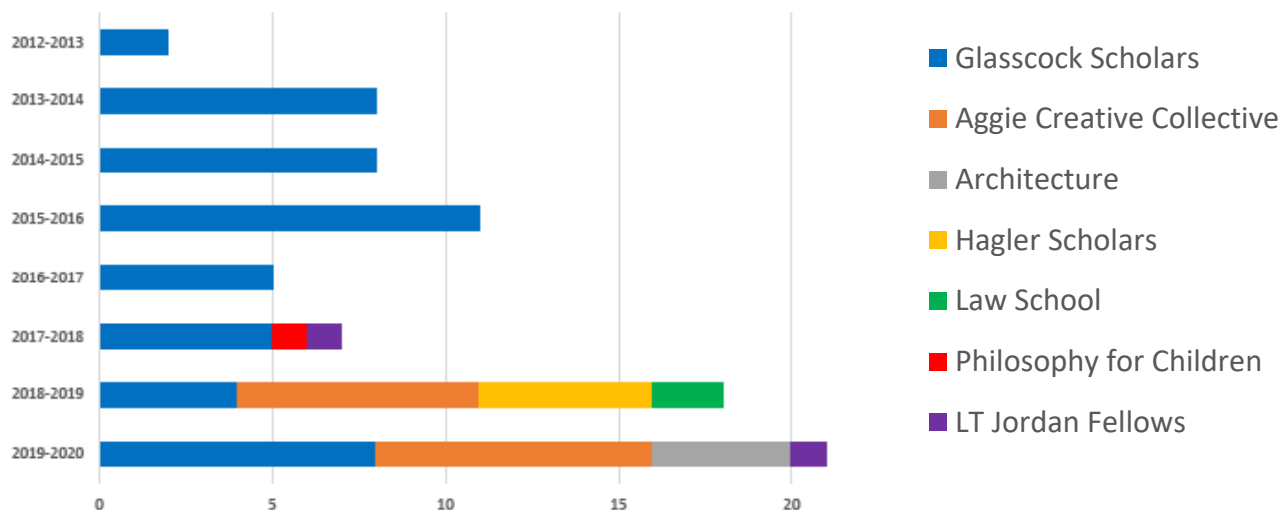
EST. PARTNERSHIP WITH THE
DEPT. OF ARCHITECTURE.

NOTE: THIS NUMBER WAS INCORRECTLY REPORTED
IN THE 2018-2019 REPORT. THE 2018-2019
REPORT COUNTED APPLICATION TEMPLATES
INSTEAD OF THESIS TEMPLATES. CARUTH SCHOOL
OF DENTAL HYGIENE STUDENTS APPLIED WITH
THE ARTS/HUMANITIES APPLICATION TEMPLATE,
BUT COMPLETED THE PROGRAM WITH A DENTAL
HYGIENE THESIS TEMPLATE.

OF STUDENTS USING URS THESIS TEMPLATES



OF STUDENTS IN URS PARTNER PROGRAMS



LAUNCH* EMPOWERS UNDERGRADATES TO LEARN OUTSIDE OF THE CLASSROOM

*Learning Communities, Academic Excellence, Undergraduate Research,
National Fellowships, Capstones, Honors

LAUNCH MISSION STATEMENT

The LAUNCH office is a collaboration of six teams that work together supporting students, faculty, and staff across the Texas A&M University System. Through community building and high-impact practices, personal and professional development opportunities, and the recognition of excellence, LAUNCH encourages all Aggies to expand their minds, take on challenges, dare to dream, and get involved.

OUR SERVICES

LAUNCH provides high-impact educational experiences and challenges students in all academic disciplines to graduate from an enriched, demanding curriculum. The programs administered by the office bring together outstanding students and faculty to build a community of knowledge-producers, life-long learners, nationally-recognized scholars, and world citizens. Through LAUNCH, motivated students have access to Honors courses, co-curricular enrichment activities, scholarly engagement, and/or research programs that can be customized to enhance each student's personal, professional, and intellectual development.

ORGANIZATIONAL STRUCTURE

LAUNCH is a unit of Undergraduate Studies in the Division of Academic Affairs. Many of our programs are supported through student fees and generous contributions from the Office of the Provost, the Texas A&M Foundation, The Association of Former Students, and our generous donors Ralph and Barbara Cox.

- Office of the President
- Office of the Provost and Executive Vice President
- Division of Academic Affairs
- Undergraduate Studies
- LAUNCH
- Undergraduate Research

LAUNCH STATEMENT ON DIVERSITY

► diversity.tamu.edu

LAUNCH joins the university community in making Texas A&M a welcoming environment for all individuals. We are committed to helping our students understand the experiences that make each of us unique and appreciate the shared values that bring us together.



LAUNCH

UNIT OF UNDERGRADUATE STUDIES

UNDERGRADUATE RESEARCH *at* Texas A&M



Texas A&M University is an institutional member of CUR, a campus-wide resource renewed annually by LAUNCH: UGR.

COUNCIL ON UNDERGRADUATE RESEARCH

► cur.org

Texas A&M University is an institutional member of CUR, a campus-wide resource renewed annually by LAUNCH: UGR.

The Council on Undergraduate Research (CUR) is an organization of members from around the world. CUR members share a focus on providing high-quality and collaborative undergraduate research, scholarly, and creative activity opportunities for faculty and students.

Benefits of Undergraduate Research

- Enhances student learning through mentoring relationships with faculty
- Increases retention and graduation in academic programs
- Increases enrollment in graduate education and provides effective career preparation
- Develops critical thinking, creativity, problem solving, and intellectual independence
- Develops an understanding of research methodology
- Promotes an innovation-oriented culture

The definition of undergraduate research as defined by CUR.

An inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline.

Our Involvement in CUR Professional Conferences

Presentation: Lessons Learned: A Decade of Publishing Explorations: The Texas A&M Undergraduate Journal

Presenters: Sumana Datta, Ph.D., Sarah M. Misemer, Ph.D., Annabelle G. Aymond, and A. Nicole Guentzel

THE DIVISION OF RESEARCH AT TEXAS A&M

► vpr.tamu.edu

Texas A&M's Division of Research delivers strategic support to further the University's research mission through, facilitating collaborations to grow federal funding, strengthening the research infrastructure, promoting the value of research, encouraging commercialization partnerships, and ensuring research compliance. The division is committed to a truly comprehensive university, where students, researchers, and inventors bring scholarship and innovation to bear for the benefit of the community, the state, and the nation.

Visit the VPR's website for more on research at Texas A&M, including research expenditures, fact sheets, and other statistics.

