**Name:** Logan Grove

**Year in Course:** Second (Junior)

**Topic:** Quantum Information

**Mentor:** Mr. Rodrigo Cortiñas, Kastler Brossel Laboratories, France

**Title:** Quantum Enhanced Decision Making

**Abstract:**

Since John Bell's 1964 Paper, "On the Einstein Podolsky Rosen Paradox," many physicists have worked on interpreting, testing and finding new applications for the thought experiment outlined in his paper, designed to test if entangles particles had hidden variables. This research uses the Bell Inequality, along with tailor made games resembling a classical casino game with its quantum counterpart coded in Python to explore the applications of these equations through shared decision making. Violations of this inequality should show the successful completion of particle information transfer via entangled qubits. These tailor made casino games will then form the basic guide for identifying real world scenarios where partial communication can be employed where classical means fail.