



**Texas**  **Branch**

American Society for Microbiology

**Program**

**2020 Fall Meeting**

**November 5 - 6, 2020**

**Virtual Meeting Hosted by the University of North Texas (UNT)**

**1155 Union Circle, Denton, Texas**



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# Meeting Organizers

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## Session Organizers

Michael Allen  
University of North Texas Health Science Center at Fort Worth

Ali Azghani  
University of Texas at Tyler

Calvin Henard  
University of North Texas

Deb Scheiwe  
Tarrant County College NE

## Special Thanks

Graduate students in the Azad and Hughes labs for assistance in setting up the poster presentations website and for moderating student oral presentation sessions:

Swapan Bhuiyan, Ronika De, Sonya Layton and Jindanuch Maneekul

# Keynote Speakers

## Opening Keynote Speaker

Diana Cervantes, DrPH  
Assistant Professor and  
Director, MPH Epidemiology Program  
University of North Texas Health Science  
Center at Fort Worth  
Email: [Diana.Cervantes@unthsc.edu](mailto:Diana.Cervantes@unthsc.edu)

## **“COVID-19: The Press and the Public’s Health”**

Dr. Cervantes received an Honors Bachelor of Science degree and a Master of Science degree, both in Biology, with an emphasis in microbiology from The University of Texas at Arlington. During both her undergraduate and graduate studies, she conducted research in retrovirology and parasitology, which sparked her interest in public health.



After earning her graduate degree, she worked as a bioterrorism response microbiologist for Tarrant County Public Health in Fort Worth, Texas, for six years. During that time, she was charged with establishing one of the first Laboratory Response Network laboratories (biosafety level 3) in Texas, focused on performing environmental sampling and testing for agents which could be used in bioterrorism, such as anthrax and ricin, as well as performing diagnostic testing for emerging infectious diseases such as brucellosis and West Nile virus. She earned the MPH degree with a concentration in Epidemiology from the UNT Health Science Center School of Public Health.

After completing the MPH, she began working as an epidemiologist at Tarrant County Public Health, spending five years conducting numerous infectious disease investigations, and outbreak response and control activities in both community and healthcare settings.

Dr. Cervantes also completed the Doctor of Public Health degree with a concentration in Epidemiology from UNT Health Science Center, and then served as Chief Epidemiologist for the Texas Department of State Health Services, Health Service Region 2/3, which provides services to 49 counties in North Texas.

In that position, she was charged with leading a team of seven epidemiologists to implement infectious disease surveillance and prevention and control activities responding to major public health issues, including Ebola response in Dallas and one of the largest mumps outbreaks in the United States.

Due to the increasing role of public health in patient safety initiatives, Dr. Cervantes also wanted to gain experience working in an acute care facility, so took on the position of Infection Prevention Manager at Baylor Scott and White All Saints Medical Center in Fort Worth, Texas, where she led team members in detecting and preventing healthcare-associated infections and meeting hospital infection prevention accreditation standards.

In her current position as Assistant Professor and Director of the MPH Epidemiology Program at UNT Health Science Center, Dr. Cervantes shares her experiences in both the public and private sectors to prepare a new generation of practicing epidemiologists.

### **ASM Distinguished Lecturer-Closing Keynote Speaker**

Jeffrey Gralnick, Ph.D.

Professor, Plant and Microbial Biology

BioTechnology Institute

University of Minnesota

Email: [gralnick@umn.edu](mailto:gralnick@umn.edu)



Jeffrey Gralnick is a Professor of Plant and Microbial Biology, a member of the BioTechnology Institute and the current Director of the Microbial and Plant Genomics Institute at the University of Minnesota. The Gralnick Lab works at the intersection of environmental microbiology and synthetic biology, with a particular focus on bacteria that can eat (oxidize) or breathe (reduce) iron. Iron can be replaced by electrodes in these systems where the bacteria either consume or produce electrical current. The Lab uses classic and modern genetic techniques to understand the physiology and metabolism of these bacteria and engineer them for a variety of applications in bioenergy, biocatalysis and bioremediation. The lab has published over 50 papers in the area of microbial extracellular electron transfer, with nearly half published in ASM journals. Gralnick's former students have gone on to diverse positions in industry (both start-ups and major corporations), academia, teaching institutions and craft brewing.



