LOGAN HAYS, DALTON MCGEENEY, & SARA SAWYER, Department of Science and Mathematics, Glenville State College, Glenville, WV, 20165, Temperature-induced alteration of the extracellular matrix in the tropical sea anemone, *Exaiptasia pallida*

Coral bleaching results from the loss of the endosymbiotic dinoflagellate the cells of coral. The symbionts provide photosynthetic products for nourishment of the coral, and loss of the symbiont can result in death of the coral. Many stressors can cause coral bleaching, but we are focusing on the effect of increased water temperature in this research because of rising oceanic temperatures. We are how investigating how increased temperature affects the extracellular matrix (ECM) using the tropical sea anemone, *Exaiptasia pallida* as our model organism, since this anemone has similar physiological characteristics and similar symbionts as coral. Research on the effects of a heat-shock (from 25°C to 30°C) in anemones embedded, sectioned, and then stained with the Russel-Movat Pentachrome stain showed that the mesoglea of the anemone, was altered after a 12 hour heat-shock compared to control anemones. To confirm these findings, staining with an additional ECM stain, Masson's Trichrome, will be conducted. Additionally, we are investigating how alteration in the ECM because of increased temperature affects apoptosis to determine if there is a positive correlation between temperature-induced changes in the ECM and loss of cells through apoptosis. Results from these experiments will help us better understand the timing and consequences of temperature-induced breakdown of the coral-algal symbiosis.