Metabolic Crosstalk between Staphylococcus Aureus Biofilm and Innate Immunity Dictates Infection Persistence

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Staphylococcus aureus (S. aureus) is a leading cause of infections involving indwelling medical devices, including prosthetic joints, where bacteria have the propensity to form biofilms. Biofilm infections are extremely difficult to eradicate based on their recalcitrance to antibiotics, and typically require removal of the contaminated device, whereupon a new implant is inserted. Our laboratory has established S. aureus biofilm persistence is dictated, in part, by the polarization of biofilm-associated leukocytes toward an anti-inflammatory state. This talk will highlight metabolic changes in infiltrating leukocytes during biofilm infection and S. aureus metabolites that induce leukocyte anti-inflammatory activity. A better understanding of biofilm-innate immune crosstalk will facilitate the development of novel therapeutics to augment host immunity in the context of S. aureus infections.

If you would like to visit with Dr. Tammy Kielian, please contact Sherry Fleming at sdflemin@ksu.edu.

Coffee & cookies served preceding the seminar in Ackert Hall, Room 225