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**Surface adhesion and confinement variation of *Bacillus subtilis* on SAM surfaces** LAUREN SWIGER, ROSE PASQUALE, JOSEPH CALABRESE, INDRAJITH SENEVIRATHNE, Lock Haven University — Controlled surface adhesion of non - pathogenic gram positive strain, *Bacillus subtilis* is interesting as a model system due to possible development of respective biosensors for prevention and detection of the pathogenic variants *B. anthracis* and *B. cereus*. Further as a study for bio-machine interfacing systems. Self Assembled Monolayers (SAM) with engineered surfaces of linear thiols on Au(111) were used as the substrate. Sub cultured *B. subtilis* were used for the analysis. The SAM layered surfaces were dipped in 2 – 5 Log/ml *B. subtilis* solution. Subsequent surface adhesion at different bacterial dilutions on surfaces will be discussed, and correlated with quantitative and qualitative adhesion properties of bacteria on the engineered SAM surfaces. The bacteria adhered SAM surfaces were investigated using intermittent contact, non-contact, lateral force and contact modes of Atomic Force Microscopy (AFM).

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