



TXST STEM CONFERENCE

SHARE IDEAS. START CAREERS.



2023 TXST STEM CONFERENCE • MARCH 24TH, 2023
LBJ STUDENT CENTER • SAN MARCOS, TX

2023 TXST STEM CONFERENCE PARTNERS

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AND LEADERSHIP STUDIES

2023 TXST STEM CONFERENCE

Welcome,

On behalf of the organizers of the inaugural TXST STEM Conference, I would like to extend a heartfelt welcome. We are here today as an institution and greater community to focus on the achievements of our students, faculty, and staff representing a range of STEM fields. Our STEM students will be the NEXT contributors to and leaders of the STEM workforce.

The conference program will feature an underlying theme of belonging in STEM at Texas State University, building off our past Texas State Women in Science and Engineering (WiSE) Conference and the HSI-focused STEM Undergraduate Research Experience (SURE) Symposia.

TXST is home to many programs and opportunities for STEM students to gain experience through research or work-based experiences, career development, and marketable skills critical to successful entrance to the STEM workforce. We hope that students attending today connect with these programs and opportunities today.

For the students and developing STEM professionals, I encourage you to take advantage of the programming that we have put together for you. For the faculty, staff, and alumni, we have an opportunity to mentor, collaborate, and create a space that embraces all.

We look forward to sharing the exciting and cutting-edge research and STEM workforce development emerging from our campus community and to hearing the inspiring words of the presenters. We also look forward to interacting with our exhibitors. I encourage you to interact with our presenters and exhibitors and make connections!

The development and logistics of this conference would not have been possible without the staff, collaborators, sponsors, and many volunteers, who have made this conference possible. Finally, we are extremely grateful for the support of our Champion Partners: the Generación STEM program, the College of Science and Engineering, the Office of Research and Sponsored Programs, the Office of the Provost, and the IDEA Center.

Thank you for coming and being a part of TXST STEM!



Carolyn T. Chang, Ph.D
TXST STEM Conference Lead Organizer



2023 TXST STEM CONFERENCE

EVENT MAP



CONFERENCE LOCATIONS

- GRAND BALLROOM 3-19
- LBJ BALLROOM 3-16
- GRAND BALLROOM PRE-FUNCTION LOUNGE

2023 TXST STEM CONFERENCE

SCHEDULE AT-A-GLANCE

TIME	SESSION	NOTES
8:00 am	Registration Opens <i>LBJ Grand Ballroom Pre-Function Lounge</i>	Poster & Exhibitor Set-up
8:30 am	Welcome & Opening Remarks <i>LBJ Grand Ballroom</i>	Poster & Exhibitor Set-up
9:00 am	Keynote Speaker <i>LBJ Grand Ballroom</i> ARNALDO DÍAZ VÁZQUEZ, PH.D. ASSOCIATE DEAN, GRADUATE SCHOOL OF BIOMEDICAL SCIENCES UT SOUTHWESTERN MEDICAL CENTER	
10:00 am	Coffee Break - Move to Concurrent Sessions	Professional Headshot Lounge
10:10 am	Concurrent Morning Sessions Student-Focused Session <i>LBJ Grand Ballroom</i> KENDALL MOORE, PH.D. PROFESSOR, JOURNALISM & FILM/MEDIA DOCUMENTARY FILMMAKER UNIVERSITY OF RHODE ISLAND Faculty & Staff Focused Session <i>LBJ Ballroom</i> ANTHONY DEPASS, PH.D. DIRECTOR OF UNDERSTANDING INTERVENTIONS CEO LIFESTYLE LEARNING DEPASS CONSULTING	Professional Headshot Lounge
12:00 pm	Networking Luncheon <i>LBJ Grand Ballroom</i>	Professional Headshot Lounge

2023 TXST STEM CONFERENCE

SCHEDULE AT-A-GLANCE

TIME	SESSION	NOTES
1:00 pm	Keynote Speaker <i>LBJ Grand Ballroom</i> REUBEN HARRIS, PH.D. <i>HOWARD HUGHES MEDICAL INSTITUTE</i> <i>INVESTIGATOR</i> <i>PROFESSOR AND CHAIRMAN</i> <i>BIOCHEMISTRY & STRUCTURAL BIOLOGY</i> <i>UNIVERSITY OF TEXAS HEALTH SAN ANTONIO</i>	
2:00 pm	Coffee Break - Move to Concurrent Sessions	Professional Headshot Lounge
2:00 pm	Concurrent Afternoon Sessions IDEA Center Poster Presentation & Exhibition <i>LBJ Ballroom</i> Workforce Development Speaker Session <i>LBJ Grand Ballroom</i>	Professional Headshot Lounge
4:00 pm	IDEA STEM Workforce Alumni Panel <i>LBJ Grand Ballroom</i>	Professional Headshot Lounge
4:30 pm	Presidential Remarks <i>LBJ Grand Ballroom</i>	
4:45 pm	Poster Award & Closing Remarks <i>LBJ Grand Ballroom</i>	Poster & Exhibitor Take Down
5:00 pm	Close of Conference	Poster & Exhibitor Take Down

2023 TXST STEM CONFERENCE

8:00 AM

REGISTRATION OPENS

LBJ GRAND BALLROOM

8:30 AM

WELCOME & OVERVIEW

LBJ GRAND BALLROOM

PRESENTATION OF CONFERENCE THEME

CAROLYN T. CHANG, PH.D.

DIRECTOR, TITLE III GENERACIÓN STEM



WELCOME REMARKS

SHREEK MANDAYAM, PH.D.

