The Resource Prospector Mission (RPM) is an in-situ resource utilization (ISRU) technology demonstration mission planned to launch in 2018. The mission will use the Regolith and Environment Science & Oxygen and Lunar Volatiles Extraction (RESOLVE) Payload to prospect for lunar volatiles such as water, oxygen, and carbon dioxide. These compounds will validate ISRU capability. The payload, particularly the Lunar Advanced Volatile Analysis (LAVA) subsystem, requires numerous temperature measurements to accurately control on-board heaters that keep the volatiles in the vapor phase to allow quantification and prevent the clogging of delivery lines.

Previous spaceflight missions have proven that Resistive Temperature Detector (RTD) failure impedes mission success. The research resulted in a recommendation for a flight-forward RTD. The recommendation was based on accuracy, consistency, and ease of installation of RTDs procured from IST, QTI, and Honeywell.

If you are writing a paper for school or specific internship program, provide the following:

Paper Title: TEST AND RECOMMENDATION OF FLIGHT-FORWARD RESISTIVE TEMPERATURE DETECTOR FOR RESOURCE PROSPECTOR MISSION

Mentor Name: Dr. Mary Coan

Mailcode: NE-L5