

# HASP Monthly Status Report – June 2016

North Carolina Infrasound

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## 1 Synopsis

- Flight ladder power issue is resolved.
- Active flight ladder payload system testing in progress.
- Active gondola payload system testing in progress.

## 2 Activity Summary

Kayla and Rebecca completed the development of the accelerometer, which is now securely mounted into the flight ladder box. Testing various components of the flight ladder payload was the main focus of this past month. Tubing to connect microphone sensors to the environment outside of the box was developed and testing showed successful sensing. A new design for the power system was also developed. In lab tests show that this battery has a run time of approximately 30 hours. Upon receiving information of a possible disruption to the RefTek as a result of extreme temperature and pressure, the team began discussing ways to test RefTek responses. Results of a dry ice test lead us to believe the RefTek will likely survive atmospheric temperatures without disrupting data collection. Correspondence with IRIS and RefTek personnel also lead us to believe that releasing the pressure cap during flight could solve potential pressure issues.

Daniel continued to develop the gondola payload. All seems to be completed with the exception of two final tests. These tests will be run once a power supply is received.

## 3 Issues Encountered

The RefTek could have negative responses to extreme temperature and pressure. Gondola payload cannot be fully tested until a power supply is received.

## 4 Milestones Achieved

The flight ladder payload power system issue has been resolved. Temperature tests suggest the survival of the RefTek under atmospheric conditions. Data has been successfully recovered from a flight ladder station ground deployment. Gondola payload is completed, and will be sent to Chapel Hill upon the completion of last two tests.

## 5 Team

<b>Name</b>	<b>Male/Female</b>	<b>Race</b>	<b>Position</b>	<b>School/Organisation</b>
Jacob F. Anderson	Male	Caucasian	Student Team Member	Boise State University
Jordan W. Bishop	Male	Caucasian	Student Team Member	UNC-Chapel Hill
Daniel C. Bowman	Male	Caucasian	Outside Advisor	UNC/Sandia National Lab
Ethan C. Dinwiddie	Male	Caucasian	Student Team Member	UNC-Chapel Hill
Jonathan M. Lees	Male	Caucasian	Faculty Advisor	UNC-Chapel Hill
Rebecca L. Rodd	Female	Caucasian	Team Member	UNC-Chapel Hill
Timothy J. Ronan	Male	Caucasian	Student Team Member	UNC-Chapel Hill
Kayla T. Seiffert	Female	Caucasian	Student Leader	UNC-Chapel Hill