VICE PRESIDENT FOR RESEARCH
TEXAS STATE UNIVERSITY

9:00 AM

KEYNOTE SPEAKER



ARNALDO DÍAZ VÁZQUEZ, PH.D.

ASSOCIATE DEAN,
GRADUATE SCHOOL OF BIOMEDICAL SCIENCES
UT SOUTHWESTERN MEDICAL CENTER



SPONSORED BY THE NSF PARTNERSHIP FOR RESEARCH AND
EDUCATION AND MATERIALS (PREM) CENTER FOR INTELLIGENT
MATERIALS ASSEMBLY (CIMA)

10:00 - 10:10 AM

COFFEE BREAK

*MOVE TO MORNING CONCURRENT
SESSION LOCATION*

2023 TXST STEM CONFERENCE

10:10 AM

CONCURRENT MORNING SESSIONS

STUDENT FOCUSED SESSION

LBJ GRAND BALLROOM



KENDALL MOORE, PH.D.

PROFESSOR, JOURNALISM & FILM/MEDIA
DOCUMENTARY FILMMAKER
UNIVERSITY OF RHODE ISLAND

Documentary Showing: *"Can We Talk? Difficult Conversations with Underrepresented People of Color: Sense of Belonging and Obstacles to STEM Fields"*

Facilitated Workshop: *Create a Personal STEM Narrative*



SPONSORED BY THE GENERACIÓN STEM PROGRAM

FACULTY AND STAFF FOCUSED SESSION

LBJ BALLROOM



ANTHONY DEPASS, PH.D.

DIRECTOR OF UNDERSTANDING INTERVENTIONS
CEO LIFESTYLE LEARNING DEPASS CONSULTING

Presentation & Workshop : *Garnering and Leveraging Grant Funding to Achieving Broader Impacts in STEM*



SPONSORED BY THE TXST OFFICE OF RESEARCH AND SPONSORED PROGRAMS

12:00 PM

NETWORKING LUNCHEON

LBJ GRAND BALLROOM

2023 TXST STEM CONFERENCE

1:00 PM



KEYNOTE SPEAKER
LBJ GRAND BALLROOM

REUBEN HARRIS, PH.D.

HOWARD HUGHES MEDICAL INSTITUTE INVESTIGATOR
PROFESSOR AND CHAIRMAN
BIOCHEMISTRY & STRUCTURAL BIOLOGY
UNIVERSITY OF TEXAS HEALTH SAN ANTONIO

TEXAS STATE
MATERIALS SCIENCE,
ENGINEERING, AND
COMMERCIALIZATION



SPONSORED BY THE TEXAS STATE UNIVERSITY MSEC PROGRAM
SPONSORED BY THE SOUTH TEXAS DOCTORAL BRIDGE PROGRAM

2:00 - 4:00 PM

CONCURRENT AFTERNOON SESSIONS

POSTER PRESENTATION & EXHIBITOR SESSION

LBJ BALLROOM



POSTER ABSTRACTS

SEE PROGRAM PAGES 20-28 FOR THE LIST OF POSTERS & EXHIBITORS

- CAST YOUR VOTE FOR THE PEOPLE'S CHOICE POSTER AND BE ENTERED INTO A DRAWING FOR A DOOR PRIZE!

POSTER PRIZE CATEGORIES:

- UNDERGRADUATE RESEARCH POSTER
- GRADUATE RESEARCH POSTER
- DESIGN POSTER
- PEOPLE'S CHOICE POSTER



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2023 TXST STEM CONFERENCE

WORKFORCE DEVELOPMENT SESSION

LBJ GRAND BALLROOM

2:00 - 2:30 PM



CLEAR, CONFIDENT, AND PERSUASIVE COMMUNICATION IN STEM

MELINDA VILLAGRAN, PH.D.

EXECUTIVE DIRECTOR AND PROFESSOR
TRANSLATIONAL HEALTH RESEARCH CENTER
DEPARTMENT OF COMMUNICATION STUDIES
TEXAS STATE UNIVERSITY

2:30 - 3:00 PM



'SAY IT WITH YOUR CHEST': HAVING DIFFICULT CONVERSATIONS IN A RESPECTFUL, COLLABORATIVE, AND CONSIDERATE MANNER.

CESAR MEJIA AGUILAR
GRADUATE STUDENT,
DEPARTMENT OF COMMUNICATION STUDIES
TEXAS STATE UNIVERSITY



GAVIN THOMSON
GRADUATE STUDENT,
DEPARTMENT OF COMMUNICATION STUDIES
TEXAS STATE UNIVERSITY



JASMINE T. AUSTIN, PH.D.
ASSISTANT PROFESSOR,
DEPARTMENT OF COMMUNICATION STUDIES
TEXAS STATE UNIVERSITY

3:00 - 3:45 PM



THE MARSHMALLOW CHALLENGE

FLOYD QUINN, PH.D.
ASSISTANT PROFESSOR OF PRACTICE,
MCCOY COLLEGE OF BUSINESS,
TEXAS STATE UNIVERSITY



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2023 TXST STEM CONFERENCE

4:00 - 4:30 PM

RECENT ALUMNI IN STEM PANEL *LBJ GRAND BALLROOM*



BRANDON DEL FRATE
PROJECT MANAGER
BCS CONCRETE STRUCTURES



BRITTANY ENFIELD
STAFF SPECIALIST FOR MANUFACTURING
ENGINEERING ANALYTICS
INFINEON TECHNOLOGIES



MAURICIO TELLEZ
MEDICAL LABORATORY SCIENTIST I,
NATERA INC.



