

Seminar Announcement

Localized Virulence Factor Assembly in *Enterococcus faecalis*

Date: 18 March 2016 Friday

Time: 4pm

Venue: Classroom 1, SBS

Speaker: Asst/Prof. Kimberly Kline
School of Biological Sciences, NTU



Abstract

In *Enterococcus faecalis*, cell surface-destined virulence factors are secreted across the membrane and processed by sortase enzymes in focal domains. Focal localization of membrane-associated sortases is dependent upon their highly positively charged cytoplasmic tail domains, which are predicted to interact with anionic lipid domains via electrostatic interactions. Many cationic antimicrobial peptides (CAMPs) also preferentially interact with anionic membrane lipids leading to bacterial membrane damage and cell death. Emerging research suggests that anionic lipids cluster in membrane microdomains in many bacteria, suggesting that CAMPs may preferentially interact with the bacterial membrane within anionic domains. We investigated the interaction between human beta defensins and *E. faecalis* and have shown that at sublethal concentrations, CAMPs preferentially target focal domains resulting in the dispersion of these virulence factor assembly sites. A major focus of our lab is to understand the molecular factors involved in coordinating the formation and maintenance of focal virulence factor assembly sites throughout the cell cycle. This talk will summarize our latest discoveries in both lipid and protein players involved in focal virulence factor assembly in *E. faecalis*.