

HASP 2016 Student Payload Monthly Report

Payload Flight Number: 20016-09	Institution: University of Central Florida																																																																																																			
Payload Title: Hazardous Gases for Harsh Environments LED Sensor																																																																																																				
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Current Team Members: <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Justin Urso (Graduate Student) Mechanical and Aerospace Engineering 4000 Central Florida Blvd Orlando, Florida, 32816 Justin.urso13@knights.ucf.edu Cell: (352) 817-9212 </div> <div style="width: 45%;"> Akshita Parupalli (Undergraduate Student) Mechanical and Aerospace Engineering 4000 Central Florida Blvd Orlando, Florida, 32816 Akshita.parupalli@knights.ucf.edu Cell: (321) 696-9969 </div> </div> Past Team Members: Kyle Thurmond (Graduate Student) Mechanical and Aerospace Engineering 4000 Central Florida Blvd Orlando, Florida, 32816 kthurmond@knights.ucf.edu Cell: (407) 617-0475																																																																																																				
Report Month: June	Report Date: 6/24/2016																																																																																																			
Gantt Chart:																																																																																																				
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2" style="text-align: left;">Tasks</th> <th colspan="5">May</th> <th colspan="4">June</th> </tr> <tr> <th>5/1/2016</th> <th>5/8/2016</th> <th>5/15/2016</th> <th>5/22/2016</th> <th>5/29/2016</th> <th>6/5/2016</th> <th>6/12/2016</th> <th>6/19/2016</th> <th>6/26/2016</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">DAQ Programing (K,M)</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: left;">Environmental Chamber Testing 2 (M,A)</td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: left;">1st Paper (K,M,A)</td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: left;">HASP Chassis Construction (M,A)</td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td style="text-align: left;">HASP Electronics Readiness (M,A)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td style="text-align: left;">Corrective Actions (M,A)</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: left;">HASP ST&P Measurements (M,A)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: left;">HASP Flight (M,A,J)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Tasks	May					June				5/1/2016	5/8/2016	5/15/2016	5/22/2016	5/29/2016	6/5/2016	6/12/2016	6/19/2016	6/26/2016	DAQ Programing (K,M)	X	X								Environmental Chamber Testing 2 (M,A)			X	X						1st Paper (K,M,A)					X	X				HASP Chassis Construction (M,A)					X	X	X	X	X	HASP Electronics Readiness (M,A)							X	X	X	Corrective Actions (M,A)		X								HASP ST&P Measurements (M,A)										HASP Flight (M,A,J)										
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Team Member Activities:

Michael Villar worked on addressing all HASP PSIP review comments this month, in addition to resolving any problems slight modifications to the final design were made to the payload layout to improve functionality and is reflected in the final PSIP. All of the final structural materials for the payload chassis arrived this month as well so finalized construction is in full swing and on track with the summer schedule.

Akshita Parupalli has assisted in the final construction of the payload chassis this month as well as doing additional materials analysis with bonding agents for the PVC cell to select an adhesive that does not have any outgassing properties that would affect data collection. The decision was made go with PVC for the gas cell as it had the best properties in the temperature range that it will be submitted to.

Justin Urso's focus has been on an outside research project and was mainly available for consultation and environmental chamber testing assistance.

System Updates:

- Update: Updated Electronics layout in finalized payload chassis
 - The internal electronics layout has been optimized to reduce wire routing length. Specifically designed 12pin wire connectors are being used as a hermetically sealing method as the wires pass out of the payload chassis and onto the optics mounted outside.
- Update: Continual modifications to the Payload chassis
 - The remainder of the finalized payload chassis construction materials arrived this month and machining and construction is underway and on track for completion in the next 2 weeks. This will give ample time to conduct failure mode tests to improve the robustness of the overall system.