



Program
2023 Fall Meeting
October 26 - 28, 2023
Tarleton State University
Stephenville, Texas



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Visitor Information



PARKING LOTS	ADMINISTRATIVE	ACADEMIC	ATHLETICS & RECREATION	RESIDENCE HALLS	LANDMARKS & ADDITIONAL FACILITIES
<ul style="list-style-type: none"> Residential Parking Convener Parking All-Zone Parking Faculty and Staff Parking Bus Parking Visitor Parking <p>For information about off-campus locations scan the QR code below</p>	<ul style="list-style-type: none"> 1 Administration Building 2 Administration Annex I 3 Athletics Administration 4 Campus Operations 5 Central Receiving 6 Control Center 7 Geog 11 Hall 8 Information Technology Services 9 Moody Hall 10 Physical Plant 11 Tolson Center 12 University Police Department 13 Walker Center 	<ul style="list-style-type: none"> 14 Business Building 15 Clyde H. Walls Fine Arts Center 16 Duke Smith Library 17 C.J. Howell Education Building 18 Mayfield College of Engineering Building 19 Health Sciences and Human Services 20 Joe W. Army Agriculture Building 21 John Tolson Leadership Academy 22 Kinocology 23 Lorenz Johnson Science Building 24 Mathematics Building 25 Nursing Building 26 O.A. Green Humanities Building 	<ul style="list-style-type: none"> 27 Aquatics Center 28 Baseball Complex 29 Football Field House (Stadium) 30 Track and Field Facilities and Interval Complex 31 Memorial Stadium 32 Postman-Lord Tennis Courts 33 Soccer Recreation Center 34 Soccer Field 35 Softball Field 36 Sports Medicine Center (Baseball/Softball) 37 Wilson Gym 	<ul style="list-style-type: none"> 38 Caterford Hall 39 Bender Hall 40 Ferguson Hall 41 Heritage Hall 42 Hoxson Hall 43 Harwell Hall 44 Integrity Hall 45 Legacy Hall 46 Legends Hall 47 Texas Hall 48 Texas Village 49 Traditions North 50 Traditions South 	<ul style="list-style-type: none"> 51 Alumni House 52 Alumni Island 53 Barry B. Thompson Student Center 54 Campus Store 55 Food Court* 56 Common 57 Col. Rex M. Mank 58 Dining Hall* 59 Dog Park 60 Earl Butler Statue 61 East Rock Grove 62 Food Truck Courtyard* 63 Heritage Park 64 Harwell Bondarnd 65 John Tarleton Memorial 66 Military Memorial 67 Nursing Building 68 Richwood Pool 69 Smokestack 69 Indian Class Ring 70 Beaman Elder Mosaic 71 Brogdon House 72 ULTRA 73 University Seal 74 Water Tower 75 Woodrow Center

[Interactive Map](#) | Download Free Parking Passes for [Thursday & Friday](#) / [Saturday](#)

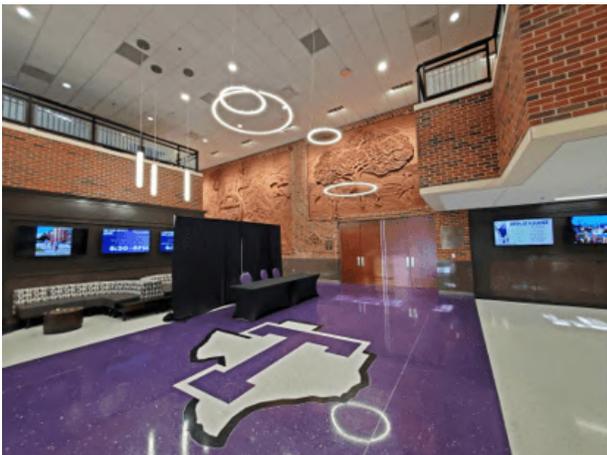
The meeting spaces are in the Science Building, Student Center, and Dining Hall. The recommended route to parking is W Frey (top of map) to N Lillian for P15 and N Rome for P22. There is ongoing construction of a Conference/Events Center and parking garage along Harbin/W Washington, with intermittent road closures (bottom left of map). Additional parking is available at P41 near the baseball and softball fields.

Venue - Thursday and Saturday



All meeting locations are near the university graduation ring sculpture. The Science Building has a domed planetarium roof. The reception and presentations are in the foyer and adjacent classrooms by the dinosaur skull exhibit.

Venue - Friday



The meeting spaces are in the Student Center (left, SE entrance; right, SW entrance). Presentations are in or near the Ballrooms (by SW entrance). Lunch is in the Dining Hall.

