

JENNIFER MYERS and JOSEPH HORZEMPA, Department of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV 26074. The Role of FTL\_1229 during Erythrocyte Invasion by *Francisella tularensis*.

*Francisella tularensis* is a gram-negative bacterium that causes the disease, tularemia. Due to the highly infectious nature of *F. tularensis*, the Centers for Disease Control and Prevention classified this bacterium as a category A bioterrorism agent. To combat this threat, understanding the pathogenesis of *F. tularensis* is necessary. The gene FTL\_1229 encodes a protein homologous to the ATP binding protein portion of an ABC transporter. This gene is of interest because its expression is induced in the presence of human red blood cells. Furthermore, its homolog in *F. novicida* has found to be essential for invasion. Therefore, we hypothesized that FTL\_1229 may be involved during invasion of these host cells. To determine the significance of this gene, a mutation of FTL\_1229 is being constructed. The mutant will then be tested via the Tet-on/off system and by erythrocyte invasion assays. Results from these studies will indicate if FTL\_1229 is essential for the pathogenesis of *F. tularensis*. **(Supported by NIH Grant P20GM103434 to the West Virginia IDeA Network for Biomedical Research Excellence and funding from the WV Research Challenge Fund [HEPC.dsr.14.13]).**