

AEROKATS and ROVER Education Network

A Multidisciplinary Approach

Geoff Bland, David Bydlowski, Andy Henry,
... and a bunch of others!



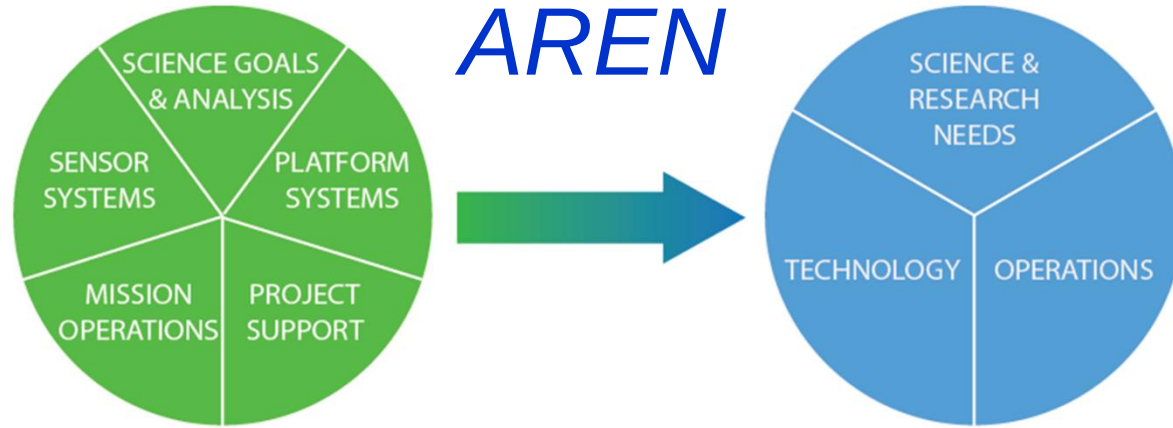
ED31A-04

A NASA Science Activation Team Member (Erickson, et al): NNX16AB95A





AEROKATS and ROVER Education Network

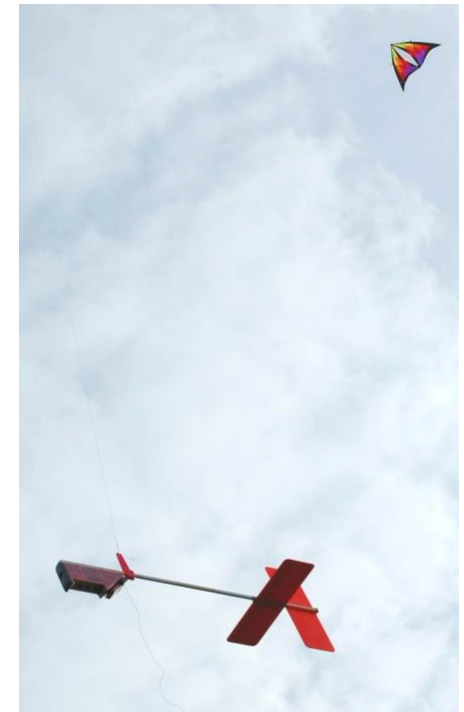
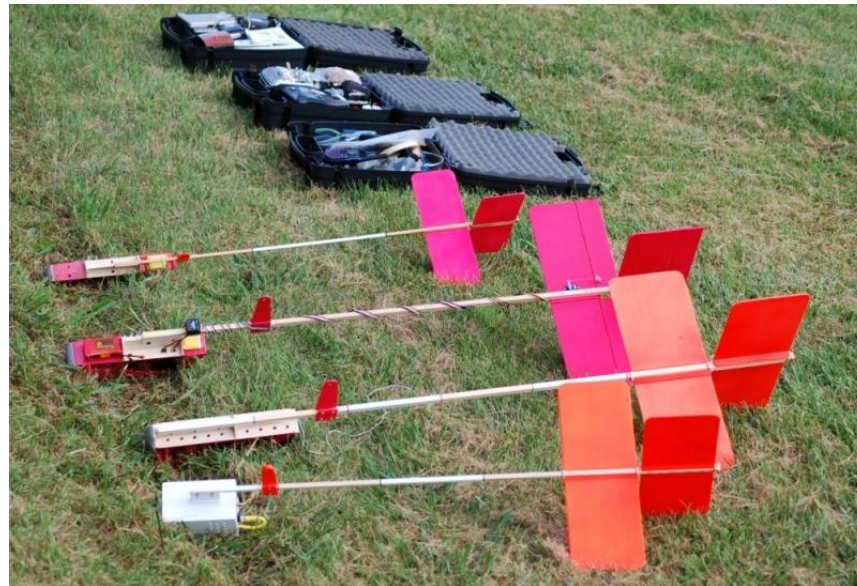
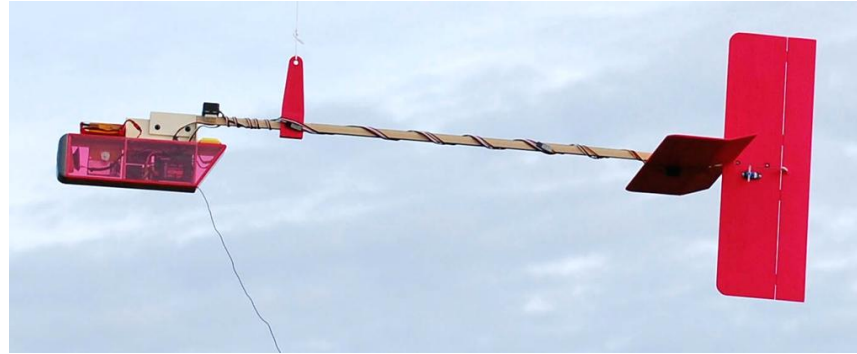