On Campus Dining

Locations and Hours of Operations

<https://tarleton.sodexomyway.com/>

- Chick-fil-A
- T-Birds
- Blaze Pizza
- Sandella's Flatbread Café
- Starbucks
- Dunkin Donuts
- Oscar P's General Store

Walking Distance Dining

Across W Washington Street on the southeast side of campus

Local Restaurants

- Montana
- Cold Smoke Craft House

Chain Restaurants

- Dairy Queen
- McDonald's
- Subway

Nearby Dining

Within 8-minute drive

Local Restaurants

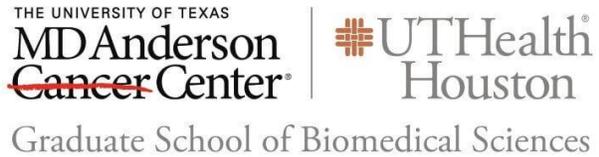
- Hard Eight Barbeque
- Greer's Ranch Cafe
- Caam's Neapolitan-style Pizza
- Don Nico's Mexican Restaurant
- Pattaya Thai Kitchen
- Grumps Burgers
- Peacock's Diner
- Enoki Sushi
- Shooterz Bar and Grill
- R&R BBQ
- The Purple Goat
- Azteca Mexican Bar and Grill

[Google Map of Chain Restaurants and other Local Restaurants](#) (zoom in for more listings)

Meeting Sponsors



Howard Hughes
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Special Acknowledgements

Young Leaders Session Chair: Alex Kang, Rice University

REU Session Chair: Natasha Kirienko, Rice University

Judging and ASM Service Chair: Heidi Kaplan, UT Health Science Center at Houston

Abstract Reviews: Jennifer Spinler, Baylor College of Medicine

Dustin Edwards, Tarleton State University

Meeting Registrations: Gregory Frederick, AUC School of Medicine

Patricia Baynham, St. Edward's University

Meeting Organizer: Dustin Edwards, Tarleton State University

Meeting Volunteers: Texas Pi Chapter of Alpha Epsilon Delta

Opening Keynote

Kim Orth, Ph.D.

University of Texas Southwestern Medical Center
W.W. Caruth, Jr. Scholar in Biomedical Research
Earl A. Forsythe Chair in Biomedical Science
Investigator, Howard Hughes Medical Institute
Professor, Department of Molecular Biology

Dr. Kim Orth is the Earl A. Forsyth Chair of Biomedical Sciences and a W.W. Caruth Jr. Scholar in Biomedical Research. She received her bachelor's degree in biochemistry from Texas A&M University before completing a master's degree at UCLA School of Medicine and a Ph.D. at UT Southwestern Medical Center. After completing her postdoctoral research at the University of Michigan, Dr. Orth returned to UT Southwestern 2001 as a faculty member. Dr. Orth is interested in elucidating the molecular activities used by the virulence factors of pathogenic bacteria to gain insight into eukaryotic host signaling systems. Her lab uses various techniques across biochemistry, molecular microbiology, protein chemistry, structural biology, yeast genetics, cell biology, and more. Her lab has discovered novel chemistry, including Ser/Thr acetylation and AMPylation, used by bacterial virulence factors to manipulate host cell signaling. Dr. Orth has received numerous honors throughout her career, including elections to the American Association for the Advancement of Science and the National Academy of Science and as an American Society for Biochemistry and Molecular Biology Fellow.



Dr. Orth is a 2021–2023 American Society for Microbiology Distinguished Lecturer.

Dr. Orth is available to meet with students and other trainees after her presentation. Read her article, [My winding trail while fulfilling my love for science and family](#).

Eugene and Millicent Goldschmidt Award Keynotes

Natasha Kirienko, Ph.D.

Rice University

Associate Professor, Department of BioSciences

Dr. Kirienko is an Associate Professor of BioSciences at Rice University, where she started her independent lab in 2015. She is the President-Elect of the Texas Branch ASM and the Chair of the Antimicrobial Resistance Cluster of the Gulf Coast Consortia. Dr. Kirienko started working on host-pathogen interactions during her postdoc at Massachusetts General Hospital / Harvard Medical School under Fred Ausubel and Gary Ruvkun, where she used the model nematode *Caenorhabditis elegans* to understand virulence mechanisms of *Pseudomonas aeruginosa* and to identify novel drug treatments. She has continued these projects in her lab, augmenting them with additional projects on the characterization of acute virulence factors produced by *P. aeruginosa* (siderophores, rhamnolipids, and pyocins) and their impact on mammalian cell survival. During her time at Rice, she has trained nine graduate and over 50 undergraduate students in her lab.