MODERATOR: JEREMY WHITE, PH.D.
ASSISTANT DIRECTOR
IDEA CENTER
TEXAS STATE UNIVERSITY



SPONSORED BY THE TEXAS STATE UNIVERSITY IDEA CENTER

4:30 PM

PRESIDENTIAL REMARKS



KELLY DAMPOUSSE, PH.D.
PRESIDENT
TEXAS STATE UNIVERSITY

POSTER AWARDS AND FINAL REMARKS

PAULA WILLIAMSON, PH.D.
ASSOCIATE DEAN FOR RESEARCH
COLLEGE OF SCIENCE AND ENGINEERING

SPEAKER BIOS

KEYNOTE SPEAKERS



Reuben Harris, Ph.D.

Professor and Chairman
Biochemistry & Structural Biology
UT Health San Antonio
Howard Hughes Medical Institute Investigator

Reuben Harris is an investigator of the Howard Hughes Medical Institute (HHMI) and chair of the Biochemistry and Structural Biology department at University of Texas Health San Antonio. He received his B.S. (1993) and Ph.D. (1997) degrees from the University of Alberta and performed postdoctoral work at Baylor College of Medicine (1997-1998), Yale University (1998), and Cambridge University (1998-2003). He joined the University of Minnesota as an Assistant Professor in 2003 and was promoted to Associate Professor with Tenure in 2008 and to Full Professor in 2013. In 2022, Dr. Harris moved his laboratory to University of Texas Health San Antonio. Dr. Harris has received numerous grants and awards, including a Searle Scholarship, membership to the American Academy of Microbiology, NIH Merit Award, a Distinguished McKnight University Professorship, and the KT Jeang Prize. In 2015, he was also appointed as a Howard Hughes Medical Institute Investigator. Dr. Harris is an Associate Editor for Science Advances and an Editorial Board Member for Journal of Biological Chemistry, Journal of Virology, and Cancer Research. He has published over 200 manuscripts, contributed to 13 patent applications, and co-founded a cancer therapeutics company. Dr. Harris's scientific passion is elucidating mechanisms of mutation and establishing relevance to human biology and disease.

2023 TXST STEM CONFERENCE



Kendall Moore, Ph.D.

Professor, Journalism & Film/Media
Documentary Filmmaker
University of Rhode Island

Kendall Moore, PhD, is an award-winning documentary filmmaker and a Professor in the departments of Journalism and Film Media at the University of Rhode Island. Before joining the faculty at URI in 2003, she worked as a television journalist focusing on medical, health, race, and environmental issues. Moore has produced numerous independent documentaries that have aired on PBS and in various film festivals including Charm City (1996), Song in the Crisis (2004), Sovereign Nation/Sovereign Neighbor (2006), The Good Radical (2009), Sick Building (2014) and Jalen and Joanna: A Lead Paint Story(2017). She is also the director of the "Can We Talk? Difficult Conversations with Underrepresented People of Color" series. Moore has also written and directed fiction and experimental films. She has received several grants and awards for her work, including two Fulbright Scholar Awards: Tanzania (2001) and Jamaica (Specialist, 2004); The Rhode Island Film Fellowship for Outstanding Filmmaking (2007); and, the recipient of two Metcalf Awards for excellence in journalism in 2015 and 2017. In 2018, she received an NAACP award for excellence in documentary filmmaking for Jalen and Joanna: A Lead Paint Story. In 2020, she received NSF funding for her film project focusing on various efforts to decolonize science, which she is focusing on as a Fellow at MIT's Open Documentary Lab (2020-2021). In 2020, she was honored to receive the Faculty Excellence Award for Diversity at the University of Rhode Island. And in 2021-2022, Moore was selected to be one of 10 faculty members to serve as a mentor in the Mellon Faculty of Color Working group as a mentor.

She is a well regarded public speaker and instructor who has presented at national conferences, federal agencies, colleges and universities throughout the U.S. In 2016, she was commended by Crain's magazine as one of 10 professors of merit in the field of journalism. She earned her B.A. from Syracuse University in Latin American Studies and an M.A. in Media Studies and documentary film from The New School for Social Research. Her PhD, which she completed at the European Graduate School for Media and Communication, focuses on black aesthetics, metaphysical philosophy. She resides in Rhode Island with her husband and daughter.



Anthony DePass, Ph.D.

Director of Understanding Interventions
CEO of Lifestyle Learning
DePass Consulting

Dr. Anthony DePass the Director of Understanding Interventions, and recently retired Professor of Biology at Long Island University, where he led several externally funded training and development programs including the LIU MBRS RISE (NIH), the LIU ADVANCE (NSF) programs and LIU's Noyce Teacher Scholarship program. His over 20 years of leadership experience as PI and Co-PI on grants and programs aimed at the development of talent at all levels for scientists towards a diversified scientific workforce also includes programs and activities on the national level. Dr. DePass served as PI of the American Society for Cell Biology's T36 MARC grant while Chair of that organization's Minorities Affairs Committee. In those capacities, Dr. DePass led the implementation of several training and career development activities spanning the undergraduate to the professional levels for participants from over 140 institutions. Dr. DePass Co-Chaired the NRC committee on Interventions that Encourage Minorities to Pursue Research Careers and served on a similar committee that examined the status of Minority Women in Academia. These activities have since translated into annual conferences on Interventions that Broaden Participation in Science Careers for which Dr. DePass currently serves as PI and Director. These conferences serve as venues for the dissemination of scholarship and training related to Interventions leadership, research and evaluation. The conferences and related resources, accessible through the website (understandinginterventions.org), are aimed at mutually informing communities of practice, evaluation and scholarship. This work has had the benefits of funding from the NIH, NSF, HHMI, Sloan Foundation and Education Testing Service. Dr. DePass was the lead author on assessment for the recently published Vision and Change in Undergraduate Education- A Call to Action. This work addressed the needed improvement of biology education to address 21st century challenges. He currently leads a group (DePass Academic Consulting) at that works with institutions in areas of program evaluation, strategic planning, grantsmanship training, grant writing, and professional development.