Typical NASA Mission Model

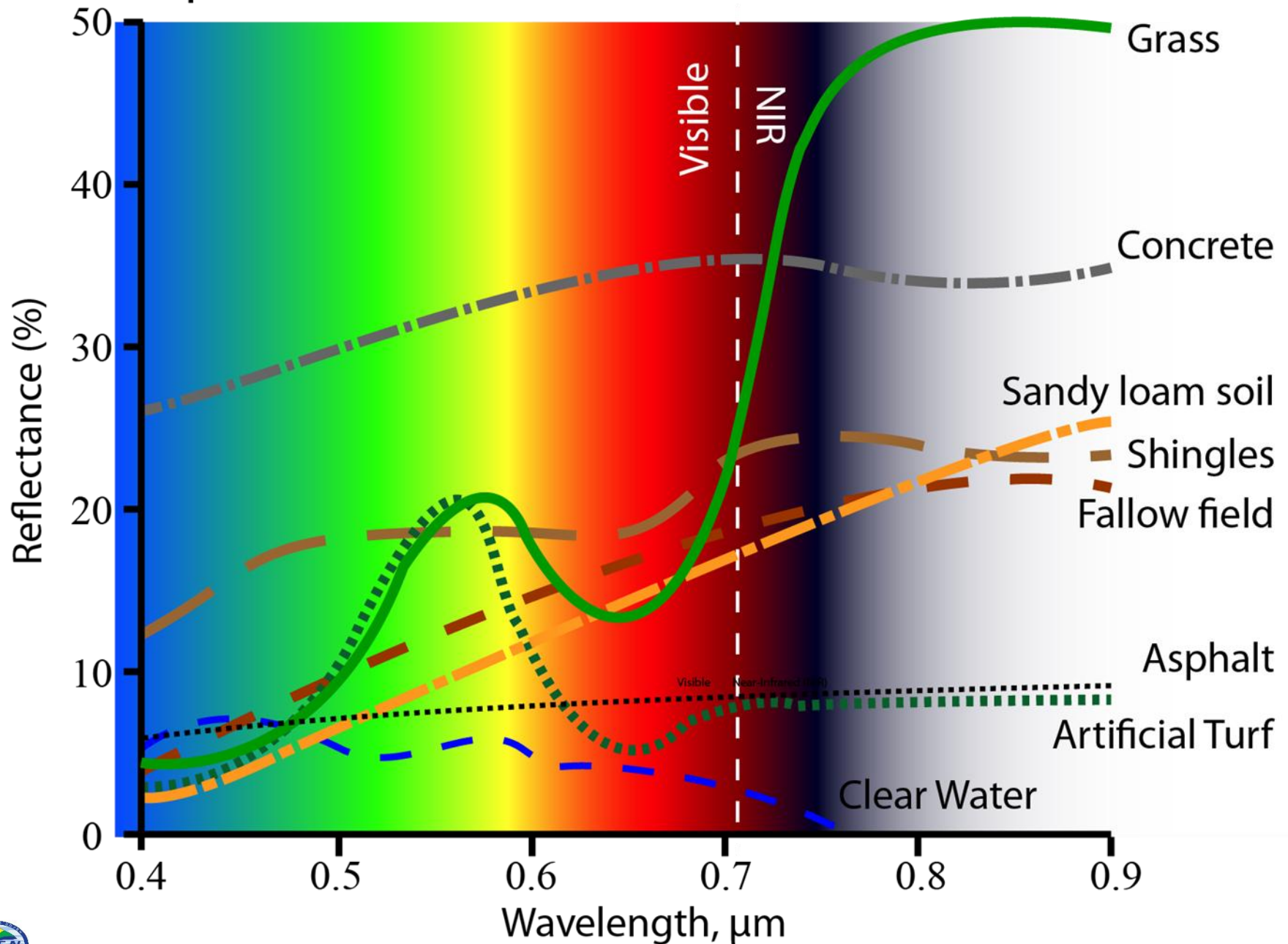
AREN Model



1912: *Picavet*; 2012: *Aeropod* - a NASA Technology



Spectral Reflectance Curves for Selected Materials



MultiPod



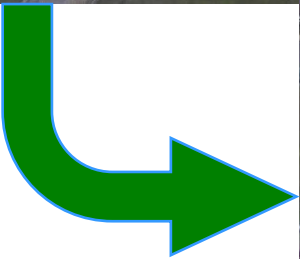


MonoCam

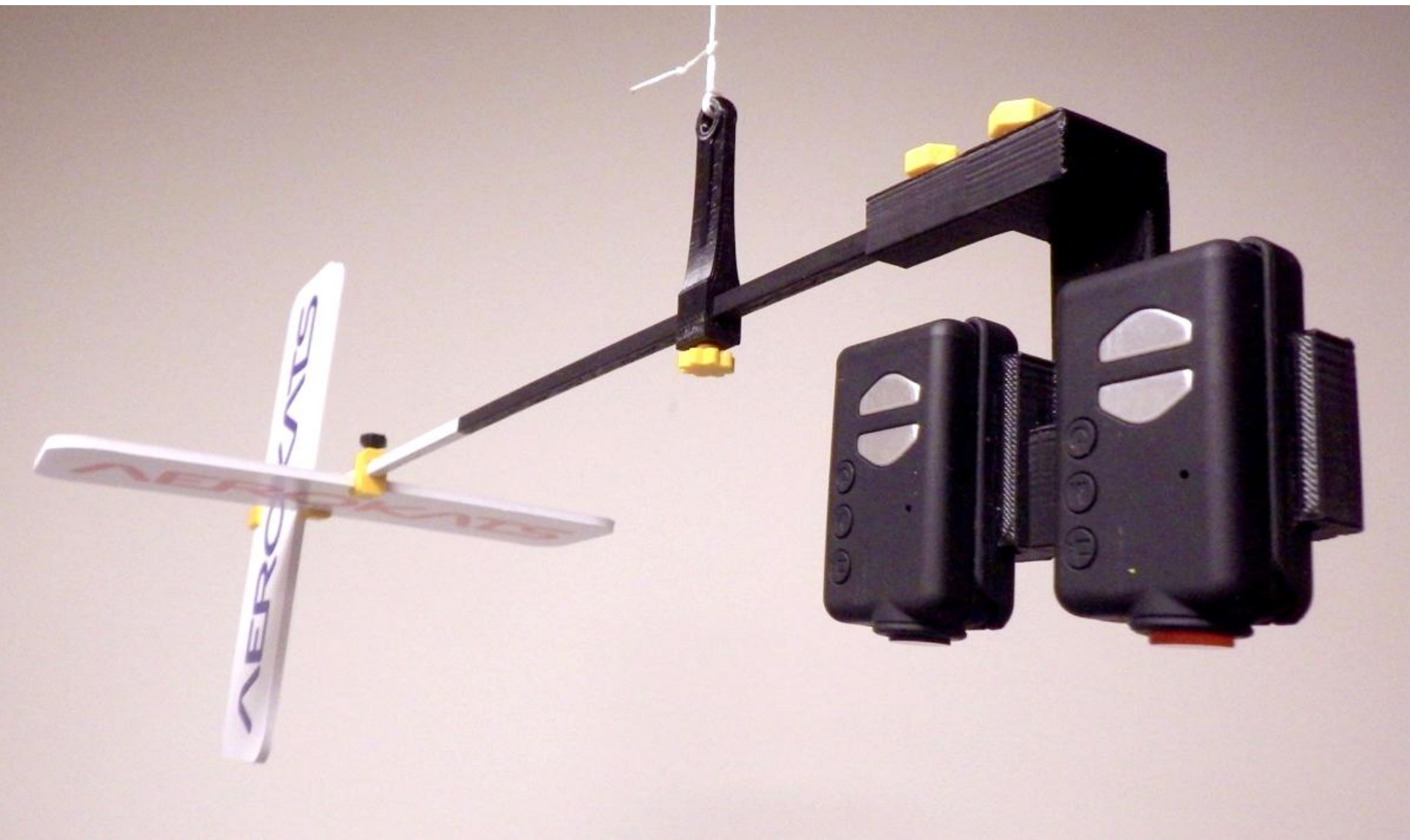
