

## POSTERS

### Antimicrobials and Antimicrobial Resistance

**1 - Khurshida Begum – University of Houston**

First investigation of potentially carbapenem-resistant Enterobacteriaceae (CRE) in a large urban hospital environs in Dhaka, Bangladesh

**2- Cara Boutte,<sup>1</sup> Feroz Hossain<sup>2</sup> - University of Houston,<sup>1</sup> University of Texas at Arlington<sup>2</sup>**

High incidence of vancomycin-resistant enterococci (VRE) with vanA gene in high touch surfaces of three Texas hospital environs

**3 - Qingquan Chen – Texas A&M Health Science Center**

Ibuprofen displays synergistic antibacterial activities with FDA standard-of-care antibiotics against *Pseudomonas aeruginosa*

**4 - Bhagath Chirra – Texas A&M Health Science Center**

Antimicrobial activity of novel compounds against *Rhodococcus equi*

**5 - Adam Foxfire – Texas A&M University**

Antibiotic activity of Salivaricin 0302 in *Streptococcus salivarius*

**6 – Marleini Ilanga, Rohit Raina – Texas A&M Health Science Center**

Antimicrobial activity of silver ibuprofen against multi-drug resistant (MDR) Gram-positive and Gram-negative pathogens

**7 - Maitreyee Mukherjee - Texas A&M University**

Patterns of antimicrobial and multidrug resistance in the Maumee River basin of Lake Erie

**8 - Kush Shah – Texas A&M Health Science Center**

Antimicrobial activity of a novel class of compounds against multi-drug resistant (MDR) Gram-positive pathogens

### Phage and Virus Microbiology

**9 - Jingwen Guan – Texas A&M University**

Mechanism of the lysis-lysogeny decision making upon infection by wild-type bacteriophage  $\lambda$  strain: Ur- $\lambda$

**10 - Laith Harb – Texas A&M University**

Mechanistic studies of siphophage tape measure proteins and their role in bacteriophage infection

**11 - Bryan Johnson - University of Texas Medical Branch**

Unlocking bat coronaviruses to evaluate emergence potential

**12 - Abby Korn – Texas A&M University**

Investigating *Staphylococcus aureus* bacteriophages that are present in swine production environments

**13 - Jordyn Michalik – Texas A&M Health Science Center**

Bacteriophage cocktail as a promising potential treatment for carbapenamaseproducing *Klebsiella pneumoniae*

**14 - Miranda Vogel - University of Texas at Austin**

T7 internal head proteins interact with the F1FO ATPase to enhance phage growth

**15 - Jose Wippold – Texas A&M University**

PRESCIENT: Platform for the Rapid Evaluation of vaccine SuCcess using Integrated microfluidics ENabled Technology

**16 - Yicheng Xie – Texas A&M University**

Develop and validate a microtiter plate liquid method for testing host range of *Salmonella* bacteriophages and evaluate the antimicrobial capacity of phages against *Salmonella* on a cattle hide model

**17 - Kailun Zhang – Texas A&M University**

Decision making of bacteriophage P1

**Fungal Microbiology**

**18 - Meilian Chen - Texas A&M University**

Characterization of an effector gene family of the rice blast fungus

**19 - Ananya Dasgupta - Texas A&M University**

Understanding the regulation of *inl* gene expression in response to inositol in *Neurospora crassa*

**20 - April Ford - University of Texas at San Antonio**

The effect of pH on growth and morphology of the pathogenic fungus *Mucor circinelloides*

**21 - Alexis Garcia - The University of Texas at San Antonio**

Development of a recyclable marker and serial gene deletion in *Mucor circinelloides*

**22 - Farnoosh Haghighi - University of Houston College of Pharmacy**

Colonic *Candida* spp. isolated from hospitalized patient with *Clostridium difficile* infection

**23 - Courtney Meason-Smith – Texas A&M University**

Panfungal next-generation sequencing of formalin-fixed, paraffin-embedded animal tissues enables identification of mixed fungal infections

## General Microbiology

**24 - Andrea Martinez Aguirre – Texas A&M University**

Characterizing the differential gene expression pattern during germination and outgrowth of *Clostridium difficile* spores

**25 - Amer R. Alhabuobi – Texas A&M University**

Genotyping *Babesia bovis* isolates from Puerto Rico and Mexico

**26 - Jyot Antani – Texas A&M University**

Modulation of ultrasensitive signaling in bacteria by mechanical forces

**27 - Rohit Badia - University of Texas at Dallas**

Characterization of an orphan DNA methyltransferase in *Enterococcus faecium* 1,141,733