CREATING UNDERGRADUATE RESEARCH OPPORTUNITIES

PRIMARY GOALS

- Offer more opportunities for undergraduates to become involved in research
- Highlight undergraduate research on the Texas A&M campus
- Expand the visibility of undergraduate research

ACTION ITEMS

- Research Opportunities Database
- Undergraduate Research Expo
- Undergraduate Research Scholars Symposium

UNDERGRADUATE RESEARCH OPPORTUNITIES DATABASE

► tx.ag/ROdatabase

To make the variety of undergraduate research opportunities more accessible to students at Texas A&M, LAUNCH: UGR designed a database that allows students to search and filter programs, presentation venues, as well as funding and publication applications. The database also lets the student explore both on- and off-campus positions during the fall, spring, and summer semesters.

To post your research opportunity for undergraduate students, just complete a short form on our website! The LAUNCH: UGR office reviews all submissions before posting.

The screenshot shows the LAUNCH: UNDERGRADUATE RESEARCH website. The header includes navigation links: LEARNING COMMUNITIES, ACADEMIC EXCELLENCE, UNDERGRADUATE RESEARCH, NATIONAL FELLOWSHIPS, CAPSTONES, and HONORS. The main content area is titled "Research Opportunities Database" and includes a notice about COVID-19 cancellations, a link to the submission form, and quick tips for searching. A table lists various research opportunities with columns for Name, Category, Deadline, and Summary. The table includes entries like "Academy for the Visual & Performing Arts (AVPA) Grants", "ACM-W Women in Computing Scholarships", "After Combat: The Voices Project - Dr. Marian Eide", "Aggie Research Leadership Program (ARLP)", "Aggie Research Program (ARP)", "Apples Software Engineering Group", "Algal Ecology Research", "American Civil Liberties Union (ACLU) Internships", and "Amgen Scholars Program". A sidebar on the right contains filters for category, location, and other criteria, along with a "RESET FILTERS" button.

Name	Category	Deadline	Summary
Academy for the Visual & Performing Arts (AVPA) Grants	Funding	None	The Academy for Visual & Performing Arts is offering awards and grants based on research of performing and visual arts projects.
ACM-W Women in Computing Scholarships	Conference, Funding	TBA	ACM-W provides support for women undergraduate or graduate students in Computer Science and related programs to attend research conferences.
After Combat: The Voices Project - Dr. Marian Eide	Research Position	TBA	Interactive webpage collecting narratives from veterans of the wars in Iraq and Afghanistan
Aggie Research Leadership Program (ARLP)	Program, Research Position	TBA	Become a Team Leader as part of the Aggie Research Program!
Aggie Research Program (ARP)	Program	None	Aggie Research Scholars perform research in teams led by an experienced graduate student or postdoctoral fellow.
Apples Software Engineering Group	Research Position	None	Build a more secure google chrome browser
Algal Ecology Research	Research Position	TBA	Under the guidance of a mentor, the selected participant will gain experience in a variety of environmental research activities.
American Civil Liberties Union (ACLU) Internships	Program, Research Position	None	We're looking for the next generation of leaders who dare to create a more perfect union.
Amgen Scholars Program	Program	TBA	Summer research program in science and biotechnology at 1 of 10 elite US host institutions

UNDERGRADUATE RESEARCH EXPO

On 2 October 2019, LAUNCH: Undergraduate Research held its third all-day Undergraduate Research Expo in the Memorial Student Center on the campus of Texas A&M University.

This Expo expands on the two-hour resource fair held in years past with panels, workshops, and networking opportunities, along with a Resource Fair to highlight undergraduate research at Texas A&M. The event showcases opportunities for faculty, staff, graduate students, and undergraduate students to find ways to get involved in undergraduate research.

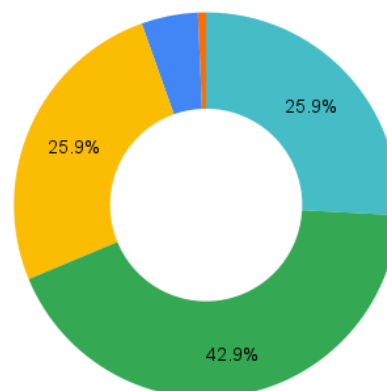
Morning round tables provided students, faculty, and administrators the opportunity to hear perspectives on the role of undergraduate research as a high-impact practice at a research-intensive university with discussions on “Undergraduate Research at Texas A&M: Where Are We Now & Where Are We Going?” “Building Your REU/SURE Program in Qualtrics,” “Undergraduate Research and Preparing for Law School: A Discussion with the TAMU School of Law,” and “Experiences in Mentoring Undergraduate Researchers.”

In the afternoon, multiple spaces in the MSC Bethancourt Ballroom housed concurrent events for undergraduate students that included: a two-hour Resource Fair, the Aggie Research Program’s poster presentations, and three break-out sessions led by faculty, staff, and graduate students (LAUNCH: UGR’s “Getting Started in Research,” “Aggie Research Program: Freshmen and Sophomores Needed,” and “Getting Off Campus: Research Opportunities”). The day culminated with a speed Research Networking Panel, in which faculty and staff from across campus presented 60-second blurbs on their research and opportunities for undergraduates. A Networking Social followed in the Bethancourt Lobby and gave students and faculty the chance to visit informally about research opportunities and involvement.

Volunteers for the Expo include LAUNCH Undergraduate Research Ambassadors, Learning Communities’ Peer Mentors, and LAUNCH staff members.



OVERALL, HOW WOULD YOU RATE THE UGR EXPO?



● Excellent ● Very Good ● Good ● Fair ● Poor

63 OPPORTUNITIES
REPRESENTED

588 UNIQUE
STUDENTS
ATTENDED

UNDERGRADUATE RESEARCH SCHOLARS SYMPOSIUM

On Wednesday, February 26, 2020, LAUNCH: Undergraduate Research held the third annual Undergraduate Research Scholars Symposium in the Memorial Student Center. The Symposium showcases undergraduate researchers in the LAUNCH Undergraduate Research Scholars (URS) thesis program. The Undergraduate Research Scholars (URS) thesis program provides undergraduates with a graduate student experience by allowing them to participate in research, produce a professional document, and communicate their findings as principal authors to the University's scholarly community.