MonoCam



Lens Distortion Correction Tool



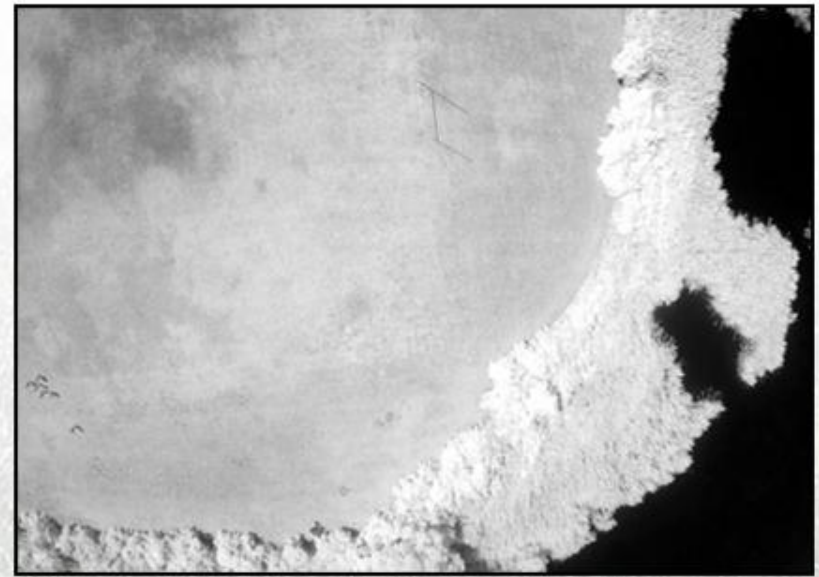
TwinCam



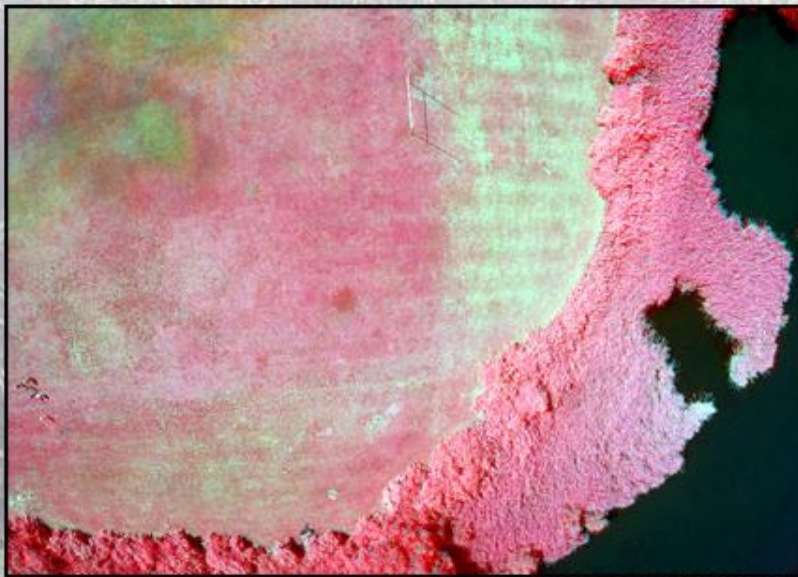
Twin Cam Image Processing - Classification Example



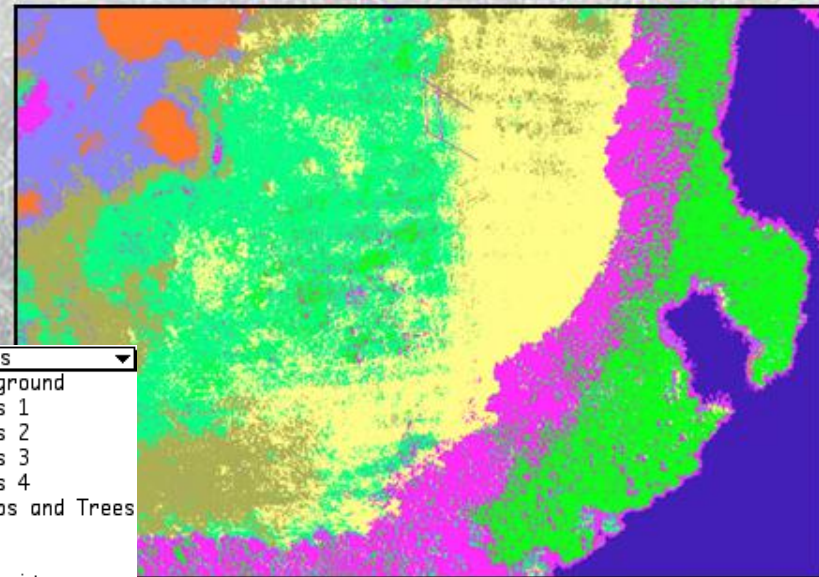
Visible (RGB)



Near Infrared (N)



Composite (NRG)