# Texas Branch

American Society for Microbiology

## Detailed Schedule November 5 – 6, 2020

### Thursday, November 5<sup>th</sup>

- 7:00-7:15pm            **Welcome/Introduction**
- 7:15-8:15pm            **Opening Keynote address** by Dr. Diana Cervantes, University of North Texas Health Science Center
- COVID-19: The Press and the Public's Health**
- 8:15-9:15pm            **Open business meeting.**

### Friday, November 6<sup>th</sup>

- 8:30-10:30am            **Concurrent Sessions.** Faculty presentations in two concurrent sessions.
- Session 1A. Infectious Disease.** (4 talks by faculty presenters. 30 minutes each including questions.). Session Organizer: Ali Azghani, University of Texas at Tyler.
- 8:30-9:00am            1. Trish M. Perl, MD, Chief, Division of Infectious Disease and Geographic Medicine, University of Texas Southwestern Medical Center
- Talk title TBA.**
- 9:00-9:30am            2. Buka Samten, MD, Associate Professor, Department of Pulmonary Immunology, University of Texas Health Science Center at Tyler
- ESAT-6: a secreted antigenic peptide of TB pathogen with potentials for immune modulation.**

- 9:30-10:00am 3. Stuti K. Desai, Ph.D., Assistant Professor, Department of Biochemistry and Molecular Biology, University of Texas Medical Branch, Galveston
- Salmonella* biofilms provide an adaptive advantage in the persistently infected heterologous host *Caenorhabditis elegans*.**
- 10:00-10:30am 4. Vikram Kapoor, Ph.D., Assistant Professor, Department of Civil and Environmental Engineering, University of Texas at San Antonio
- Wastewater Informed Epidemiological Monitoring for SARS-CoV-2 in Bexar County, Texas**
- Session 1B. Environmental Microbiology.** (4 talks by faculty presenters. 30 minutes each including questions.). Session Organizer: Calvin Henard, University of North Texas.
- 8:30-9:00am 1. Calvin Henard, Ph.D., Assistant Professor, Department of Biological Sciences and BioDiscovery Institute, University of North Texas.
- Carbon dioxide metabolism in methanotrophic bacteria.**
- 9:00-9:30am 2. Jessica Labonte, Ph.D., Assistant Professor, Department of Marine Biology, Texas A&M University at Galveston.
- You are what you eat: How nutrient availability and organic matter source dictate genomic potential and viral activity in coastal anoxic sediment.**
- 9:30-10:00am 3. Victoria Chraibi, Ph.D., Assistant Professor, Department of Biological Sciences, Tarleton State University.
- Light, Nutrients, Action!: Tracking Environmental Change in Water Bodies with Microfossils.**
- 10:00-10:30am 4. Valerie De Anda, Ph.D., Senior Research Associate, Marine Science Institute, University of Texas at Austin.
- Exploring new branches on the tree of life.**
- 10:30-10:50am **Break**

10:50am-12:30pm **Concurrent Sessions.** Student presentations in 3 concurrent sessions. Abstract numbers given for each talk (abstract book link found in the pre-conference email).

**Session 2A. Graduate Student Research – Medical Microbiology**

- 10:50-11:10am G1. Jordan Wolfkill, University of Texas – Rio Grande Valley  
**Characterization of a novel pandemic *Vibrio parahaemolyticus* ecotype from the Pacific Northwest with increased cold sensitivity.**
- 11:10-11:30am G2. Julia Widmer, Texas State University  
**The Effect of *Debaryomyces hansenii* on *Clostridium difficile* Sporulation.**
- 11:30-11:50am G3. Amanda Mannino, Texas Biomedical Research Institute and University of Texas Health Science Center, San Antonio  
**The Role of CD8+ Cells in Natural Immunity against Immunodeficiency Virus Infection in Baboons.**
- 11:50am-12:10pm G4. Moutusee Islam, University of Texas at Dallas  
**Molecular characterization of vancomycin-resistant *Enterococcus faecium* isolates collected from the Dallas area.**
- 12:10-12:30pm G5. Namrata V. Sawant, University of Texas at Dallas  
**Resistance in Uropathogenic *E. coli* strains isolated from postmenopausal women with recurrent urinary tract infections to the antimicrobial peptide LL-37.**