**28 - Samantha Fletcher – Texas A&M University**

*Campylobacter rectus*: Investigation and importance of secretion systems

**29 - Mengxin Geng – Texas A&M University**

Importance of N-terminal positively charged residues of type AII lantibiotic salivaricin A2

**30 - Dorcie Gillette - Sam Houston State University**

Evolutionary analysis of CRISPR system and its implication on genome editing

**31 - Sai Abhinav Kamma – University of Texas at Dallas**

Transposon mutagenesis in *Streptococcus mitis* and *Streptococcus oralis*

**32 - Benjamin C. Morse – Texas A&M University**

Evolution of pathways that utilize NSAR activity

**33 - Sarah Ann Murray – Texas A&M University**

Using selective broths and methodological techniques to enrich for *Enterococcus faecium* from cattle feces

**34 - Taniya Philip - University of Houston Clear Lake**

Prevalence of opportunistic pathogens in bioaerosols collected in elevators and stairs in a university building

**35 - Shweta Priya – Texas A&M University**

Whole genome sequence analysis of extreme acidophilic iron oxidizing bacterium *Acidithiobacillus ferrooxidans* IO-2C isolated from acid mine drainage affected soil

**36 - Ritu Shrestha - Texas A&M University**

Examining the significance of amino acid(s) during *Clostridioides difficile* spore germination

**37 - Laurel Thompson - MD Anderson UT Health Graduate School of Biomedical Sciences**

The zebrafish gut: A living microfluidic environment to study bacterial mechanosensing

**38 - Jovinna Villarreal - Sam Houston State University**

Identification of regulatory small RNAs and their corresponding target genes in *Rhodobacter sphaeroides*

## **Food and Agricultural Microbiology**

### **39 - Jahangir Alam - University of Houston**

Association of potentially toxigenic *Clostridium difficile* with houseflies on animal farms

### **40 - Nicole Elledge - Texas A&M University - Corpus Christi**

Assessing the effect of stormwater runoff on the prevalence of fecal indicator bacteria in an urbanized bay

### **41 - Gizem Levent – Texas A&M University**

Use of whole genome sequencing to explore diversity of *Salmonella enterica* spp. originating from bovine lymph nodes, fecal, hide and environmental feedlot samples

## **Plant and Environmental Microbiology**

### **42 - Matthew Breuer - Sam Houston State University**

A reverse genetics approach to elucidating the molecular basis of programmed cell death in *Chlamydomonas reinhardtii*

### **44 - Subash Ghimire – Sam Houston State University**

Assessing of lifespan and aging of *Chlamydomonas reinhardtii* in different growth conditions

### **45 - Sarbjeet Niraula - University of Texas at Arlington**

Physicochemical and microbiological properties of soybean rhizosphere in Nebraska and Oklahoma

## **Vector Borne Disease**

### **46 - Vanessa Ante – Texas A&M Health Science Center**

*Borrelia burgdorferi* adenylate cyclase, cyaB, alters regulation of virulence determinants and is required for murine infection

### **47 - Annah Lee - Texas A&M University**

Analysis of tick-borne pathogens in Texas through LayerPlex PCR

### **48 - Diana Medina - Texas A&M Health Science Center**

Uncovering the role of two small regulatory RNAs in infection in *Borrelia burgdorferi*, the causative agent of Lyme disease

### **49 - Joseph Modarelli - Texas A&M University**

*Ehrlichia* prevalence in Mexican rickettsiosis outbreak

### **50 - Jialei Xie - Texas A&M Health Science Center**

Differing activity of *Borrelia burgdorferi* sensu lato BBK32 orthologs in the activation of the classical complement pathway

## **Microbial Pathogenesis or Host-Pathogen Interactions**

### **51 - Shakirat Adetunji – Texas A&M University**

Regulatory T cells and *Brucella* colonization at the feto-maternal interface of allogeneic pregnant mice

### **52 - Abdulaziz Alqahtani – Texas Tech University**

Recombinant R2-pyocin cream is effective in treating *Pseudomonas aeruginosa*-infected wounds

### **53 - Samantha Bell – Texas A&M Health Science Center**

Galectin-8 recognizes *Mycobacterium tuberculosis*-containing phagosomes to control infection

### **54 - Kayla Bounds - Texas Tech University**

Next Science influences the expression of cytokines and chemokines involved in the host response to injury in wounds infected with *Staphylococcus aureus*

### **55 - Ana Lucia Cabello – Texas A&M University**

Identification and characterization of novel *Brucella melitensis* virB-T4SS effector proteins

