<p align="center">**Sample Abstract 1: Mathematics**</p>

Simulating the Japanese Navy's World War II Cipher Machine, "Purple"

Abstract
During World War II the Japanese Navy used a cipher machine which was designated as "Purple" by the United States and her allies. The historical importance of "Purple" will be briefly discussed along with an explanation as to how the machine functioned when encrypting and decrypting messages relayed by the Japanese Navy. By extensively studying available material on the machine about its internal wirings, a completely original program was created in the C++ programming language that simulates the machine's cryptographic properties. A program that runs the same algorithms on a TI-83 Calculator was also developed. Both the C++ program and the TI-83 Calculator program will be demonstrated during the presentation.

<p align="center">**Sample Abstract 2: Mathematics**</p>

The Cosmic Wimpout Dice Game: Probabilities and a Markov Chain Model

Abstract
This project explores the dice game Cosmic Wimpout. We investigate probabilities, expected values and a Markov Chain model for the game. Under specific assumptions, all possible outcomes of the initial roll of the game were accounted for and categorized by score and type. The information obtained was then used to create an absorbing Markov Chain with 21 total states to model the structure of the game. With the calculated transient probabilities, a matrix was created and the program Maple was used to determine the probability that the process would end in one of the four absorbing states, as well as how long the process takes to be absorbed and an average of how many times the process will be in each of the seventeen transient states.