Origin of quantum spin liquid phase in $\text{Ca}_{10}\text{Cr}_7\text{O}_{28}$ HAN YAN, RICO POHLE, LUDOVCIC JAUBERT, NIC SHANNON, Okinawa Institute of Science and Technology Graduate University — $\text{Ca}_{10}\text{Cr}_7\text{O}_{28}$ is a spin–$1/2$ magnet with a Kagomé–bilayer structure and complex competing interactions, which has recently been shown to support a quantum spin liquid state. In this talk we explore what can be learned about $\text{Ca}_{10}\text{Cr}_7\text{O}_{28}$ through a combination of analytic techniques, and classical Monte Carlo simulation. Despite the underlying complexity of the material, we find that the spin liquid in $\text{Ca}_{10}\text{Cr}_7\text{O}_{28}$ may admit of a deceptively simple explanation.