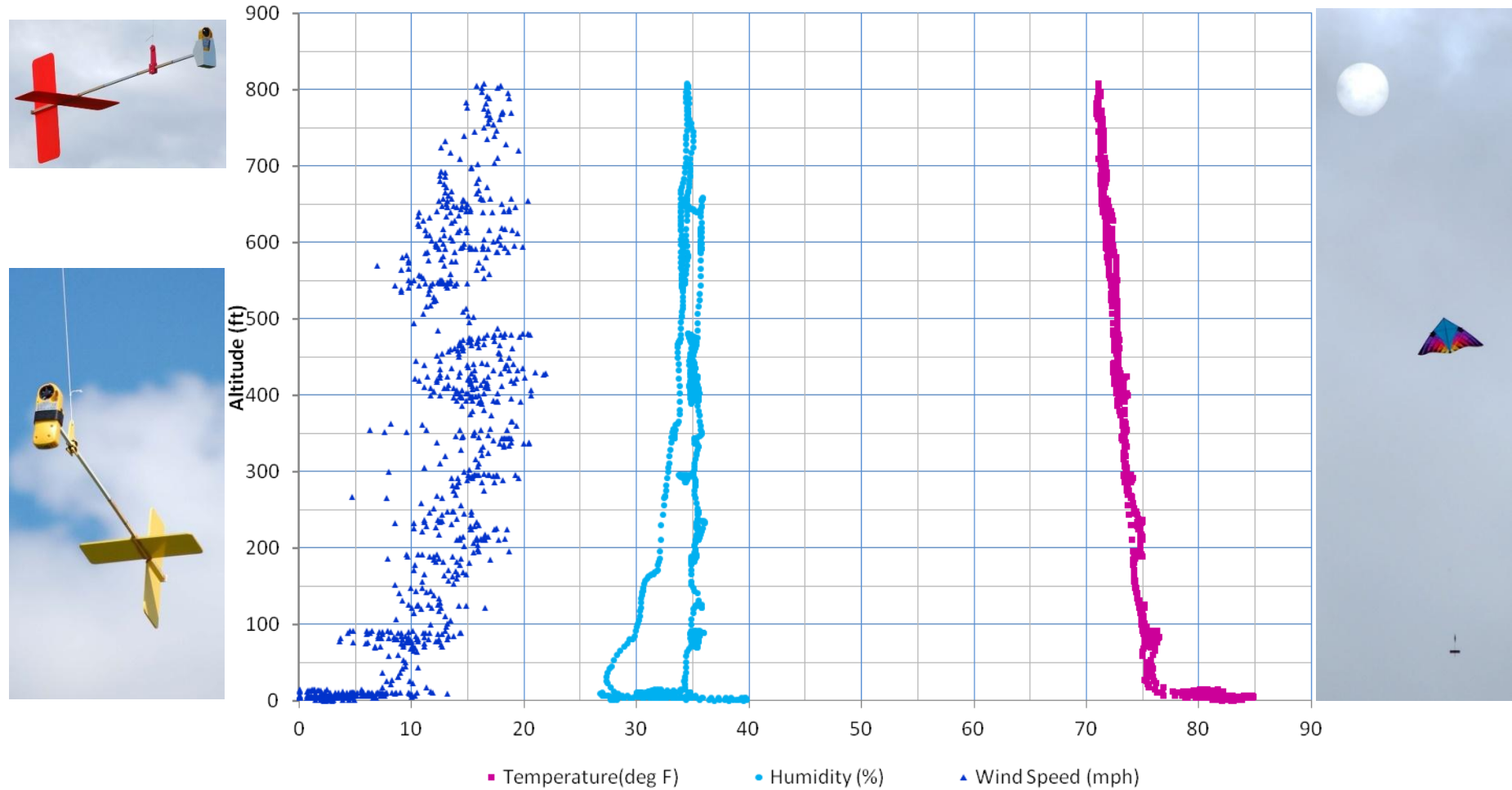


Classified

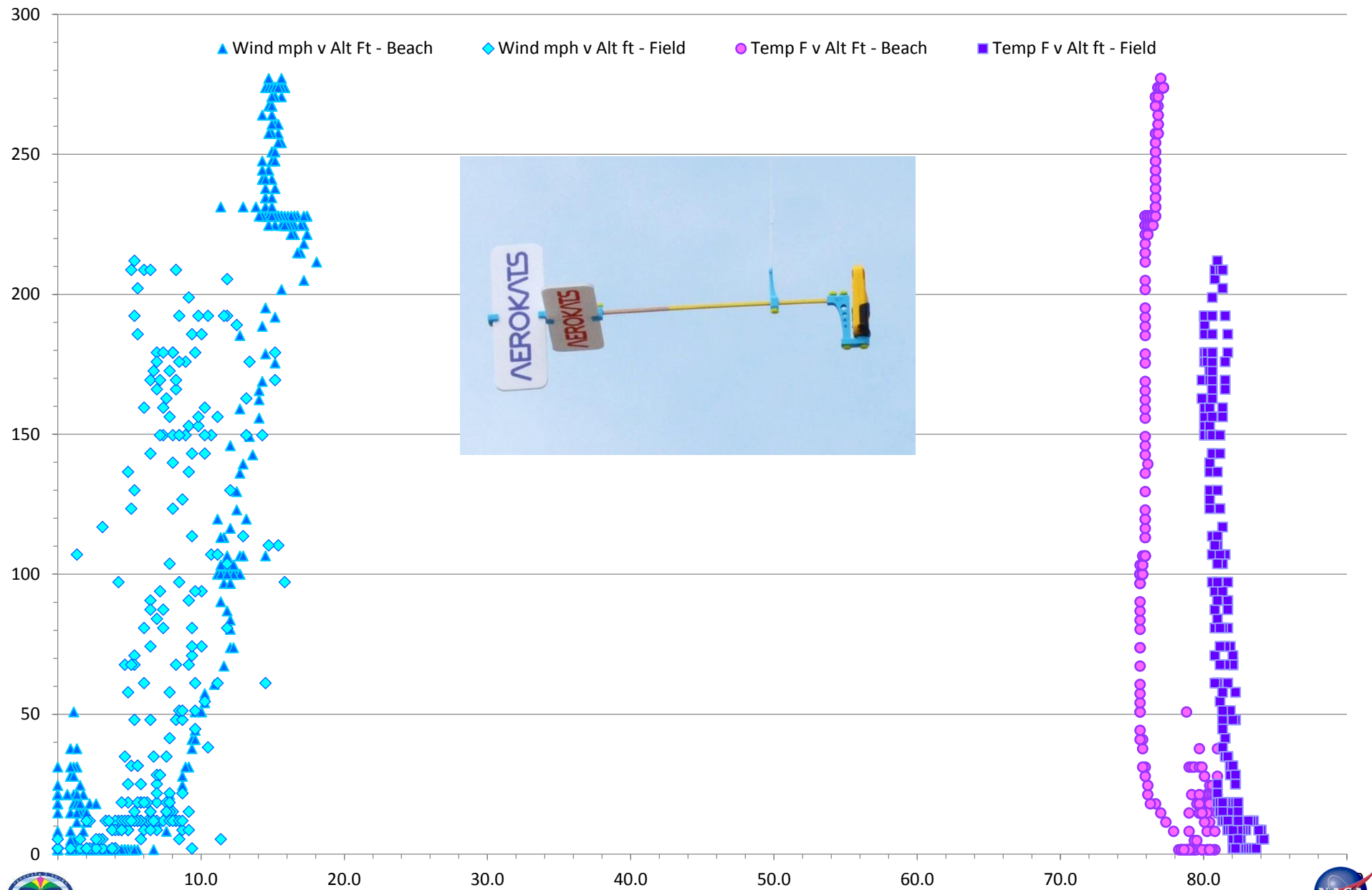
- Classes
- background
 - Grass 1
 - Grass 2
 - Grass 3
 - Grass 4
 - Shrubs and Trees
 - Phragmites
 - Grass 5
 - Water