Arnaldo Díaz Vázquez, Ph.D.

Associate Dean,
Graduate School of Biomedical Sciences
UT Southwestern Medical Center

Dr. Arnaldo Díaz Vázquez is the Associate Dean for the Graduate School of Biomedical Sciences at UT Southwestern Medical Center. Dr. Díaz Vázquez leads efforts to increase diversity and inclusion in the biomedical sciences, including directing the Summer Undergraduate Research Fellowship and AMGEN Scholars programs, directing the Postbaccalaureate to Ph.D. (PB2PHD) Program and co-directing the Provost's Initiative for Diverse Emerging Scholars (PROVIDES) Program. The latter offers resources to resources to early-career scientists from UR backgrounds and supporting their transition into independent faculty positions. Dr. Díaz Vázquez received his Bachelor of Science degree from the University of Puerto Rico, Rio Piedras, and his Ph.D. degree in Biochemistry from Texas A&M University. After completing his Ph.D., Dr. Díaz Vázquez completed postdoctoral training in cancer at the University of Pennsylvania Perelman School of Medicine. Dr. Díaz Vázquez is a Leadership Alliance Doctoral Scholar and an alumnus of the Linton-Poodry SACNAS Leadership Institute.

2023 TXST STEM CONFERENCE

WORKFORCE DEVELOPMENT SESSION SPEAKERS



Melinda Villagran, Ph.D.

Executive Director
Translational Research Health Center
Texas State University

Dr. Melinda Villagran is a professor and executive director of the Texas State Translational Health Research Initiative, a program supporting faculty seeking to improve health through applied research and sponsored programs. Dr. Villagran is also currently principal investigator on two community-based research programs. S.H.A.R.E. (Sexual Health Assessment and Risk Education), is a multi-year community-based partnership funded by SAMHSA to reduce sexual risk behaviors among at-risk young adults in our community. Network is a translational research program funded by St. David's Foundation to develop a health communication and social support network among underserved women in Hays County.

Prior to attending graduate school, Dr. Villagran worked for U.S Representative Mike Synar in Washington D.C. In 2001, she joined the Texas State Communication Studies faculty where she worked from 2001-2004, before leaving to work at UT Health Science Center in San Antonio, University of Texas San Antonio, and George Mason University. At Mason, she served as graduate director and inaugural faculty member for their top rated PhD program in health communication. She returned to the faculty at Texas State in 2012.

Dr. Villagran has authored two books and published over 65 peer-reviewed publications on communication and health. She has been quoted as a communication expert in numerous regional and national media outlets, including the Washington Post, Washington Examiner, AARP Magazine (bilingual edition), ABC News, and the Wisconsin Law Review. Her work has been funded by the Department of Defense, Centers for Disease Control National Cancer Institute, Department of Homeland Security, Merck Pharmaceutical, the Substance Abuse and Mental Health Services Administration, and several other funding agencies.

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Jasmine Austin, Ph.D.

Assistant Professor
Department of Communications Studies
Texas State University

Dr. Austin was born and raised in Lafayette, LA before earning her bachelors degree in Communication Studies with a minor in organizational studies from the University of Mary Hardin Baylor in Belton, TX, masters degree in Communication Studies at the University of Wyoming in Laramie, WY, and Ph.D. in Organizational and Race Communication with a certification in Women and Gender Studies from the University of Oklahoma in Norman, OK.

Dr. Austin has two main research tracks: Organizational Socialization and Marginalized Identities. Lately, her research explores the content of conversations had between supervisors and incoming organizational members during the pre-entry/offer consideration phase. She is interested in if/how personal identities are discussed in these early conversations and how does this influence future interactions, disclosure, and retention.

Dr. Austin is grounded by the love for her parents, older twin brothers, niece and nephews. She is kept sane through active self-care by traveling, exercising, playing volleyball, and enjoying the outdoors.



Floyd Quinn, Ph.D.

Assistant Professor of Practice
McCoy College of Business
Texas State University

Dr. Floyd Quinn is an Assistant Professor of Practice in the McCoy College of Business at Texas State University. His research broadly focuses on the characteristics of environments that encourage individuals and groups to perform at their highest levels. He has written extensively on this topic, contributing to several textbooks, the Encyclopedia of Business Ethics and Society, as well as publishing numerous articles on the subject. He is the recipient of the 2016 Jerome L. Neuner Award for Excellence in Professional Scholarly Publication from the American Association of University Administrators as well as the 2018 and 2016 College Achievement Award for Excellence in Scholarly/Creative Activities from Texas State University.

2023 TXST STEM CONFERENCE

RECENT STEM ALUMNI PANELISTS



Brandon Del Frate

Project Manager

BCS Concrete Structures

Bachelor of Science, Concrete Industry Management ('15)

Brandon is a project manager for BCS. Brandon graduated from TXST with a degree in Concrete Industry Management where he learned the fundamentals of concrete, business, and construction science. During college, he worked for a concrete repair company, traveling the country working on structural upgrades, corrosion, removal & replacement, and carbon fiber technologies. After college he worked as a project manager for a commercial company doing basic concrete repairs and commercial concrete projects. With the drive to grow, he came to BCS in 2018 with the goal to be part of the best elevated/high rise concrete construction team in Austin. He is currently working in the field assisting project managers on two of the largest jobs in the BCS's history. When he is not at concrete pours or subcontractor meetings, you'll find him getting humbled at local chess clubs or trying to catch the next big bass on Lady Bird Lake.



