Title: **Pathogenicity of starved and non-starved mucoid and nonmucoid Pseudomonas aeruginosa isolates to mice.** *Caleb Fritz, Tesfaye Belay. Dept of Applied Sciences and mathematics. Sch. STEM. Bluefield. WV*

Pseudomonas aeruginosa is an opportunistic pathogen that affects many patients in a hospital setting as well as immunocompromised patients. *Pseudomonas aeruginosa* is resistant to many antibiotics because of the formation of biofilms and pigmentations serving as virulence factors. *Pseudomonas aeruginosa* isolates are either mucoid or alginate-producing and non-alginate-producing (non-mucoid) isolates. The main objective of this experiment was to analyze the pathogenicity of mucoid and non-mucoid isolates in *P. aeruginosa* in a mouse model. We hypothesized that mucoid isolates are more pathogenic compared to non-pathogenic ones. *Pseudomonas aeruginosa* isolates PAO1 (non-mucoid) and 2192 (mucoid) were used for intranasally infecting and monitoring mortality rates. Isolates starved in water for at least three months were tested for infectivity. As expected the mucoid isolate 2192 PAO1 showed a 67% death rate compared to 33% of PAO1 suggesting the mucoid is more pathogenic to BALB/c mice compared to the non-mucoid, 2192. The results also suggest that the recently starved bacteria are more pathogenic to mice compared to the non-starved and longer-starved bacteria. Overall, our data suggest that the mucoid isolate and recently a starved batch of *P. aeruginosa* are more likely to kill mouse strain DBA which is susceptible to *P. aeruginosa* infection. We are extending our study by infecting more types of mouse strains with *P. aeruginosa* mucoid and non-mucoid isolates and the recently starved batch of bacteria. (*Supported by Initiation Grant of NASA WV Space Consortium, WV-INBRE, and BSU).*