**CVHS BioBuilderClub 2024 Abstract**

Fluorescent proteins are widely used in biotechnology to determine levels of gene expression and protein localization in cells. One major drawback of GFP is that it denatures at temperatures higher than 70 degrees Celsius. Our goal is to analyze what motifs and domains could be used to help stabilize GFP and other fluorescent proteins at higher temperatures, and to genetically engineer the coding sequence of DNA to create heat stable fluorescent proteins.