My name is Savannah Sleezer. I studied at the University of Nevada, Las Vegas and worked on this project in Dr. Brian Hedlund's lab. My email address is sleezer@unlv.nevada.edu. The title of this project is: Characterization of a xylan-degrading enzyme from hyperthermophile *Fervidibacter sacchari.* Fsa15405Xyn is a Glycoside Hydrolase family 3 (GH3) enzyme from the hyperthermophilic bacterium *Fervidibacter sacchari* that is a xylanase, typical of a GH3 family enzyme. This project involved characterizing Fsa15405Xyn in order to understand the parameters within which it optimally operates and to understand the mechanics behind how it cleaves xylan into xylose. Fsa15405Xyn works optimally at 90 °C and around neutral pH. It is thermostable up to 90 °C. The K_M= 85.4 µM and the V_{Max}=285.7 µM/min. Fsa15405Xyn likely exists as a dimer *in vitro*. After Fsa15405Xyn degraded xylan under optimal conditions, 928.7 µM of xylose was detected, indicating that it is an exo-xylanase. This suggests Fsa15405Xyn is an important component of an endo-xylanase/exo-xylanase system that degrades xylan chains completely to xylose monomers.