The URS Symposium is not judged and no prizes are given. Students practice presentation skills, share their research, and receive comments on how to improve their projects. Active Listeners made up of faculty, staff, and administrators gave feedback to students on three areas:

1. Body language and delivery
2. Effective communication of the research question and why it is important
3. Effective use of visual aids (if used)

LAUNCH URS Symposium also fulfills the URS thesis program requirement for students to do a public presentation and also offers them a chance to receive constructive feedback on their research projects and presentation skills. The LAUNCH URS Symposium features both poster and oral presentations by undergraduate researchers in a variety of disciplines.

The Undergraduate Research Scholars Symposium also served as an annual meeting for the Academic of Undergraduate Researchers Across Texas (AURA Texas), a group of twelve elite student researchers from the state's two flagship universities, Texas A&M University and the University of Texas at Austin.

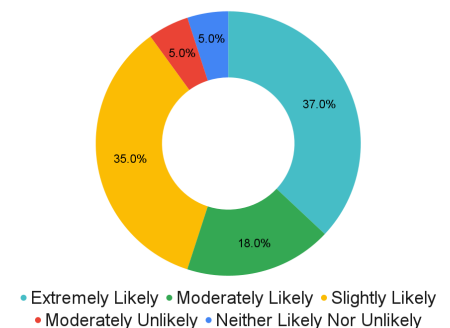
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FACULTY MEMBERS
AND POST-DOCS
VOLUNTEERED AS ACTIVE
LISTENERS AT THE UGR EXPO

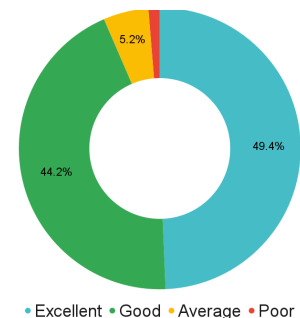
10

GRADUATE STUDENTS
FROM THE AGGIE RESEARCH
PROGRAM VOLUNTEERED AS
ORAL SESSION MODERATORS

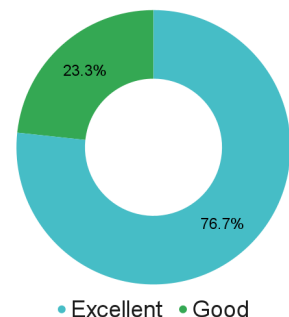
HOW LIKELY ARE YOU TO GET INVOLVED IN UNDERGRADUATE RESEARCH AFTER YOUR EXPERIENCE ATTENDING THE URS SYMPOSIUM?



OVERALL, HOW WOULD YOU RATE THE LAUNCH URS SYMPOSIUM? (PARTICIPANTS)



OVERALL, HOW WOULD YOU RATE THE LAUNCH URS SYMPOSIUM? (FACULTY)



174

TEXAS A&M STUDENTS
PRESENTED AT THE
URS SYMPOSIUM

POSTER PRESENTATIONS

ORAL PRESENTATIONS

106

68

STUDENTS FROM TAMU
QATAR

STUDENTS FROM TAMU
GALVESTON

15

3

PARTNERSHIPS

CARUTH SCHOOL OF DENTAL HYGIENE

Caruth School of Dental Hygiene students collaborate with multiple advisors at the College of Dentistry through a structured course with Dr. Faizan Kabani.

2019-2020 Caruth School of Dental Hygiene Scholars

Proposal: *Resin Infiltration Therapy: A Micro-invasive Approach to Treat White Spot Lesions in Dentistry*
Danielle Nicole Allen, Courtney Marie Fine, and Malorie Newton

URS Advisor: Faizan Kabani, BSDH, MHA, MBA, Ph.D.; Kathleen Muzzin, RDH, MS; and Kayla Reed, RDH, MS

Proposal: *The 2017 AAP Periodontal Classification Guidelines: What Every Dental Office Should Be Implementing*
Taylor Lynn Cornuau, Allie Brown, and Regan Gopffarth

URS Advisor: Faizan Kabani, BSDH, MHA, MBA, Ph.D. and Jane Cotter, RDH, MS, CTTS

Proposal: *Miswak: An Alternative Approach to Traditional Oral Hygiene Care*

Anh Vu Tram Nguyen, Maria G. Mirakhmedov, and Sarah Laredo

URS Advisor: Faizan Kabani, BSDH, MHA, MBA, Ph.D.; Lisa Mallonee, BSDH, MPH, RD, LD; and Maureen Brown, RDH, BSDH

Proposal: *Infectious Disease Disclosure by Dental Health Care Providers: A Patient's Right to Know*

Melanie Elizabeth Patterson, Kimberlynn N Patzold, and Abbigale Danielle White

URS Advisor: Faizan Kabani, BSDH, MHA, MBA, Ph.D.; Leigh Ann Wyatt, BSDH, MA, MS; and Tracy King, RDH, MS

Proposal: *Ammonium Hexafluorosilicate: A Prospective Alternative to Silver Diamine Fluoride*

Alexandra Renee Politz, Lauren M Scott, and Hannah Nicole Montz

URS Advisor: Faizan Kabani, BSDH, MHA, MBA, Ph.D.; Kathleen Muzzin, RDH, MS; and Kayla Reed, RDH, MS

Proposal: *Effects of Dental Media Hype On Patients' Perception of Treatment*

Alternative to Silver Diamine Fluoride

Madai Ruiz, Daniela Sarai Duarte, and Nikita Thapa

URS Advisor: Faizan Kabani, BSDH, MHA, MBA, Ph.D. and Jane Cotter, RDH, MS, CTTS

Proposal: *Chlorhexidine: An Investigation of the Gold Standard on Wound Healing*

Alternative to Silver Diamine Fluoride

Katie Shea Smith, Sadie Nguyen, and Jennifer Lee Copeland

URS Advisor: Faizan Kabani, BSDH, MHA, MBA, Ph.D. and Eric Fox, RDH, MS

Proposal: *The Evolution of Dental Composites: A Preventative Approach to Restoration Failure*

Alternative to Silver Diamine Fluoride

Alexandra Janice Williams, Leann Renae Wilson, and Rahil Mirmohammadi

URS Advisor: Faizan Kabani, BSDH, MHA, MBA, Ph.D. and Eric Fox, RDH, MS

FIRST YEAR EATS AND THE HUNGER CONSORTIUM

The LAUNCH First Year Eats Living-Learning Program centers on food and community. First Year Eats emphasizes helping college students develop skills related to eating well in the new environment of residence hall living on a college campus: selecting, buying, preparing, storing, and even growing the items needed or wanted for nutritious meals while living in a residence hall. The Hunger Consortium connects faculty, staff, students, and local community members involved in research, food preparation, management, and education with each other and others who want to make a difference by addressing hunger and food insecurity. A partnership was formed between First Year Eats, The Hunger Consortium, and the Department of Statistics to research food insecurity on campus.