Profiler

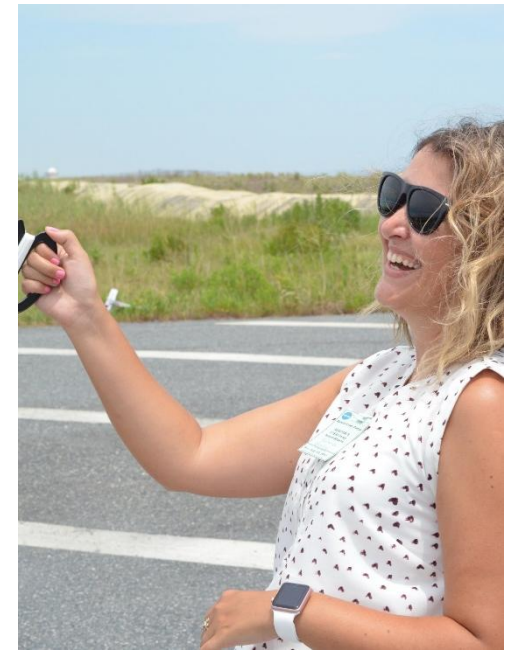
Atmospheric Measurements



Profiler



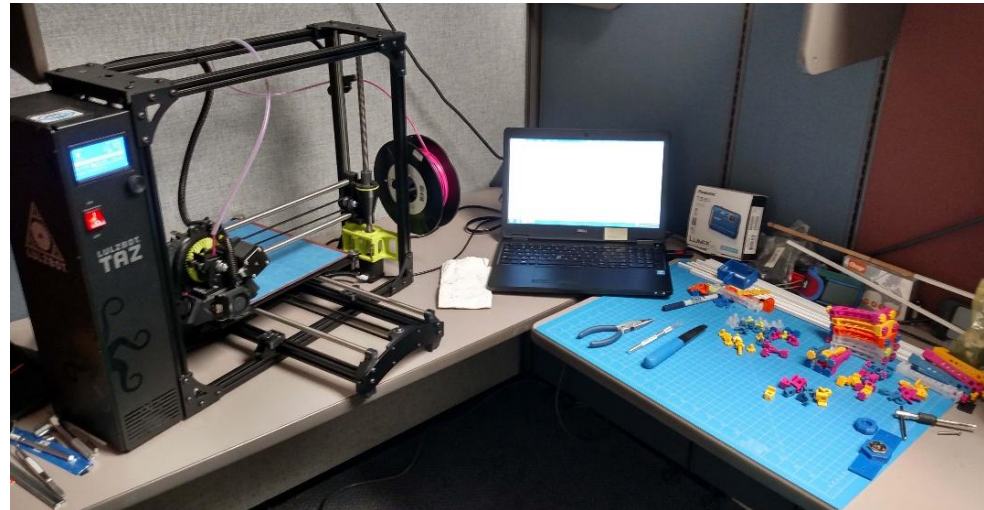
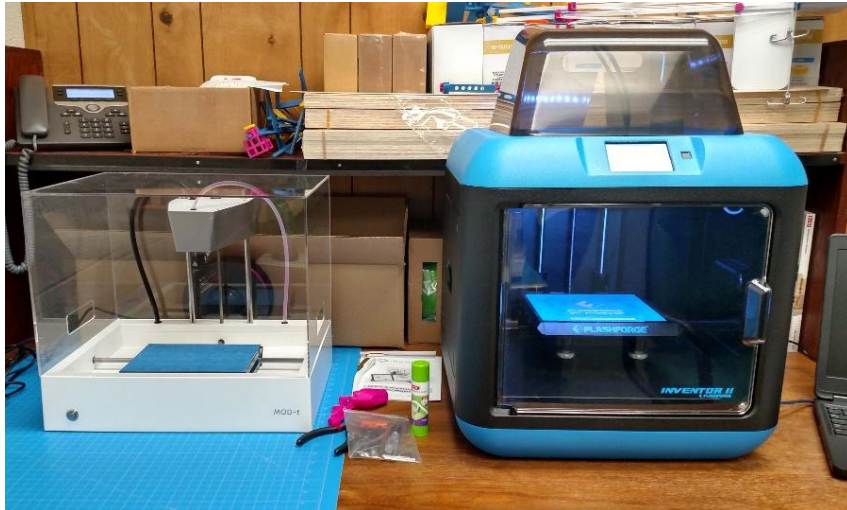
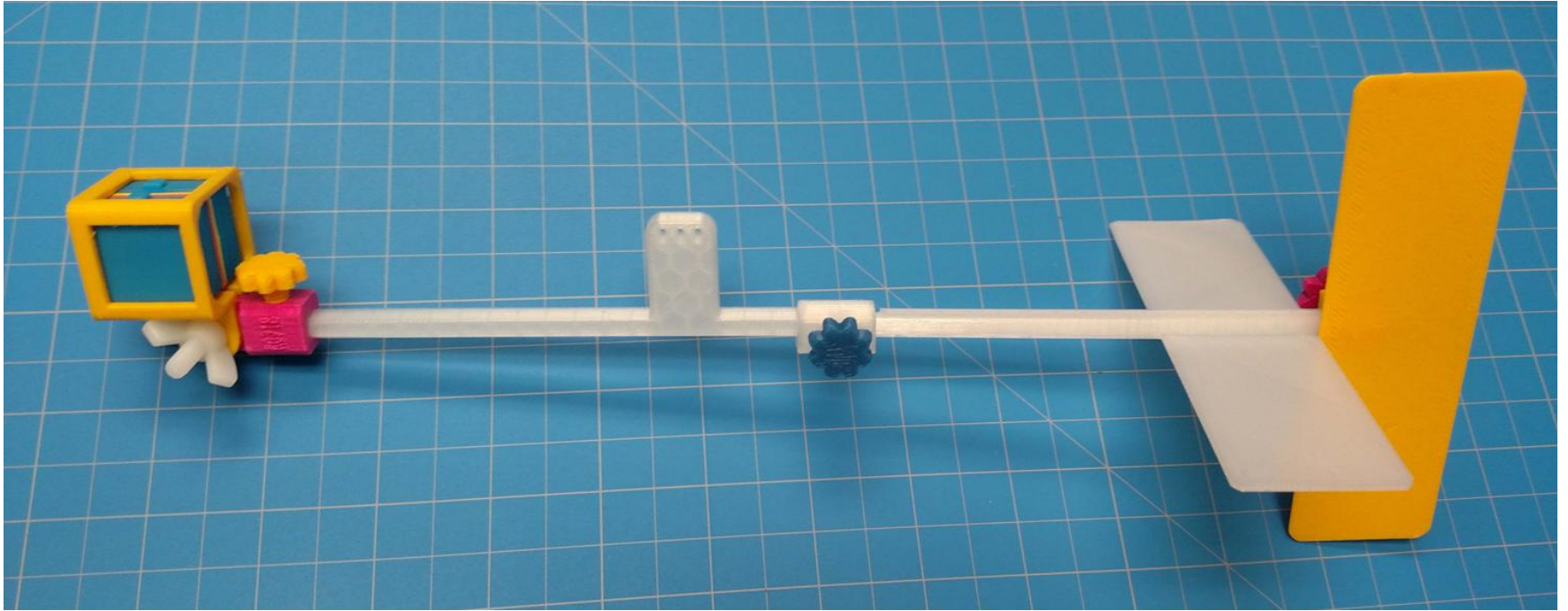
AEROKATS – Getting Started ...



