

Research with multiple animal species suggests that experiencing enriched diets and environmental conditions during early development facilitates positive outcomes in neurogenesis, associative learning, and memory (Cayre et al., 2007; Maegele et al., 2015; Mallory et al., 2016), social behavior (Oddi et al., 2015), and sensory system function (Leong et al., 2015). Whether the developmental gains that enriched environments provide apply similarly to all invertebrate species is not known. This study will help close this gap in the literature. To answer our research question, 120 nymph cockroaches were randomly assigned to one of three experimental conditions (40 subjects per condition) in which they were given a low-protein diet (Condition 1), a high-protein diet (Condition 2), or a standard protein diet (Control condition) for a period of one month. We hypothesized that a protein-enriched diet will enhance learning and memory in cockroaches. Preliminary results will be presented at the SAS 2023.