2019-2020 First Year Eats and the Hunger Consortium Scholars

Proposal: *First Year Eats: A First Attempt at Combating*

Food Insecurity on College Campuses

Alexander Scott Peters, Statistics

URS Advisors: Dr. Alan Dabney and Dr. Suma Datta

LAUNCH – DEPARTMENT OF ARCHITECTURE UNDERGRADUATE SUMMER INITIATIVE

The LAUNCH – Department of Architecture Undergraduate Summer Initiative is a program that links creative works, undergraduate scholarly research, and architecture.

Summer 2020 LAUNCH – Department of Architecture Undergraduate Summer Initiative Scholars

Thesis: *Survey of Surge Capacity and Alternative Care Settings During COVID-19*

Madison Lesmeister; Virgilio Duarte; Nallely Chavarria Duran; and Alanna Burnett, Environmental Design Architectural Studies

URS Advisor: George Mann, AIA

Thesis: *Whole as a Part: an Examination of Design in Supportive Housing*

Maggie Martin, Environmental Design Architectural Studies

URS Advisor: James Michael Tate, M.Arch

Thesis: *The Decorated Shed in the 21st Century*

Robert Williams, Environmental Design Architectural Studies

URS Advisor: James Michael Tate, M.Arch

AGGIE CREATIVE COLLECTIVE

The Aggie Creative Collective, supported by the University Writing Center, Department of English, and LAUNCH, is a new summer program that links creative arts, undergraduate scholarly research, and performance.

Undergraduate students, under the guidance of TAMU creative writing faculty, spend five weeks (one summer session) developing a research question tied to a long-term creative writing project (e.g., novel, creative non-fiction, short prose or poetry collection, screenplay, or staged play) that culminates in a public reading at the end of the summer session. In workshops and through individual conferences, they learn about the structure of a creative thesis proposal, develop their creative writing, and refine their performance skills. After completing the Aggie Creative Collective, students are required to apply to LAUNCH's Undergraduate Research Scholars thesis program. Once accepted, they work with a faculty advisor to develop their undergraduate creative thesis project during the fall and spring semesters, adhering to LAUNCH's creative works thesis template.

Summer 2020 Aggie Creative Collective Scholars

Proposal: *El Espíritu Santo*

Erica Dixon, History

URS Advisor: Dr. Jason Harris

Proposal: *These Uncertain Times*

Abbigail Forrest, Political Science

URS Advisor: Dr. Lowell White

Proposal: *Song of the Night*

Aarushi Mudavangatil, Industrial Engineering

URS Advisor: Dr. Lowell White

Proposal: *And the Cat Looked*

Meredith White, English

URS Advisor: Dr. Lowell White

Proposal: *Radicalization, Class Warfare, and Technologically-Catalyzed Upheaval from a Fantasy Perspective*

Gabriel Zolton, Chemical Engineering

URS Advisor: Dr. Lowell White

Proposal: *Angel Down*

Lebukse Mokanse, English

URS Advisor: Dr. Jason Harris

Proposal: *Strawberry Farms (The Egg & Avocado Show)*

Cheryl Cruz, Visualization

URS Advisor: Dr. Samuel Woodfin

Proposal: *That Tall, Skinny, Green Hill*

Ryan Steel, English

URS Advisor: Dr. Jason Harris

Proposal: *Jokers and Thieves: A Graphic Novel*

Kyle Rively, Visualization

URS Advisor: Dr. Samuel Woodfin

Proposal: *Greatest Hits: A Visual Exploration of Mental*

Illness in the Music Industry

Jordan Stawski, Visualization

URS Advisor: Dr. Samuel Woodfin

Proposal: *Look Beyond the Veil: Coping with Anxiety and Trauma*

Jordyn Goodman, Visualization

URS Advisor: Dr. Samuel Woodfin

Proposal: *Troubled Pilgrimage to the Grotto: Exploring the Deconversion Narrative in Fantasy*

Torrueella Alvarado, Sebastian Andres, English

URS Advisor: Dr. Jason Harris

GLASSCOCK SUMMER SCHOLARS

The Glasscock Center is dedicated to fostering and celebrating the humanities and humanities research among the community of scholars at Texas A&M University and in the world beyond the academy. The Glasscock Center awards residential fellowships, research fellowships, course development grants, funding for working groups, publication support, and research matching awards for independent and cross-disciplinary research in the humanities.

The objective of the Summer Scholars program is to expand undergraduate research in the humanities by providing an intensive summer research experience in which students are introduced to important research questions, trained in methods of research and analysis, and guided in the development of critical thinking, independent learning, and communications skills. The students enroll in a two-week intensive seminar taught by a Faculty Director. In the seminar the students are immersed in a focused topic and develop a research question that they continue to investigate under the mentorship of the faculty member for the remaining eight weeks of the summer. Students attend writing workshops created especially for this program by the University Writing Center. This summer experience serves as a mandatory gateway program into the LAUNCH Undergraduate Research Scholars thesis program.

Visit <http://glasscock.tamu.edu/archives/undergraduate-summer-scholars-program-archives> to learn more about the Glasscock Summer Scholars program.

Summer 2020 Glasscock Summer Scholars

Proposal: *Wind in Film: A study of on-screen energy anxiety*

Lauren Curtis, International Studies, Global Cultural Studies Track

URS Advisor: Dr. Carmela Garritano

Proposal: *A Multimodal Semiotic Analysis of Cartoons on the US and Russian Relations Under the Barack Obama and Donald Trump Administrations*

Ariadne Pacheco, International Studies, International Politics and Diplomacy Track

URS Advisor: Dr. Gabriela Zapata

Proposal: *Climate Fiction Appealing to Humanities*
Gabrielle Doucet, International Studies, International Politics and Diplomacy Track

URS Advisor: Dr. Carmela Garritano

Proposal: *How Texan Is Your Wine?: A Social Semiotic Analysis of Texas Wine Marketing*

Steven Gooch, Marketing, Analytics and Consulting Track

URS Advisor: Dr. Gabriela Zapata

Proposal: *Texan Identity and the Republican Party: A Social Semiotic Analysis of Political Artifacts*

Yzach Dominguez, University Studies, Society, Ethics and Law Concentration

URS Advisor: Dr. Gabriela Zapata

Proposal: *Human Capital and Consensual Trafficking: The Domestication of Mail-Order-Brides*