Brittany Enfield

Staff Specialist for Manufacturing Engineering Analytics
Infineon Technologies

Bachelor of Science, Applied Mathematics & Computer
Science ('15)

Brittany Enfield works in the Manufacturing Engineering Analytics department at Infineon, with a particular focus on the IT team. Our team's overall job is to facilitate the collection, storage, and presentation of semiconductor manufacturing data to the Product and Test Engineers at Infineon sites all over the world. Brittany's specific role is to work with engineers to develop: dashboards, automated reports, adhoc statistical analysis techniques, and provide training classes for engineering groups in North America, Europe, and Asia. Outside of work, Brittany's personal interests include cooking and travel (she has traveled to 16 countries).

2023 TXST STEM CONFERENCE

RECENT STEM ALUNMI PANELISTS



Mauricio Tellez
Medical Laboratory Scientist I,
Natera inc.

Mauricio graduated from Texas State University in 2021 with a Bachelor of Science in Clinical Laboratory Science. While doing his undergrad, he worked in biotechnology lab settings. This, combined with the education and career development attained at Texas State, has helped shape the trajectory of his career. As a Medical Laboratory Scientist at Natera, Mauricio is a member of the company's women's health team which provides patients in need of non-invasive prenatal screening for genetic conditions with the results they need. Although his current occupation is entrenched in molecular diagnostics and next-gen DNA sequencing, his previous background extends to being a Medical Lab Scientist at two different level I trauma centers in Austin; having worked as a generalist at one and a Flow Cytometry specialist at the other. Outside of work, Mauricio enjoys casual hiking, indoor climbing/bouldering, paddleboarding, and spending time with friends.

RECENT STEM ALUNMI PANEL MODERATOR



Jeremy White, Ph.D.
Assistant Director
IDEA CENTER
Texas State University

Jeremy White is a graduate of Texas State University with a BFA and an MA in Theatre, and earned his PhD. in Fine Arts from Texas Tech University. His areas of expertise are theatre history/criticism/theory and playwriting. His dissertation explored how playwrights can utilize the anti-hero character type to comment upon and criticize social practices. Professionally, he has served as a contributing writer for the websites The Hard Times and Cracked and has published multiple comedy articles. He also continues to write and direct for the theatre, and has worked with the Wimberley Players and The City Theatre in Austin. In his spare time he plays nerdy tabletop games and watches terrible movies for fun.

2023 TXST STEM CONFERENCE

EXHIBITORS

Exhibitor	Description
The Astronomy Club at Texas State University	The Astronomy Club is a charter organization founded in 2016 and consists of a diverse range of degree backgrounds. We dedicate our time to exploring the night sky, doing education outreach, and camping. We provide public viewing hours during the school semester every Wednesday at sunset if the skies are clear.
Career Services	From that first big decision of choosing your major and finding campus employment, through building experience with leadership, co-ops, and internships, to searching for and landing your first big job offer, Career Services is here for TXST Students. We provide one on one and group career coaching to all TXST students and alumni.
The Data Science Center (DCS)	The Data Science Center (DSC) will be Texas State University's central hub of data-intensive research, data science training, and outreach programs. DSC aims to facilitate collaboration across the data science community of domain experts from the health, life, social, and physical sciences, as well as supporting methodological experts from computer science, statistics, engineering, and applied mathematics.
First Gen Proud	Texas State First Gen Proud is dedicated to supporting our first-gen population by welcoming and celebrating their successes. We focus on cultivating students' strengths and accomplishments while providing individual mentorship and other forms of institutional resources—from college to commencement to career.
The Graduate College	Students in The Graduate College at Texas State University participate in education and research with relevance to the world beyond the university. Nationally recognized faculty lead the way with applied, interdisciplinary scholarship. We have more than 100 graduate degree programs, including flexible formats for full-time and part-time students.

EXHIBITORS

Exhibitor	Description
IDEA Center	The IDEA Center provides all undergraduates with opportunities to engage in research and creative expression in any field of study. Come see what you can accomplish.
Math CATS	The mission of Math CATS is to support academic growth by increasing skill competence, raising achievement in math coursework, instilling confidence in students' mathematical abilities, and developing an appreciation for mathematics that goes beyond the classroom.
PREM CIMA	The NSF Partnership for Research and Education and Materials (PREM) Center for Intelligent Materials Assembly (CIMA) provides opportunities for undergraduate and graduate students to get engaged in hands-on research in materials science, professional development, and diversity and inclusion education.
SACNAS	Society for the Advancement of Chicano/Latinx and Native Americans in Science (SACNAS) is a student organization at Texas State University. We offer student opportunities for outreach, scholarships, and mentorship. SACNAS strives to improve inclusivity and diversity in STEM fields.
Transfer Center	The primary goal of the Transfer Center is to increase transfer student success and timely graduation through a variety of activities. Reach out to learn how we can support you in your transfer journey from start to finish.