**Session 2B. Graduate Student Research – General Microbiology**

- 10:50-11:10am G6. Jamie D. Dixon, University of North Texas.  
**Prions: In Search of their Elusive Ancestry.**
- 11:10-11:30am G7. Melissa Villatoro-Castaneda, Texas State University  
**Glyphosate and antibiotics change the gut microbiome composition, reduce activity, and affect growth in Rio Grande leopard frog (*Rana berlandieri*) tadpoles.**
- 11:30-11:50am G8. Nicole C. Powers, Texas A&M University-Corpus Christi  
**Historical water quality analysis throughout coastal Texas reveals relationship between degrading water quality, population growth, and sea level rise.**
- 11:50am-12:10pm G9. Starla G. Thornhill, Texas State University, San Marcos  
**Biofilm Growth and Control in Spaceflight.**
- 12:10-12:30pm G10. Arash Jafarzadeh, University of Texas at San Antonio  
**Physiological and genetic responses of *Microcystis aeruginosa* under different environmental conditions**

**Session 2C. Undergraduate Student Research**

- 10:50-11:10am U1. Ben Dawson, Sam Houston State University  
**Gold Mining Effects on Microbiome Composition of the Mazaruni River.**



- 11:10-11:30am U2. Jason Snowden, Texas A&M University  
**Spanins are rare in phages of *Acinetobacter baumannii*.**
- 11:30-11:50am U3. Trayce Gray, Lamar University  
**Covid-19: Implications on Health Disparities.**
- 11:50am-12:10pm U4. Alex Deyanov, Rice University  
**Pyoverdine Antivirulents Synergize with Gallium Nitrate to Inhibit *Pseudomonas aeruginosa*.**
- 12:10-12:30pm U5. Ryan Rahman, Texas A&M University  
**The Polyphosphate Signaling Pathway Hints at Potential Therapeutics for Tuberculosis**

12:30-1:00pm **Lunch break** (On your own)

1:00-3:00pm **Poster Session.** The poster session is divided into two one-hour groups. Posters and abstracts will be available all day at the links provided to attendees. Presenters will be available live on Zoom for the first 40 minutes of their designated session.

1:00-1:50pm **Poster Session A. Graduate Student Posters.**

2:00-2:50pm **Poster Session B. Undergraduate Student Posters. Postdoctoral Scientist Posters.**

3:00-5:00pm **Concurrent Sessions.** Faculty and Post-doctoral Scientists presentations in two concurrent sessions.

**Session 3A. Microbiology and Biology Education.**

3:00-5:00pm **Teaching Lab-Based Courses in a Global Pandemic: A Roundtable Discussion**

This session will be a conversation among presenters and attendees on the various successes and difficulties encountered in teaching lab-based courses during these challenging times in education.

Moderator: Deb Scheiwe, Assistant Professor, Tarrant County College NE

Presenter: Roxana Hughes, Microbiology Lab Supervisor, University of North Texas

Presenter: Dena Berg, Assistant Professor Tarrant County College NW

Presenter: Kristi Miranda, Instructor Tarrant County College S

**Session 3B. Bioinformatics and Microbiomes.** (4 talks by faculty presenters. 30 minutes each including questions.). Session Organizer: Michael Allen, University of North Texas Health Science Center.

- 3:00-3:30pm 1. Nicole J. De Nisco, Ph.D., Assistant Professor Department of Biological Sciences, University of Texas at Dallas.
- Estrogen: A potential driver of urobiome ecology in postmenopausal Women.**
- 3:30-4:00pm 2. Camila Carlos-Shanley, Ph.D., Assistant Professor, Dept. of Biology, Texas State University.
- The microbiome of the endangered Comal Springs riffle beetle and its conservation implications.**
- 4:00-4:30pm 3. Amanda M.V. Brown, Ph.D. Assistant Professor, Department of Biological Sciences, Texas Tech University.
- Community genome skimming yields comparative and population genomic insights into rhizosphere microbiomes.**
- 4:30-5:00pm 4. Michael LaMontagne, Ph.D., Assistant Professor, Dept. of Biology and Biotechnology, University of Houston-Clear Lake.
- Comparison of metagenomic and culture-dependent estimates of the diversity of rhizobacteria associated with wheat.**
- 5:00-5:30pm **Eugene and Millicent Goldschmidt Graduate Student Awardee Lecture**, April Nguyen, University of Texas Health Science Center at Houston
- The Role of Cardiolipin Synthase in *Enterococcus faecalis* Daptomycin Resistance.**
- 5:30-7:00pm Dinner break.
- 7:00-7:30pm **Award Ceremony**
- 7:30-8:30pm **Closing Keynote**, ASM Distinguished Lecturer Dr. Jeffrey Gralnick, University of Minnesota
- Electromicrobiology: How Bacteria Make Electricity and How Bacteria Eat Electricity**
- 8:30-8:45pm **Meeting Closing Remarks**
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