Zoe Simmons, English

URS Advisor: Vanita Reddy

Proposal: *The Language of the Law: Incarcerated Trans Women, Healthcare, and Human Rights*

Megha Viswanath, International Studies, International Politics and Diplomacy Track

URS Advisor: Dr. Vanita Reddy

Proposal: *Sexual Violence and Asylum: An Analysis of Gendered Concepts of Humanity and its Role in the Northern*

Nydia Gomez, International Studies, International Politics and Diplomacy Track

URS Advisor: Dr. Vanita Reddy

Proposal: *Aging, Lonely, & Overworked: The Emergence of New Affective Outlets in Japanese Society*

Alysabeth Lipmon, International Studies, International Politics and Diplomacy Track

URS Advisor: Dr. Vanita Reddy

TEXAS SEA GRANT SCHOLARS

Texas Sea Grant's mission is to improve the understanding, wise use and stewardship of Texas coastal and marine resources. Texas Sea Grant is a unique partnership that unites the resources of the federal government, the State of Texas and universities across the state to create knowledge, tools, products and services that benefit the economy, the environment and the citizens of Texas.

Each year, Undergraduate Research Scholars projects related to the marine environment are selected by Texas Sea Grant to apply for a \$1,000 stipend for research expenses. Upon completion of the URS thesis program, Texas Sea Grant Scholars' theses are published in both the Texas Sea Grant Archives and the Texas A&M OAKTrust Repository.

Visit <http://texasseagrant.org/publications> and <https://oaktrust.library.tamu.edu/handle/1969.1/3367> to read undergraduate research theses by our Texas Sea Grant Scholars!

2019-2020 Texas Sea Grant Scholars

Thesis: *Chemical Characterization of Sargassum Fluitans*

Marcus Wharton, Marine Studies

URS Advisor: Dr. Karl Kaiser and Dr. Olbelina Ulloa

Thesis: *Illuminating the Impacts of Tourists With Hand-Held Lights on Sea Turtles*

Margaret Guy, Wildlife and Fisheries Sciences, Wildlife Ecology and Conservation Option

URS Advisor: Dr. Lee Fitzgerald

Thesis: *Effects of the Emerging Marine Chemical Pollutant Oxybenzone on the Metabolic Physiology of Embryo-Larval Zebrafish*

Kristina Simons, Marine Biology

URS Advisor: Dr. David Hala

Thesis: *The Role of Zebrafish (Danio rerio) Metabolism in Influencing Physiological Fitness Under Metabolic Stress*

Mikeelee Brink, Marine Biology

URS Advisor: David Hala

Thesis: *Synthesis of Hydrogenase Mimics for Use as Catalysts in the Hydrogen Evolution Reaction*

Madlyn Crist, Marine Sciences

URS Advisor: Dr. Olbelina Ulloa

Thesis: *Study on the Prevalence of Antibiotic Resistant Gene Following Hurricane Harvey*

Kelci Changers, Marine Biology

URS Advisor: Dr. Jessica Labonté

REU/SURE PARTNERSHIPS

LAUNCH: UGR is a gateway for information related to summer undergraduate research experiences and provides resources to help coordinate programs. However, LAUNCH: UGR does not run any specific REU or other summer undergraduate research experiences (SURE). To promote the success of summer undergraduate research programs at Texas A&M, LAUNCH works closely and collaboratively with many departments on campus, including but not limited to:

- Office of the Registrar
- Office of Admissions
- Residence Life
- Student Business Services
- AABS
- Scholarships & Financial Aid
- Student Health Services
- University Risk & Compliance
- Undergraduate Studies
- Aggie Honor Code Office
- Student Conduct Office
- University Police Department
- Title IX Office
- Research Compliance & Biosafety
- Environmental Health & Safety
- University Writing Center
- University Libraries
- McFerrin Center for Entrepreneurship
- LAUNCH: National Fellowships
- MSC LT Jordan Institute
- Hagler Institute for Advanced Study
- Melbern G. Glasscock Center for Humanities Research

LAUNCH: UGR coordinates activities for students, faculty, and staff throughout the year:

- Coordination Meeting in late-January/early-February for information on resources and policies
- Professional Development Seminar
- Summer Undergraduate Research Poster Session
- Safety Training
- Other Activities

CREATING COLLABORATIVE RESEARCH ACROSS TEXAS

ACADEMY OF UNDERGRADUATE RESEARCHERS ACROSS TEXAS

This Academy of Undergraduate Researchers Across Texas (AURA Texas) is a networking and professional development opportunity for an elite group of undergraduate researchers at the two flagship universities in Texas. AURA Texas provides these exceptional students with networking opportunities, the chance to hone their professional skills, a venue to discuss the importance of undergraduate research and the impact it has on their lives, and opportunities to present their research to state officials in Austin, Texas.

Research Exchanges	Professional Seminars	Networking
Undergraduate Research Scholars Symposium	Managing Your Research Identity Online	Mix & Mingle with TAMU Administrators
Longhorn Research Poster Session	Higher Education Issues and Advocacy	Reception with UT Administrators



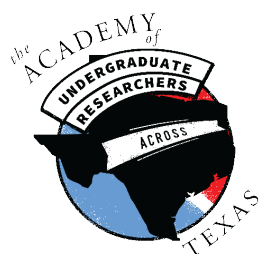
Undergraduate Research Day at the Capitol

Undergraduate Research Day at the Capitol is a biannual event where student participants and their faculty advisors have the opportunity to tour the Capitol, attend committee hearings and observe the daily meeting of the Senate and/or House of Representatives. Student participants are encouraged to work with their institution in scheduling meetings with their respective legislators. The last Undergraduate Research Day at the Capitol was held in April 2019 and the next event will be hosted in April 2021.

The goal of this event is to promote undergraduate research in the State of Texas. The Council of Public University Presidents and Chancellors (CPUPC) partners with the Texas Association of Graduate Admission Professionals (TxGAP) in order to provide event participants with access to Texas graduate school information.

This event is coordinated by CPUPC, and the Independent Colleges and Universities of Texas, Inc. (ICUT). Visit <https://www.txstate.edu/continuing/Events/Undergraduate-Research-Day> to learn more!

