**Stellar lockdown: Confirming the distances to the massive stars in Westerlund 1 cluster**

Westerlund 1 is one of the largest clusters in the Milky Way and contains some of the most well-studied blue variable stars and supergiants. Understanding the distances to these stars is vital in understanding their mass, which is pivotal in using these stars as templates for stellar evolution. However, in data releases prior to Gaia, the accuracies of the distances known were broad, with each distance having a 1 to 5.5kpc margin of error. The Gaia DR2 data release, while it has reduced the uncertainties for the distances and stellar properties by 18%, it still allows for a large margin of error. We propose using the data from the Gaia DR3 release to narrow the uncertainty of these distances by up to 30% by processing the data to create new simulations and figures to verify the more precise distances. With funding from ESA, we will be able to create critical new models of the massive stars in Westerlund 1, solidifying these stars as templates for stellar evolution, and allowing us more accurately and easily classify new data as it comes from modern surveys and telescopes such as JWST.