### **56 - Elaine Chang Chen – Texas A&M University**

Engineering DARPin inhibitors of *Clostridium difficile* toxin B

### **57 - Huiqiang Feng – Texas A&M University**

Functional analysis of novel *Brucella melitensis* VirB/T4SS-Effector proteins

### **58 - Selma Gonzalez – Texas A&M University**

Using whole genome sequencing to characterize and compare *Salmonella enterica* serovar I 4,[5], 12:i:- isolates originating from swine

### **59 - Caitlyn Hoffpaur – Texas A&M Health Science Center**

Trim14 polarizes the DNA sensing response during *Mycobacterium tuberculosis* infection

### **60 - Nicholas Hummell - Rice University**

Identification of host defense pathways utilized in liquid killing of *C. elegans*

### **61 - Omar Khalaf – Texas A&M University**

The use of NOD-scid IL2 $\gamma^{\text{null}}$  mouse as a model to study the safety of *B. abortus* S19  $\Delta vjbR$  vaccine candidate in *Brucella*-induced osteoarticular disease

### **62 - Richard Laughlin - Texas A&M University-Kingsville**

Systems biology analysis of temporal *in vivo* *Salmonella enterica* Typhimurium and bovine transcriptomes predicts confirmed host: pathogen protein-protein interactions

### **63 - Ryan Lee – Rice University**

Interplay between mitochondria and diet mediates pathogen and stress resistance in *C. elegans*

### **64 - Taylor Letbetter Lenzmeier - Texas Tech University**

*Lactobacillus gasseri* extracellular factor inhibits the growth of *Pseudomonas aeruginosa* in an animal model

**65 - Panatda Saenkham – Texas A&M Health Science Center**

Testing new drug regimens for tuberculosis

**66 - Qingliang Shen – Texas A&M University**

The molecular mechanisms underlying hijacking of cellular CRK-II by nonstructural protein 1 of the 1918 pandemic influenza A virus

**67 - Natalie Sirisaengtaksin - University of Texas Health Science Center at Houston**

Shear force alters mechanosensitive gene expression in enterohemorrhagic *Escherichia coli*

**68 - Lauren Stranahan – Texas A&M University**

*Brucella canis*  $\Delta vjbR$  as a potential vaccine candidate for canine brucellosis

**69 - Sara Talmage – Texas A&M Health Science Center**

The *Coxiella burnetii* type IV secretion effector CBU0388 is a virulence factor that traffics to the nucleus

**70 - John Taylor - Texas A&M Health Science Center Institute of Biosciences and Technology**

Variations among *Streptococcus gallolyticus* subsp. *gallolyticus* strains in the connection with colorectal cancer

**71 - Kelly Turner – Rice University**

High-throughput screen and clean deletion mutants indicate upstream regulators of pyoverdine virulence in *Pseudomonas aeruginosa*

**72 - Krystal Vail – Texas A&M University**

*Mycobacterium leprae* induces IFN- $\gamma$  expression in RAW 264.7 cells

**73 - Sandeep Vellanki - The University of Texas at San Antonio**

The pro-angiogenic growth factor, FGF-2, as a host-response against invasive fungal infections

**74 - Robert Watson – Texas A&M Health Science Center**

Global yeast genetic profiling uncovers conserved eukaryotic targets of bacterial virulence factors

**75 - Chi Weindel – Texas A&M Health Science Center**

LRRK2 is required for the control of type I IFN and macrophage homeostasis.

**76 - Hui Zhi – Texas A&M Health Science Center**

Deficiency in the classical complement pathway enhances *Borrelia burgdorferi* dissemination and colonization in mice and interferes immune response to borreliac infection

## **Microbiome**

### **77 - Ellen Ruth Alexander – Texas A&M University**

Gallium maltolate maintains microbiota homeostasis in foals with subclinical *Rhodococcus equi* foal pneumonia

### **78 - Audrie Colorado - University of Texas Medical Branch**

Evaluation of topical excipients on the vaginal microbiome using a novel *ex vivo* vaginal mucosal model reveals implications for HIV replication

### **79 - Moamen Elmassry – Texas Tech University**

Human vs. nature: Islands and bridges within the microbiome continuum

### **80 - Paula Giaretta – Texas A&M University**

Bacterial biogeography in the colon of dogs with chronic enteropathy

### **81 - Jessica Morales – Texas A&M University**

Metagenomic analysis on the effects of chlortetracycline and ceftiofur on grower swine intestinal microbiota

### **82 - Caroline Obkirchner – Sam Houston State University**

Effects of gold mining activity on freshwater microbiome organization and function

### **83 - Christian Ray Serrano - University of Texas at San Antonio**

Gut bacteriome dysbiosis in South Korean patients with irritable bowel syndrome and Crohn's disease