David Greenberg, Ph.D.

University of Texas Southwestern Medical Center

Professor, Department of Internal Medicine

Dr. Greenberg earned a bachelor's degree in public health from Johns Hopkins University in Baltimore, MD, before completing his medical degree and a residency in internal medicine at Baylor College of Medicine in Houston, TX. He received advanced training in infectious diseases through a fellowship at the National Institute of Allergy and Infectious Diseases in Bethesda, MD. Since joining UT Southwestern in 2010, Dr. Greenberg has focused on developing novel antibacterial therapeutics for multidrug-resistant bacteria. His lab uses peptide-conjugated phosphorodiamidate morpholino oligomers to block mRNA and prevent the translation of target genes. He also serves as the Director of Microbial Genomics in the Infectious Diseases Division and utilizes whole-genome sequencing to predict antibiotic resistance. He continues to teach several courses for medical students, including Emerging Infectious Diseases and the Microbiome.



Day 1, Thursday, October 25, 2023
Location: Lamar Johanson Science Building

3:00 – 5:00 PM Registration
SCI 112 Visitor Wi-Fi <https://www.tarleton.edu/technology/guest/>
Dinner – on your own (dining options pp. 6)

4:00 PM Reception – coffee and tea
SCI Lobby

5:00 PM Welcome
SCI 102 Dustin Edwards, Tarleton State University

5:10 PM Speaker Introduction

5:15 – 6:15 PM Keynote
“Black Spot, Black Death, Black Pearl: Tales of Bacterial Effectors”
Kim Orth, UT Southwestern

6:30 – 8:00 PM Halloween Movie Night
SCI Planetarium TBD

6:30 – 8:00 PM Open Business Meeting
SCI 112

Meeting ID: 925 2209 4705
<https://tarleton.zoom.us/j/92522094705?pwd=WjduajZjZ3BCb3FaS1V4VGN1S0lVQT09>
Password: 952575

Day 2, Friday, October 27, 2023
Location: Thompson Student Center

7:30 – 11:45 AM Registration
TSC Ballroom A/B Visitor Wi-Fi <https://www.tarleton.edu/technology/guest/>

8:30 – 10:00 AM Parallel Sessions | Trainee Presentations

TSC Ballroom A/B Graduate Medical Microbiology
Chair: Joseph Boll, UT Dallas

“Redefining antibiotic resistance in *Acinetobacter baumannii*”
8:30 Muneer Yaqub, UT Dallas

“Cytotoxic rhamnolipid micelles drive acute virulence in
Pseudomonas aeruginosa”
8:45 Alex Kang, Rice University

“Uncovering the mechanism behind metronidazole inactivation in
Enterococcus faecalis and its role in protecting
metronidazole-susceptible bacteria”
9:00 Muqaddas Amer, UT Dallas

“Environmental context alters antibiotic susceptibility: implications for
clinical antibiotic susceptibility testing”
9:15 Caroline Black, Texas Tech University

“Exploiting cooperation to fight resistant *Pseudomonas aeruginosa*
infections *in vivo*”
9:30 Emily Vanderpool, Texas Tech University Health Sciences Center

“Gut microbiomes and a fermented soybean product: monitoring
changes of microbial communities in human gut”
9:45 Shannon Moncier, UT Arlington

TSC 219

Graduate General Microbiology
Chair: Patricia Baynham, St. Edward's University

"*Borrelia burgdorferi* BosR binds small non-coding RNAs (sRNAs): implications for borrelial post-transcriptional gene regulation and pathogenesis"

8:30 Brittany Shapiro, Texas A&M University Health

"Host-specific adaptations in a ubiquitous zoonotic pathogen"

8:45 Chahat Upreti, UT Dallas

"Microbial modulation of aggression in crickets"

9:00 Christian Guerrero, Texas Tech University

"Phenotypic effect of capsule deletion on *Streptococcus pneumoniae* sRNA mutant in the presence of zinc"

9:15 Spencer Reiling, UT Arlington

"Thermal shifts drive structural adaptations of *Pseudomonas aeruginosa* biofilms in different environments"

9:30 Alex Luecke, Texas Tech University

"Investigating the effects of glufosinate on microbial communities in soil"

9:45 Sarobi Das, UT Arlington

TSC 130

Undergraduate Presentations
Chair: Archana Bahsin, Wharton County Junior College

"Effects of a novel climate-smart approach associated with a drought-tolerant Bradyrhizobium inoculant on soybean cultivation in South Texas"

8:30 Jordyn Waters, UT Arlington

"Envelope stress responses functionally coordinate to maintain cell homeostasis in *Escherichia coli*"