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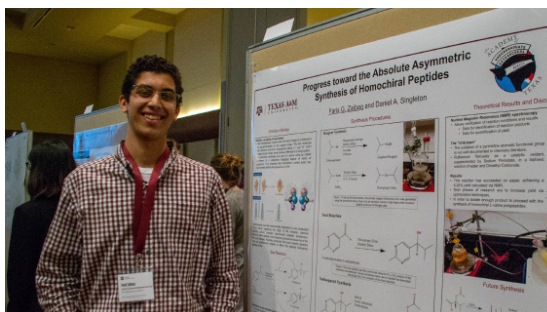
Established 2017-2018

Visibility/Advocacy | Community | Professionalization

Texas A&M University Members	
Morgan Chapman	Microbiology
Ryan Randle	History
Natalie Coleman	Civil Engineering
Faris Zaibaq	Biomedical Science
Douglas Fletcher	Statistics
Tory Martin	Philosophy

University of Texas at Austin Members	
Andres Najera	Neuroscience
Christopher Apgar	Psychology
Simren Lakhotia	Economics
Zaria El-Fil	Mechanical Engineering
Victoria Milosek	Speech-Language Pathology
Jamie Chuvalo-Abraham	Biochemistry

2 cohorts, 12 students each year
6 from Texas A&M, 6 from UT
Mix of STEM, and Arts & Humanities students



2019-2020 Activities

1. Professional Seminar: Visualizing Your Research Story – Austin – October 2019
2. **Research Exchange:** Undergraduate Research Scholars Symposium – College Station – February 2020
3. **Professional Seminar:** Briefing and Workshop on Higher Education Issues and Advocacy (Prep for Day at the Capitol) – College Station – February 2019
4. **Professional Seminar:** Funding your Research: Grants and Broader Impacts – College Station – February 2020
5. **Research Exchange:** Virtual Longhorn Research Poster Session – Austin – April 2020 (Participation Limited Due to COVID-19)
6. **Networking:** Mix & Mingle with Administrators on both campuses – February and April 2020 (April Participation)

Advisors

- Dr. Sarah M. Misemer, Associate Director, Undergraduate Research, LAUNCH, Texas A&M University
- Dr. Robert Reichle, Senior Research Program Coordinator, Office of Undergraduate Research, University of Texas at Austin
- Annabelle G. Aymond, Program Coordinator for Undergraduate Research, LAUNCH, Texas A&M University

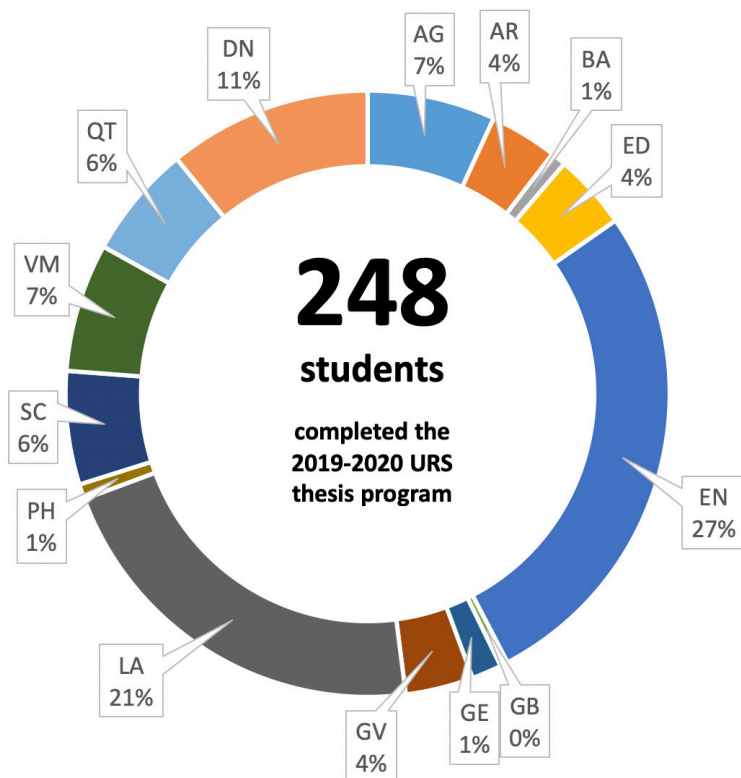
PROGRAM SUMMARIES

UNDERGRADUATE RESEARCH SCHOLARS THESIS PROGRAM

The Undergraduate Research Scholars (URS) thesis program seeks to provide eligible undergraduates with a graduate student experience by allowing them to participate in research and communicate their findings as principal authors to the University's scholarly community.

89.2% **COMPLETION RATE**
248 STUDENTS
COMPLETED THE
PROGRAM

3.67 **AVERAGE GPR**
OF THE 248 STUDENTS
WHO COMPLETED THE
URS PROGRAM



KEY

- AG:** College of Agriculture & Life Sciences
- AR:** College of Architecture
- BA:** Bush School of Government & Public Service
- ED:** College of Education & Human Development
- EN:** College of Engineering
- GB:** Bush School
- GE:** College of Geosciences
- GV:** Texas A&M University at Galveston
- LA:** College of Liberal Arts
- PH:** College of Public Health
- SC:** College of Science
- VM:** College of Veterinary Medicine & Biomedical Sciences
- QT:** Texas A&M University at Qatar
- DN:** Dental Hygiene

URS THESIS TEMPLATE USAGE IN 2019-2020

123

STUDENTS USED THE
STEM THESIS
TEMPLATE

16

STUDENTS USED THE
CREATIVE WORKS
THESIS TEMPLATE

36

STUDENTS USED THE
ARTS/HUMANITIES
THESIS TEMPLATE

11

STUDENTS USED THE
LATEX THESIS
TEMPLATE

THESIS WRITING COURSE

Thesis Writing (UGST 405) is a 1-credit hour seminar course offered **only in the spring semester** exclusively for students participating in the Undergraduate Research Scholars (URS) program. Enrollment in the class is **not required** for participation in the program, but is an opportunity for any Undergraduate Research Scholar who needs writing instruction or would like assistance with thesis preparation. The course also serves to satisfy one credit of writing-intensive (W) course requirements for graduation. **Note:** Enrollment priority will be given to seniors who need a writing-intensive (W) course to graduate. Limited seats are available in the course. This course is taught by Dr. Sarah M. Misemer, Associate Director for Undergraduate Research, and features topics such as:

- Thesis Writing
- Academic Publishing
- Copyright and Digital Citizenship
- Research Presentations