Family Science Nights



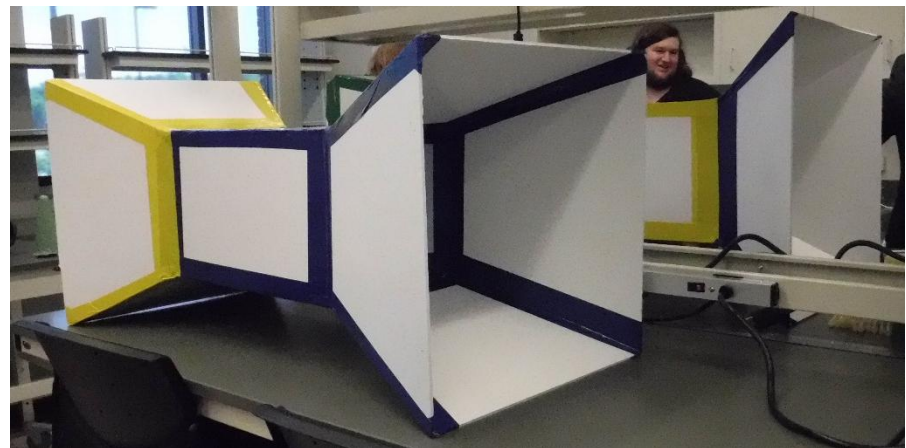
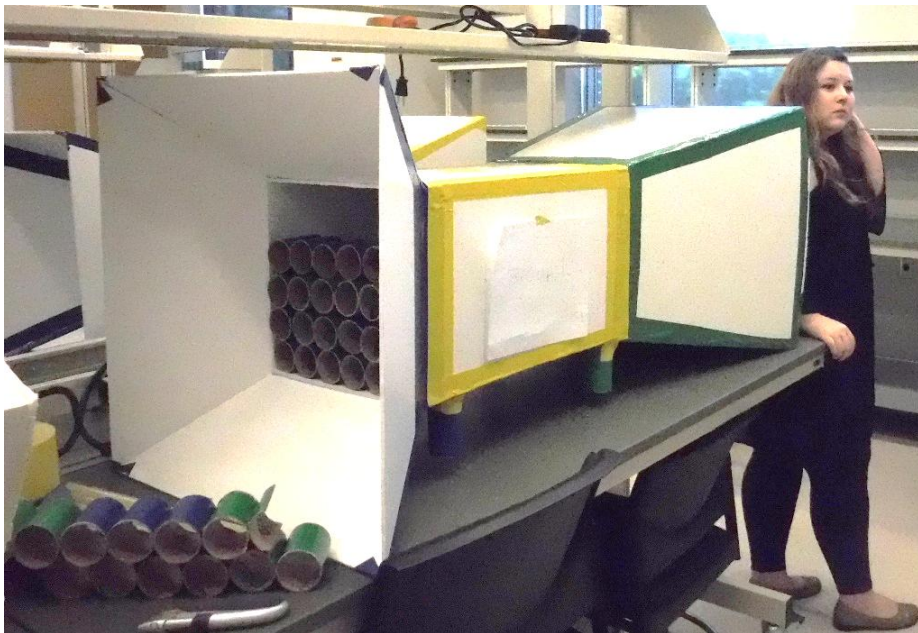
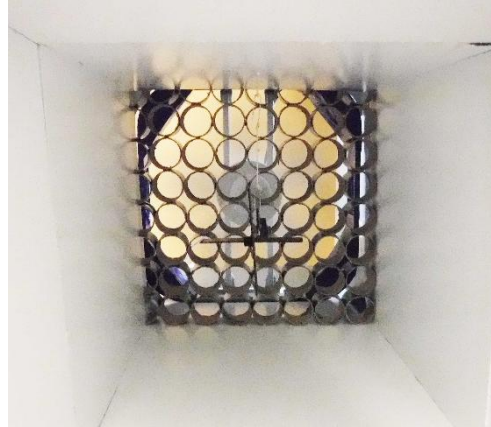
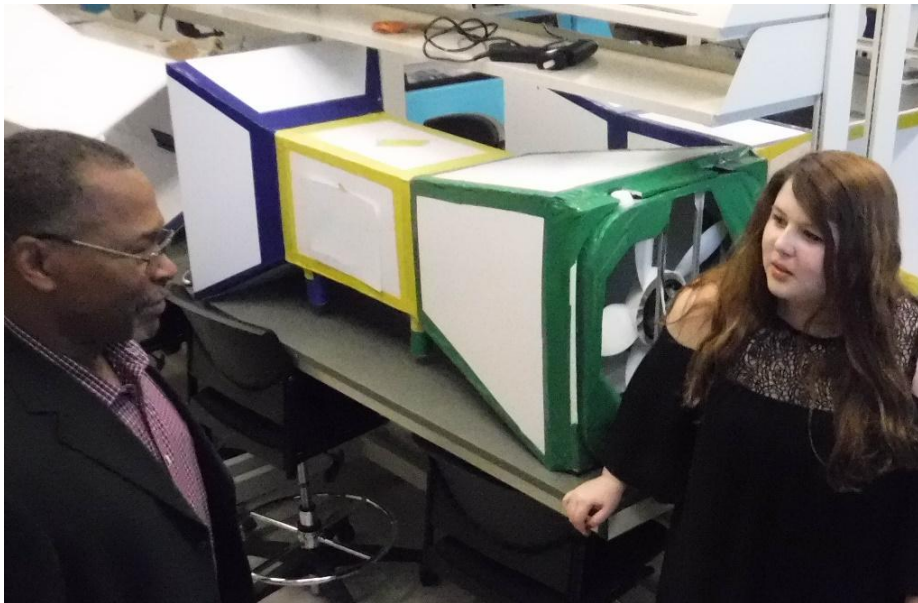