8:45 Ha Do, University of Houston - Downtown

"Building the Urinary *Proteus mirabilis* Pangenome"

9:00 Serena Zhou, UT Dallas

10:00 – 10:15 AM Break and Poster Set-up

- 10:15 – 11:45 AM Pathogenesis
TSC Ballroom A/B Chair: Lee Hughes University of North Texas
- “Stress response and virulence: the importance of the ClpXP protease in *Bacillus anthracis*”
10:15 Shauna McGillivray, Texas Christian University
- “Gain of function cytolysin expressed by clinically-isolated urinary *Enterococcus faecalis*”
10:45 Nicole De Nisco, UT Dallas
- “How the infection environment influences *Pseudomonas aeruginosa* pathogenesis”
11:15 Kendra Rumbaugh, Texas Tech University Health Science Center
- 11:45 – 12:45 PM Lunch break
Dining Hall
- 12:45 – 2:45 PM Poster Presentations
TSC Ballroom C 12:45 – 1:45 PM Poster Presentation Session A (odd-numbered)
1:45 – 2:45 PM Poster Presentation Session B (even-numbered)
- 2:45 – 3:15 PM Break / Poster Judging Meeting
- 3:15 – 4:45 PM Antibiotic Resistance and the Gram-Negative Outer Membrane
TSC Ballroom A/B Chair: Nicholas Dillon, UT Dallas
- “Moving proteins across the Gram-negative outer membrane”
3:15 Bryan Davies, UT Austin
- “Molecular factors that promote antibiotic treatment failure in Gram-negative infections”
3:45 Joseph Boll, UT Dallas
- “Signal transduction across the multilayered bacterial cell envelope”
4:15 Anna Konovalova, UT Health Science Center at Houston
- 4:45 – 5:00 PM Break

5:00 – 6:00 PM Environmental Microbiology and Microbial Ecology
TSC Ballroom A/B Chair: Jennifer Hennigan, Abilene Christian University

“Trade-offs, trade-ups, and molecular parallelism in microbial adaptation to long feast/famine cycles”

5:00 Wei-Chin Ho, UT Tyler

“Mercury contamination and microbial Hg methylation in one East Texas lake”

5:30 Riqing Yu, UT Tyler

6:00 – 6:30 PM Eugene and Millicent Goldschmidt Education Award Presentation
TSC Ballroom A/B Chair: Gregory Frederick, AUC School of Medicine
David Greenberg, UT Southwestern

6:30 – 7:15 PM Dinner
TSC Ballroom A/B/C

7:15 – 7:45 PM Eugene and Millicent Goldschmidt Mentor Award Presentation
TSC Ballroom A/B Chair: Gregory Frederick, AUC School of Medicine
Natasha Kirienko, Rice University

7:45 PM Awards and Distinctions
TSC Ballroom A/B Chairs: Heidi Kaplan, UT Health Science Center at Houston;
Gregory Frederick, AUC School of Medicine

8:15 PM Closing Remarks
TSC Ballroom A/B

Day 3, Saturday, October 28, 2023

Location: Science Building

9:00 – 10:00 AM Joint Session ASM Service
SCI 111 Chair: Heidi Kaplan, UT Health Science Center at Houston
 Heidi Kaplan, UT Health Science Center at Houston
 Jennifer Hennigan, Abilene Christian University
 Alex Kang, Rice University

Meeting ID: 969 5122 6450

<https://tarleton.zoom.us/j/96951226450?pwd=MzRxeFFDb2NmTlZMYkcwUnlVb2tGQT09>

Password: 861462

10:00 – 12:00 PM Parallel Sessions

10:00 – 12:00 PM Young Leaders Session
SCI 112 Chair: Alex Kang, Rice University
 Jessica O'Berry, UT San Antonio
 Madeline Giner, UT San Antonio
 Taylor Hearne and Danny Castillo, Texas State University
 Caroline Black, Texas Tech University
 Alex Kang, Rice University

10:00 – 10:45 AM Pedagogy Panel
SCI 111 Chair: Dustin Edwards, Tarleton State University
 William Cody, University of Dallas
 Hannah Adams, Collin College
 James Masuoka, Midwestern State University

10:45 – 11:00 AM Break

11:00 – 12:00 PM REU Session
SCI 111 Chair: Natasha Kirienko, Rice University
 Natasha Kirienko, Rice University
 Heidi Kaplan, UT Health Science Center at Houston

Meeting ID: 910 2155 2332

<https://tarleton.zoom.us/j/91021552332?pwd=dzBnNG5iWnlMeXF0K09KQVQyYUJYZz09>

Password: 827685

12:00 PM Adjourn