2023 TXST STEM CONFERENCE

POSTER PRESENTATIONS

Poster Number	Poster Details
Research Posters AGRICULTURAL/ANIMAL/PLANT/VETERINARY SCIENCE AND RELATED FIELDS	
1R-U	U.S. consumer perceptions of insects as livestock feed: Ethical considerations for insects <i>Mikael N Carrasco</i>
2R-G	Industrial hemp as cattle feed: An <i>in vitro</i> analysis <i>Greyson Fruge, Hannah Boyer, Nicole Wagner, Merritt Drewery</i>
3R-G	Black soldier fly larvae (BSL) as an alternative protein source for beef cattle consuming forage <i>Kayra Tasci, Merritt Drewery</i>
4R-U	In-situ degradability of hemp (<i>Cannabis sativa</i> L.) components in cattle <i>Alyssa D Lopez, Emma P Fukuda, Hannah L Boyer, Nicole C Wagner, Merritt L Drewery</i>
5R-U	Pelagic fish spared from ocean catch by integrating Black Soldier Fly Larvae in aquaculture production <i>Evan R Moore, Xiangping Liu, Merritt L Drewery</i>
6R-G	Black soldier fly larvae (BSL) and frass (FRS) as protein supplements for beef steers consuming low-quality forage <i>Shakara Maggitt, Merritt Drewery</i>
Research Posters BIOLOGICAL AND BIOMEDICAL SCIENCES	
7R-G	A study of the potential virulence factor Riboflavin in <i>Pseudogymnoascus destructans</i> <i>Saika Anne, Ryan L Peterson</i>
8R-G	Identification of Potential Oncogenic Target Genes of miR-506-3p in Neuroblastoma <i>Daniela F Cardus, Mitchell Smith, Alexandra Vernaza, Liqin Du</i>
9R-G	Bacteria and nitrite change smelling ability of catfish <i>Ashley Franklin, Nicole Restrepo, Camila Carlos-Shanley, Mar Huertas</i>
10R-G	Striped bass (<i>Morone saxatilis</i>) possess olfactory sensitivity to conspecific chemicals during reproduction <i>Chironjib Singha Samanta Chandan, Linnea K Andersen, Robert W Clark, Benjamin J Reading, Mar Huertas</i>
11R-G	Validating the Use of Saliva Samples To Measure Stress Response in Captive Ruffed Lemurs (<i>Varecia</i> spp.) <i>Raymond Vagell, Ashley N Edes, Jill D. Pruetz</i>

POSTER PRESENTATIONS

Poster Number	Poster Details
12R-G	Investigating the Oncogenic Role of CDKN3 in Neuroblastoma <i>Alexandra Vernaza, Zhenze Zhao, Liqin Du</i>
13R-U	Mobility of a tRNA fragment under biotic stress and its potential involvement in systemic acquired resistance in plants <i>Sophia L Kottke, Sharaz Bhatti, Hong Gu Kang, Dinesh Pujara</i>
14R-U	Poly(lactic-co-glycolic acid)/Polyethylenimine nanocarriers of microRNA for reprogramming neuroblastoma cancer cells. <i>Josue Osorio, Liqin Du, Tania Betancourt</i>
15R-U	Characterization of RNF175, a Novel Ring Finger E3 Ligase <i>Jennifer A Perez Espinosa, Micaela Vargas</i>
16R-U	Dynamic, reversible cross-linked hyaluronic acid-based hydrogels for drug delivery <i>Jessica S Peterson, Kushal Thapa, Tania Betancourt</i>
17R-U	Characterization of Microbiome-derived Probiotics Used for Disease Mitigation in Channel Catfish. <i>Nicole Aileen Restrepo Caicedo, Ashley Franklin, Mar Huertas Pau, Camila Carlos-Shanley</i>
18R-U	Optimization of Precursor Functionalization for the Synthesis of Dynamically Crosslinked Hydrogels for Drug Delivery <i>McKenzie M Siller, Kushal Thapa, Thomas FitzSimmons, Adrienne Rosales, Tania Betancourt</i>
19R-U	Identification of Potential Anti-Cancerous Activity in Neuroblastoma from a Heterocyclic Compound Library <i>Jadyn Smith, Alexander V Aksenov, Nicolai A Aksenov, Stanislav V Scherbakov, Alexander Kornienko, Liqin Du</i>
20R-U	Engineering a New Expression System for Purification and Analysis of Phase-Separating Proteins <i>Sebastian D Velez, Karen A Lewis</i>
21R-U	Investigating immunity post heat stress in the model cnidarian, <i>Exaiptasia diaphana</i> <i>Haley R Womack, Erin Borbee, Lauren Fuess</i>
22R-G	Pilot Study: Gut Microbiome of Western Chimpanzees (<i>Pan troglodytes verus</i>) at Fongoli, Senegal <i>Kaelyn Dobson, Carson Black, Katie Gertsner, Camila Carlos-Shanley, Jill Pruetz</i>

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Poster Number	Poster Details
23R-U	The Dynamics of Ammonia Excretion of Green Swordtails (<i>Xiphophorus hellerii</i>) in an Aquaponics Environment <i>William Ortiz, Alex Tran, Mar Huertas</i>
Research Posters COMPUTER AND INFORMATION SCIENCES AND SUPPORT SERVICES	
24R-G	Effects of Community Cultural Wealth on Black and Hispanic Women's Persistence in P-20 Computing Education <i>Shetay Ashford-Hanserd, Toni Moreno, April J Mouton, Lillianna Carrera</i>
25R-U	Regulating Unmanned Aerial Vehicles Fly-Over's Via Authorization-based Zoning <i>Abdullah Kamal, Jeremy Vidaurri</i>
Research Posters ENGINEERING	
26R-U	Inclusion of Diverse Participants in Development of Emotion Portrayal Database <i>Ana L Hernandez, Saira C Valenzuela, Ana E Camacho, Lois A Umali, Ryan Newcomb, Damian Valles, Maria D Resendiz</i>
27R-G	Smart Conductive Concrete <i>Precious Aduwenye, Xijun Shi</i>
28R-G	Erodibility Characterization of Plastic Riverbed Soils <i>Muhammad Tasnim Alam, Stacey Kulesza</i>
29R-G	Adsorption Potential of Water Lettuce (<i>Pistia stratiotes</i>) Biochar for Nitrogen Removal in Water <i>Eunice O Babatunde, Ranjit Gurav, Sangchul S Hwang</i>
30R-G	Effect of Oxygen Pressure and Temperature on the Growth of Magnesium Gallate Thin Films by PLD Technique <i>Md Abdul Hamid, Subrata Karmakar, Brian C Samuels, Injamamul Hoque Emu, Ariful Haque, Ravi Droopad</i>
31R-G	Remediation of water contaminated with Adsorption of Petroleum Hydrocarbon using Water Hyacinth (<i>Eichhornia crassipes</i>) Biomass <i>Marufa Khondoker, Ranjit Gurav, Sangchul Hwang</i>
32R-G	Integration of Diamond on β-Ga₂O₃ <i>Imteaz Rahaman, Saif Taqy, Subrata Karmakar, Ariful Haque</i>
33R-G	Implementation of zero waste circular economy for the next generation of agriculture <i>Hribhu Chowdhury, Bahram Asiabanpour</i>

