



Inter-American University of Puerto Rico
HASP 2014
June Monthly Status Report

During the month of June, the Thermal Energy Control & Particle Air Filter System (TECPAFS) team addressed the Final-PSIP report for the HASP. Manufacturing and testing, as well as incorporating various parts for stage tests. Finishing designs and making preparations for the journey to the United States.

Team Activities

1. The Power team (PT) worked on the power budget and the wiring diagram. Testing's for the solenoid valves and the vacuum pump, individually and at the same time. The voltage regulators as well as the BJT or transistors are being used for the power connections on the payload. All the electric components have been tested. Soldering of various components such as the MCU (Arduino)
2. The Software team (CT) worked on incorporating all of the different individual programs together. The altimeter could not be used since it was giving problems. Now a GPS system is being used to determine the altitude and time. The program for controlling the solenoid valves and the pump by the altitude of the payload on any given time is being completed.
3. The Structure team (ST) has determine the final design, with the integration plan. The mechanism for the PTFE sponge is being manufactured at this time, as well as the whole design.
4. The Thermal team (TT) worked with simulations for the material and tests at several temperatures for the phase change materials. The material that isn't encapsulated has been secured on a thermal bag of Mylar.
5. The Communications team (CM) worked on identifying the needs for the TECPAFS project telemetry system. Establishing the necessary commands, and test the programming with the MCU for the Uplink commands, plus the testing for the serial downlink data to be transferred.

Issues Encountered during Payload Design / Development

1. The altimeter problems, because of this a GPS its being used to determine the altitude.

Milestone

The TECPAFS team worked on the Final Payload Specification and Integration Plan and manufacturing process is almost complete (90%).

Current Team Members

For this month, a lot of changes were made because of very little support from the initial students on the project. Since the importance of the project, a new work team was formed for the summer workforce. The team is as follows:

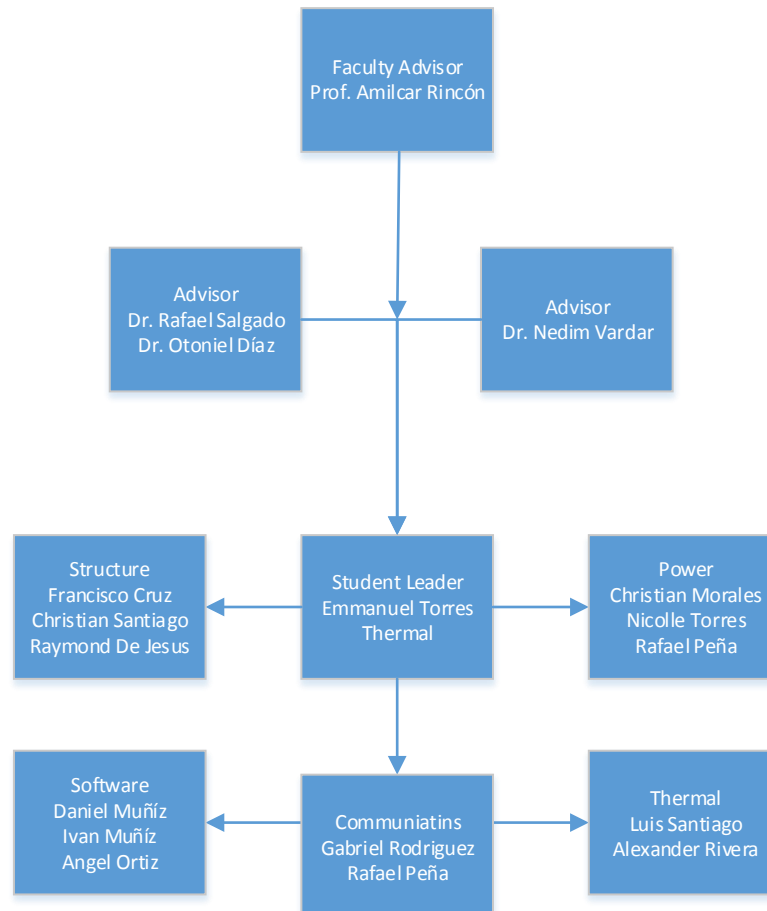


Figure 1 - TECPAFS team