

# THE WHITE DWARF BINARY PATHWAYS SURVEY IV

M.S. Hernandez<sup>1</sup>,

<sup>1</sup>*Instituto de Física y Astronomía de la Universidad de Valparaíso, Av. Gran Bretaña 1111, Valparaíso, Chile.*

The binary pathway survey search to improve the knowledge we have about detached binaries of AFGK type secondary stars with a white dwarf companion (WD+ AFGK). Studying the evolution of these systems can help us to constrain important phases of close compact binary star formation and evolution with deep implications for our understanding of the pathways towards supernova Ia explosions. We used the binary star evolution code and the Modules for Experiments in Stellar Astrophysics (MESA), to estimate the history and future evolution of three WD binaries with a G spectral type secondary stars and orbital periods between 1-2 days. Based on spectral fitting and Gaia parallaxes, we found the radii of the secondaries in two systems are significantly larger than their corresponding ZAMS radii, indicating they are slightly evolved. We predict the future of these three binaries and find that they will take very different ways, all of them interesting and providing new constraints on white dwarf binary star evolution.