21

STUDENTS
ENROLLED IN THE
THESIS WRITING
CLASS

HONORS AFFILIATION IN 2019-2020

OUT OF 248 STUDENTS WHO
COMPLETED THE PROGRAM

9.68%

STUDENTS IN
UNIVERSITY-
HONORS

39.11%

STUDENTS IN
COLLEGE AND/OR
DEPARTMENTAL
HONORS

51.21%

STUDENTS
NOT IN ANY
HONORS PROGRAM

OPTIONAL UGST 405 COURSE IN 2019-2020

8.47%

COMPLETION RATE
OUT OF THE 248 STUDENTS
WHO COMPLETED THE URS
PROGRAM 21 STUDENTS
COMPLETED THE COURSE

12

DIFFERENT MAJORS
FROM THE 21 STUDENTS
THAT COMPLETED THE
COURSE

1

EDUCATIONAL PSYCHOLOGY

3

ECONOMICS

1

PSYCHOLOGY

1

COLLEGE OF EDUCATION
AND HUMAN RESOURCES

1

ENGLISH

3

BIOLOGY

1

BIOMEDICAL ENGINEERING

1

HISTORY

1

PHYSICS

1

CIVIL AND ENVIRONMENTAL
ENGINEERING

1

POLITICAL SCIENCE

6

BIOMEDICAL SCIENCE (2
DOUBLE MAJORS IN ENTO)

STUDENTS WITH DOUBLE MAJOR AT TEXAS A&M UNIVERSITY

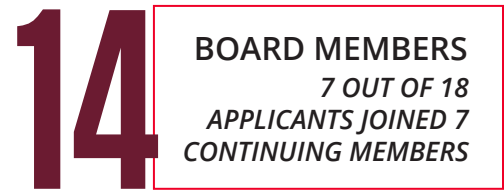
19

STUDENTS THAT
COMPLETED THE
URS PROGRAM HAD
A DOUBLE MAJOR

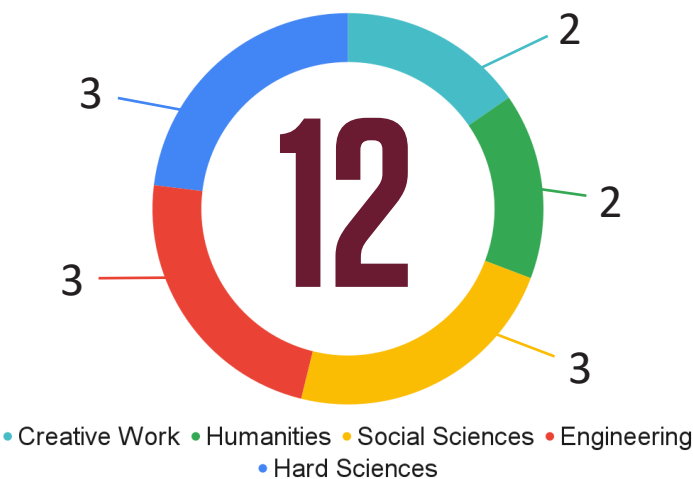
EXPLORATIONS: THE TEXAS A&M UNDERGRADUATE JOURNAL

Explorations: The Texas A&M Undergraduate Journal is an interdisciplinary publication dedicated to fostering undergraduate research and scholarly work in all fields. The journal welcomes research, scholarly, and creative submissions of general interest from any discipline.

Publication in *Explorations* is a multi-stage process: First, a student submits a synopsis (an article pitch). The synopsis is reviewed in a double-blind process by both faculty and student board members. Reviewer decisions are ranked and the student editorial board discusses the submissions. If a synopsis is accepted after this first stage, the student is invited to submit a full manuscript. Full manuscripts go through another round of double-blind review before final selection.



ARTICLES BY DISCIPLINE



- 1 article from a Qatar team
- 1 article from an Undergraduate Research Ambassador
- 1 article from a NSF – GRFP awardee
- 12 of the 17 students participated in URS
- 2 of the 17 participated in the University Honors Program
- 2 of the 17 participated in the Engineering Honors Program
- 1 of the 17 participated in the Physics Honors Program
- 1 of the 17 participated in the Liberal Arts Honors Program
- 1 of the 17 participated in the Architecture Honors Program

UNDERGRADUATE RESEARCH AMBASSADORS

The Undergraduate Research Ambassadors work to inspire broader engagement in undergraduate research by educating and serving the Texas A&M University community. The program began in 2013 with our inaugural class of 12 Ambassadors. New Ambassadors are chosen each spring.

200+

VOLUNTEER
HOURS






















21

STUDENT
AMBASSADORS












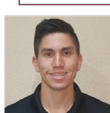
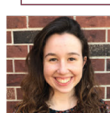
5

COLLEGES
REPRESENTED

2019-2020 UNDERGRADUATE RESEARCH AMBASSADORS

 Cameron Criswell, Biochemistry, Genetics	 Nicole Deere, Anthropology	 Jared Eichner, Biomedical Sciences	 Morgan Chapman, Chemical Engineering	 Oscar Gonzalez, Chemistry
 Ashley Nicole Guentzel, Biology	 Dillon Jones, Wildlife and Fisheries Sciences	 Anthony Gasacan, Biomedical Sciences	 Ashley Hayden, Biology	 Devyn Rice, Applied Mathematics
 McKaela Hodge, Genetics	 Tawfik Hussein, Biomedical Engineering	 Marita John, Biomedical Sciences	 Karissa Yamaguchi, Biochemistry, Genetics	 Quinton Lawton, Meteorology
 Summer Lehman, Psychology	 Ashwathi Nair, Biomedical Engineering	 Madison Parks, Psychology	 Eliza Price, Chemical Engineering	 Natalia Quintero- Arevalo, General Studies
		 Everett Yang, Computer Science		

2020-2021 UNDERGRADUATE RESEARCH AMBASSADORS

 Addie Bishop '21 Biology	 Nicole Deere '21 Anthropology	 Oula Eldow '21 Biomedical Science	 Cora Garcia '21 Biomedical Science, Entomology	 Patrick Hall '21 Biomedical Engineering
 Hannah Horcha '21 Political Science	 David Lee '21 Biomedical Science	 Jacquelyn McCullough '21 Genetics	 Alex Peters '21 Statistics	 Michael Pittonak '22 Biology
	 Nat Quintero '20 Nutritional Science	 Tanner Ramirez '21 Mechanical Engineering	 Emily Wilson '21 International Studies	

NATIONAL SCIENCE FOUNDATION RESEARCH EXPERIENCES FOR UNDERGRADUATES (NSF-REU) AND OTHER SUMMER UNDERGRADUATE RESEARCH EXPERIENCES (SURE)

Texas A&M University suspended all in-person REU/SURE programs in Summer 2020 due to the COVID-19 Pandemic. As a result, LAUNCH cancelled all REU/SURE events. Three REU/SURE programs proceeded virtually: MATH REU, Costa Rica REU, and the O-REU.