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Poster Number	Poster Details
34R-G	Large Area Reduced Graphene Oxide Films by Pulsed Laser Deposition and Successive Laser Annealing for Improved Electrical Properties <i>Istiaq Firoz Shiam, Maria Sultana, Pallab Kumar Sarkar, Subrata Karmakar, Ariful Haque</i>
35R-U	Planning Texas Electric Vehicle Infrastructure for Zero Carbon Operations through 2040 <i>Andrea Barreto, Justin Williams, Jonathan Guillen, Jose Castillo, Tongan Jin, Tao Ma, Michelle Londa</i>
36R-U	Human Digital Twin <i>Raymond I Nava, Chaerin Park, Abhimanyu Sharotry, Jesus Jimenez</i>
37R-G	Heat Transfer Property Characterization of CVD Diamonds on Ultra-Wide Bandgap Semiconductors Using Q-carbon Interlayer <i>Maria Sultana, Pallab Kumar Sarkar, Ariful Haque</i>
38R-G	An empirical study of an Atmospheric Water Generator system by designing and fabrication of air duct for heat sink and operational factors. <i>Md Hasib Ullah, Bahram Asiabanpour, Mark Summers</i>
Research Posters ENGINEERING/ ENGINEERING-RELATED TECHNOLOGIES	
39R-G	Inkjet Printed Thin Film of Two-Dimensional Metal-Organic Framework Based on Nickel Tetracyanonickelate as Solar Cell Material <i>Md Abdul Halim, Md Abdul Hamid, Gary W Beall</i>
40R-G	MECHANICAL PROPERTIES OF GLASS FIBER REINFORCED COMPOSITES MADE FROM EXPIRED STEREO LITHOGRAPHY PRINTER RESIN <i>SM Tawhid Mahmud, Md Ibrahim Khalil Tanim, Wasi Shadman, Md Muhtasim Fuad, Bahram Asiabanpour</i>
41R-U	Improving Automated Plant Seeding Through Design and Development of Automated Seeder and Route Optimization <i>Lance J Simon, Bahram Asiabanpour, Mark Summers</i>
42R-U	Determining Affecting Factors on the Accuracy of Measuring Elemental Compositions of Materials Using an X-Ray Fluorescence Spectroscopy (XRF) Analyzer <i>Olivia J Renner, Bahram Asiabanpour</i>
43R-U	An Empirical Study on the Oil Extraction of Vetiver <i>Gabriela A Molina, Olivia J Renner</i>
44R-U	Removal of Silica and Nutrients from Reverse Osmosis Concentrate Through Diatom-Based Treatment Outdoors <i>Kamaya D Bonds, Emma M Clow, Keisuke Ikehata</i>

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Poster Number	Poster Details
45R-U	Experimental Growth of Halophytes in Secondary Farming <i>Christian D Torres, Olivia J Renner, Bahram Asiabanpour, Hribhu Chowdhury, Nicole Wagner, Mar Huertas Pau</i>
Research Posters HEALTH PROFESSIONS AND RELATED PROGRAMS	
46R-G	Cultural Considerations in the Development of the Nurture Neurodiversity App <i>Lois Adrienne Umali, Maria Resendiz, Micaela Vargas</i>
47R-U	The Evolution of External Beam Radiation Therapy Technology <i>Samantha D Gomez, Megan Trad</i>
Research Posters MATHEMATICS AND STATISTICS	
48R-U	Volume Quantization of Stroke Lesions via one-click Constrained Normalized Cut <i>Michala N Gradner</i>
49R-U	Analyzing the Effectiveness of the Gang Reduction Youth Development Program using Dynamic Mode Decomposition <i>Axel Sanchez Moreno, Marc Andrew Choi, Siyu Huang, Hengyuan Qi, Marco Scialanga, Emerson McMullen, Andrea Bertozzi, P Jeffery Brantingham, Yifei Lou</i>
Research Posters NATURAL RESOURCES AND CONSERVATION	
50R-G	Resistance of grassland community productivity to nutrient addition and soil disturbances depends on the season. <i>Tilak Chaudhary, David W Rowley, Philip A Fay, Joseph W Veldman, Jason P Martina</i>
51R-G	Remote Sensing of Invasive <i>Arundo donax</i> in Native Fish Conservation Areas of Texas <i>Jenna M DeMent, Jennifer Jensen, Monica McGarrity, Jason P Martina</i>
52R-G	Using ecological niche modeling to predict distributions of two endangered plant species, <i>Leavenworthia texana</i> and <i>Physaria pallida</i> <i>Brianna Fogel, Paula S Williamson, Adrian Castellanos, Jason P Martina</i>
53R-G	Development of a Concurrent Community Science <i>E. coli</i> Bacteria and Optical Brightener Monitoring Prototype as a Pollution Screening Tool <i>Desiree A Jackson, Sandra S Arismendez</i>

