

MMI Special Seminar

Tuesday Seminar / 12:00 – 1:00 PM
“*Enterococcus faecalis* Biofilm-Associated Infection”



Dr. Kline's laboratory is working to understand the bacterial virulence factors that contribute to colonization, biofilm formation, and infection by *E. faecalis* and related pathogens. They are focused in three areas: **Mechanisms of focal virulence factor assembly** by using genetic and biochemical approaches, coupled with high resolution microscopy and 'omics approaches, they are exploring the molecular mechanisms that dictate focal localization of virulence factor assembly sites, using pilus assembly platform as a model system.

Gram Positive & Polymicrobial Interactions in UTI and Wound Infection by using *in vitro* and *in vivo* infection models, they are examining mechanisms by which Gram positive uropathogens, such as *E. faecalis*, interact with the host to cause disease during monomicrobial, polymicrobial, and device-associated infections.

Pathogen-host interactions important during in Group A Streptococcus biofilm formation. The ability to form bioforms is a major virulence determinant of Group A Streptococcus (GAS). Using *in vitro* and *in vivo* models they are investigating bacterial and host factors and mechanisms promoting biofilm growth during GAS infection.

Publication references

A dual function antibiotic-transporter conjugate exhibits superior activity in sterilizing MRSA biofilms and killing persister cells. Antonoplis AS, Zang X, Huttner MA, Chong K, Bin LY, Co J, Amieva MR, Kline KA, Wender PA, Cegelski L. *Journal of the American Chemical Society*.

Streptolysin-induced endoplasmic reticulum stress promotes group A streptococcal *in vivo* biofilm formation and necrotizing fasciitis *Cellular Microbiology*. Vajjala A, Biswas D, Chong KKL, Tay WH, Hanski E, Kline KA. *Sep 21:e12956*. doi: 10.1111/cmi.12956.

Planktonic interference and biofilm alliance between aggregation substance and endocarditis and biofilm associated pili in *Enterococcus faecalis*. Afonina I, Lim XN, Tan R, Kline KA. *Journal of Bacteriology*. ep 24. pii: JB.00361-18. doi: 10.1128/JB.00361-18.

June
18



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June 18, 2019
12:00 – 1:00 PM
GBSF 1005

Medical Microbiology
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