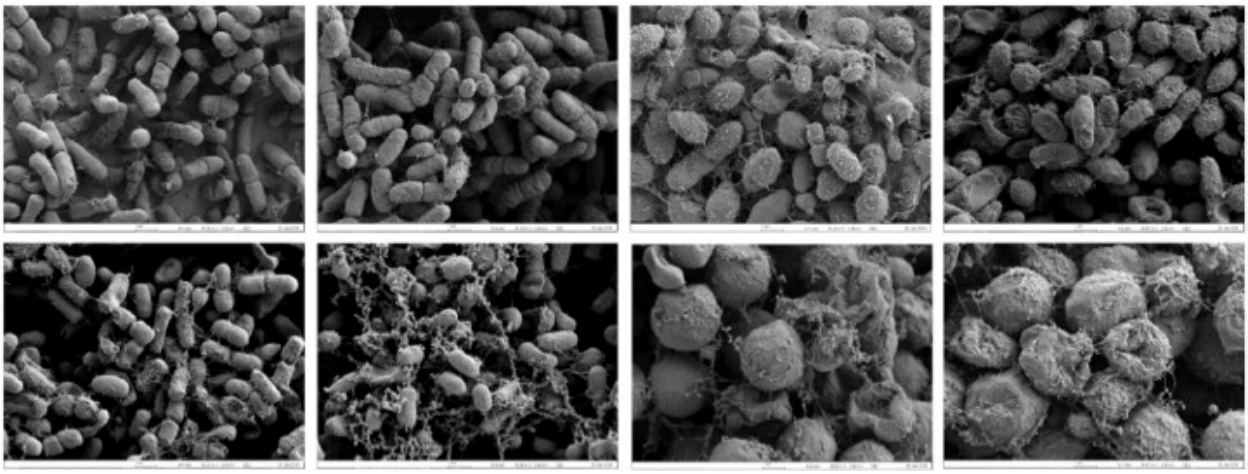
A seminar by the Microbiology faculty candidate

"Good Drugs Gone Bad: An Investigation of Antimicrobial Resistance/Tolerance in War Wound Pathogens"

by Dr. Tricia Van Laar
NRC Postdoctoral Research Fellow
US Army Institute of Surgical Research



Friday, February 27, 2015
3:00 – 4:00 PM
Science 2, room 109

Antibiotic resistance and tolerance are common impediments to healing in cases of chronic infections. The bacteria implicated in causing chronic infections tend to be those able to persist in the patient in the form of biofilms. Biofilms can form on a multitude of biotic and abiotic surfaces within the body, including implanted devices, such as artificial heart valves and catheters. One challenge in treating biofilms is their increased antimicrobial resistance or tolerance. The structure of the biofilm itself can prevent antimicrobial penetration into the matrix, thus preventing contact with the cells. The cells within a biofilm are generally less metabolically active than planktonic cells and therefore significantly less sensitive to mechanisms of action by many antimicrobials targeting synthesis of macromolecules or metabolic pathways. A percentage of cells within a biofilm may be persister cells, which are transiently antibiotic tolerant without the concomitant genetic changes seen in antimicrobial resistance. Identifying genes involved in antibiotic resistance and tolerance can aid in determining alternative treatment modalities targeting reduction of overall fitness or attenuation of pathogenicity of important nosocomial infections.

Dr. Tricia Van Laar has a B.S. in Biology from CSU Stanislaus and an M.S. in Biology from University of the Pacific. After a Ph.D. in Cell and Molecular Biology from University of Texas at San Antonio, Dr. Van Laar has pursued post-doctoral work at US Army Institute of Surgical Research, Dental and Trauma Research Detachment.

If you need a disability-related accommodation or wheelchair access, please contact Lindasue Garner at the Department of Biology at 278-2001 or e-mail lgarner@csufresno.edu (at least one week prior to event).