INFORMATIONAL SESSION AND WORKSHOP ATTENDANCE

Getting Started in Research Workshops

This panel-style workshop is led by the Associate Director for Undergraduate Research and the Undergraduate Research Ambassadors, a group of experienced undergraduate researchers, who discuss misconceptions about research, how they got involved, and how their participation in research changed their undergraduate experience. Students learn tips for seeking out and effectively working with faculty advisors, as well as what to expect generally as an undergraduate researcher.

- 3 workshops held
- 190 unique attendance at all workshops
- AG: 7 (3.68%), ED: 5 (2.63%), EN: 39 (20.53%), GE: 3 (1.58%), GS: 8 (4.21%), LA: 95 (50%), BA 7 (3.68%), PH: 2 (1.05%), SC: 15 (7.89%), VM: 9 (4.74%)

Undergraduate Research Scholars Informational Sessions

LAUNCH: Undergraduate Research staff explains the details, opportunities, and eligibility requirements for the Undergraduate Research Scholars program. As long as you are an undergraduate, this program is open to all majors. Faculty research advisors are encouraged to attend with undergraduates.

- 7 sessions held
- 314 unique attendance at all sessions
- AG: 148 (47.13%), AR: 3 (0.96%), ED: 10 (3.18%), EN: 42 (13.38%), GV: 3 (0.96%), GS: 6 (1.91%), GE: 3 (0.96%), LA: 36 (11.46%), BA: 4 (1.27%), PH: 2 (0.64%), QT 38 (12.10%), SC: 9 (2.87%), VM: 10 (3.18%)

Mentoring Undergraduate Researchers Workshops

All REU/SURE programs were cancelled for summer 2020 due to the COVID-19 pandemic, and therefore the Summer 2020 workshop was cancelled as well.

NATIONAL FELLOWSHIP AWARDEES

THE ASTRONAUT SCHOLARSHIP FOUNDATION'S SCHOLARSHIP

The Astronaut Scholarship Foundation's mission is to aid the United States in retaining its world leadership in technology and innovation by supporting the very best and brightest scholars in science, technology, engineering and mathematics while commemorating the legacy of America's pioneering astronauts. Today, the Astronaut Scholarship Foundation awards more than fifty scholarships valued up to \$15,000 to each selected scholar. The ASF scholarship award is just the beginning for our Astronaut Scholars, and their selection is the beginning of a life-long relationship with astronauts, alumni, and great leaders who span academia, technical research, and corporate leadership.

Awardees

- Camella Carlson
- Oscar Gonzalez

BARRY GOLDWATER SCHOLARSHIP AND EXCELLENCE IN EDUCATION FOUNDATION

The Barry Goldwater Scholarship and Excellence in Education Foundation was established by Congress in 1986 to serve as a living memorial to honor the lifetime work of Senator Barry Goldwater, who served his country for 56 years as a soldier and statesman, including 30 years in the U.S. Senate.

By providing scholarships to college sophomores and juniors who intend to pursue research careers in the natural sciences, mathematics and engineering, the Goldwater Foundation is helping ensure that the U.S. is producing the number of highly-qualified professionals the Nation needs in these critical fields. Over its 30-year history, Goldwater Scholarships have been awarded to thousands of undergraduates, many of whom have gone on to win other prestigious awards like the National Science Foundation's Graduate Fellowship, Rhodes Scholarship, Churchill Scholarship and the National Defense Science and Engineering Graduate Fellowship that support our Scholars' graduate school work. Today, Goldwater alumni can be found conducting research that is helping defend the Nation, finding cures for catastrophic diseases and teaching future generations of scientists, mathematicians and engineers.

Awardees

- Jonathan Lo
- Cody Martin

NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOWSHIP PROGRAM

The NSF GRFP recognizes and supports outstanding graduate students in NSF-supported STEM disciplines who are pursuing research-based master's and doctoral degrees at accredited US institutions. The five-year fellowship includes three years of financial support including an annual stipend of \$34,000 and a cost of education allowance of \$12,000 to the institution.

Awardees

- Natalie Coleman, Engineering - Civil Engineering
- Katherine Daiy, Social Sciences - Biological Anthropology
- Oscar Gonzalez, Chemistry - Inorganic Materials Chemistry
- Sarah Jones, Engineering - Biomedical Engineering
- Quinton Lawton, Geosciences - Physical and Dynamic Meteorology
- Cecillia Moreira, Social Sciences - Economics
- Eliza Price, Engineering - Chemical Engineering
- Amanda Rakoski, Engineering - Biomedical Engineering
- Lois Wampler, Engineering - Mechanical Engineering
- Lorenzo Washington, Life Sciences - Organismal Biology
- Stephanie Wilcox, Engineering - Systems Engineering

TEXAS A&M BECKMAN SCHOLARS

With support from The Beckman Foundation, Texas A&M Beckman Scholars are identified as the top undergraduate students majoring in specific science fields during their freshman year. Once selected, Beckman Scholars receive a generous stipend and begin their research careers with designated Beckman faculty mentors the summer prior to their sophomore year. Beckman Scholars continue their research projects through graduation and also participate in various activities:

- Leadership Development
- Networking opportunities
- Review and publication of scientific research
- Preparation for National Fellowship, graduate, or professional school applications.

Awardees

- Brandon Look Fong
- Ryan Rahman

STUDENT SUCCESS

ENGAGING FIRST-GENERATION STUDENTS

14.5%

OF STUDENTS WHO
COMPLETED URS *WERE FIRST-
GENERATION STUDENTS*

14.0%

OF STUDENTS ATTENDED
THE UGR EXPO *WERE FIRST-
GENERATION STUDENTS*

14.3%

OF STUDENTS IN UGRA *WERE
FIRST-GENERATION STUDENTS*

38.6%

OF URS SYMPOSIUM
ATTENDEES *WERE FIRST-
GENERATION STUDENTS*

14.3%

OF STUDENTS IN EXPL VOLUME
12 *WERE FIRST-GENERATION
STUDENTS*

65.3%

OF STUDENTS ATTENDED THE
GSIR WORKSHOP *WERE FIRST-
GENERATION STUDENTS*

11.8%

OF STUDENTS IN EXPL
(AUTHORS/COVER ARTISTS) *WERE
FIRST-GENERATION STUDENTS*

19.8%

OF STUDENTS ATTENDED THE
URS INFORMATIONAL *WERE
FIRST-GENERATION STUDENTS*



LAUNCH
UNDERGRADUATE RESEARCH