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Poster Number	Poster Details
54R-G	Tropical epiphytes as reservoirs for the amphibian-killing fungus <i>Maria Del Mar Moretta-Urdiales, Moises Tenorio, Francisco Velasquez, Ryan Lynch, Juan Manuel Guayasamin, Shawn McCracken, David Rodriguez</i>
55R-G	Using a simulation model to test the competitive dominance of two invasive wetland species <i>Andrew D Martinez, Jason Martina, Clementina Calvo Rocca</i>
56R-U	Impact of Rising Temperatures and Increasing Nitrogen input on invasive <i>Phragmites australis</i> in Coastal Wetlands <i>Rebecca Nicole Villarreal, Trinity Vaquera</i>
Research Posters PHYSICAL SCIENCES	
57R-G	Characterization of Pt quantum dots fabricated by electron-beam induced deposition <i>Binod DC, Noah Austin-Bingamon, Yoichi Miyahara</i>
58R-G	Magnetic Anisotropy and Particle Distribution through Strontium ferrite/PA-12 FFF 3D printer filament <i>Gabriela Lynnette Espinosa Rodriguez, Oluwasola Arigbabowo, Jitendra Tate, Wilhelmus Geerts</i>
59R-G	Charge transfer through individual DNA molecules measured by mechanically detected electric charge sensing <i>Rigo Mayorga-Luna, Noah Austin-Bingamon, Binod DC, Damilola Runsewe, Mitchell Ford, Tania Betancourt, Yoichi Miyahara</i>
60R-G	The Nature of X-ray Sources in the Andromeda <i>Erika Marentes, Blagoy Rangelov</i>
61R-G	Frequency and damping noise of atomic force microscopy cantilevers with optomechanically modified quality factor at low temperature <i>Noah L Austin-Bingamon, Yoichi Miyahara, Binod DC</i>
62R-G	Post Growth Treatment to Improve Electrical Conduction and Physical Properties of Nanowires Deposited by Focused ElectronBeam Induced Deposition (FEBID) <i>Rajendra Rai, Ujjwal Dhakal, Binod DC, Yoichi Miyahara</i>
63R-U	Photothermally Responsive Dynamic Hydrogels Incorporating Reversible Thiol/Ene and Irreversible Maleimide/Thiol Crosslinking for Pulsatile Drug Delivery <i>Edgar Torres, Kushal Thapa, Thomas FitzSimons, Mckenzie Siller, Joanna Zepeda, Adrienne M Rosales, Tania Betancourt</i>

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Poster Number	Poster Details
64R-G	Rapid slot-die coating of high-quality absorber thin films by optimizing DMF/DMSO solvent ratio of triple halide perovskites <i>Nischal Khakurel, Wilhelmus Geerts, Yoichi Miyahara</i>
65R-G	Fabrication of nanopores by tip-controlled local electric breakdown <i>Johnathan E Sims</i>
66R-G	Magnetic Torque Measurement of a 3D printed Strontium Ferrite Sample <i>Arjun Sapkota, Leo Rodriguez, Wilhelmus Geerts, Jitendra Tate</i>
Research Posters STEM EDUCATION	
67R-G	Outdoor Science Activities Allow Children to Explore STEM Practices and the Natural World in an Engaging Setting <i>Carolyn A Jess, Raylee K Schobel, Kristy L Daniel</i>
68R-G	Examining student thinking about series approximations using potential energy in a series of charge configurations <i>Samuel F Zamora, Hunter G Close</i>
69R-U	Developing Trust: Assessing biology Learning Assistant-faculty partnerships in the STEM Communities Project <i>Hannah Castro, Lexie Kerr</i>
70R-G	Exploring undergraduate students' difficulties of interpretations on tree thinking approach using eye movements <i>Mallika Saha, Kristy L Daniel</i>
Design Posters	
71D	Huffmanella cf. Huffman infecting swim bladder of variable platyfish and Gambusia holbrooki (Poeciliidae) in Texas; taxonomy, phylogenetic analysis, and pathological changes. <i>Meraj Fallah Abed</i>
72D	Fire-Bot Enhancements <i>Timothy T Maraj, Benjamin Swann, Oscar Resendiz, Tony Alebesun</i>
73D	HDPE Post Consumer Plastic Mold Designs <i>Ryan Robinson, Drew Lacy, Korbyn Jones, Robert Leija, Jose Guerrero</i>
74D	Ergonomics Bobcat Racing Team <i>Allan A Alvarez, Sean Wilhite, Victor Hernandez, Christopher Lamos</i>
75D	New Braunfels Heritage Tribute <i>Deborah L Jauregui, Bianca A Chernoff, Devyn M Grant, Mikayla McAweeney</i>



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The World of Science

Dr. Jose Rodriguez-Romaguera

ASSISTANT PROFESSOR, PSYCHIATRY,
SCHOOL OF MEDICINE, UNIVERSITY OF
NORTH CAROLINA AT CHAPEL HILL



1. Science Talk (Hybrid)

Topic: Identifying neural circuits of arousal and anxiety that will lead to clinical interventions in anxiety and autism

April 12th at 10:00am

Location: LBJ Student Center 3-14.1



2. Student Workshop (in person)

Topic: Cafecito y Consejos: El camino of a Latinx Neuroscientist

April 13th at 11:30 am

Location: UAC 474



3. Faculty Workshop (in person)

Topic: Lessons learned training scientists from historically underrepresented groups

April 13th at 3:00pm

Location: UAC 474



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