Mortality rates of the green sea urchin *Strongylocentrotus droebachiensis* under varying levels of dissolved oxygen

Hypoxia is an increasing cause of mortality in benthic macrofauna. In this study, the green sea urchin *Strongylocentrotus droebachiensis* was exposed to varying levels of dissolved oxygen (DO) with concentrations of ~8 ppm, 4 ppm and 2 ppm, respectfully, for a period of 17 days. The *S. droebachiensis* exposed to near hypoxic conditions had an average life span of 11.9 ± 4.01 days with a 90% mortality (n=9). The urchins in the mid-level DO tank had an average life span of 15.2 ± 3.79 days with 20% mortality (n=2). There was no mortality in the normoxic tank. A Wilcoxon/Kruskal-Wallis non-parametric test showed a significant difference ($p < 0.05$) in the mortality rates. A Tukey-Kramer post-hoc test showed the significant difference ($p < 0.05$) to be between the normoxic and near hypoxic tanks.

Advisor: Alan Verde