3D Printing



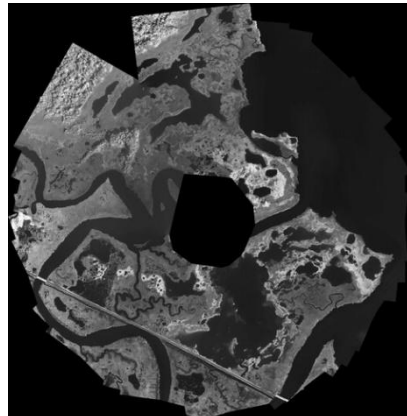
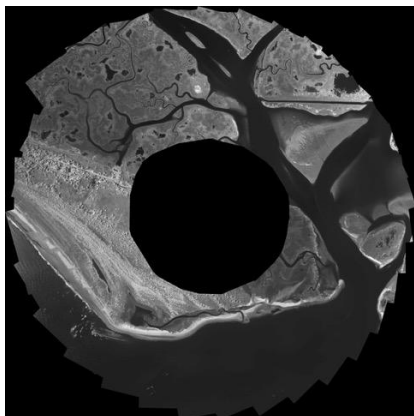
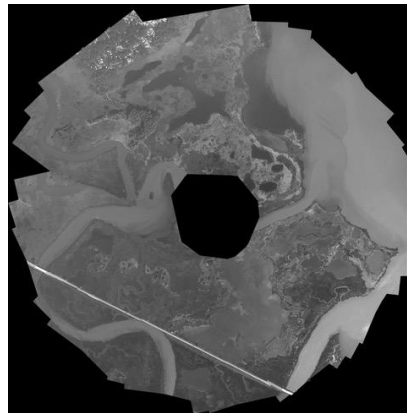
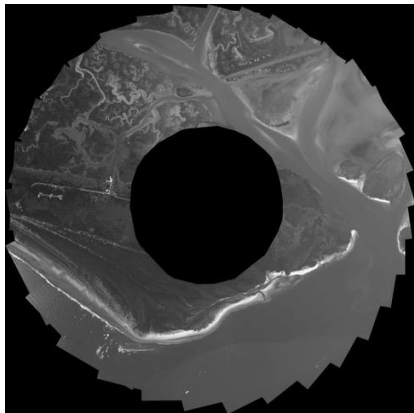
UMES



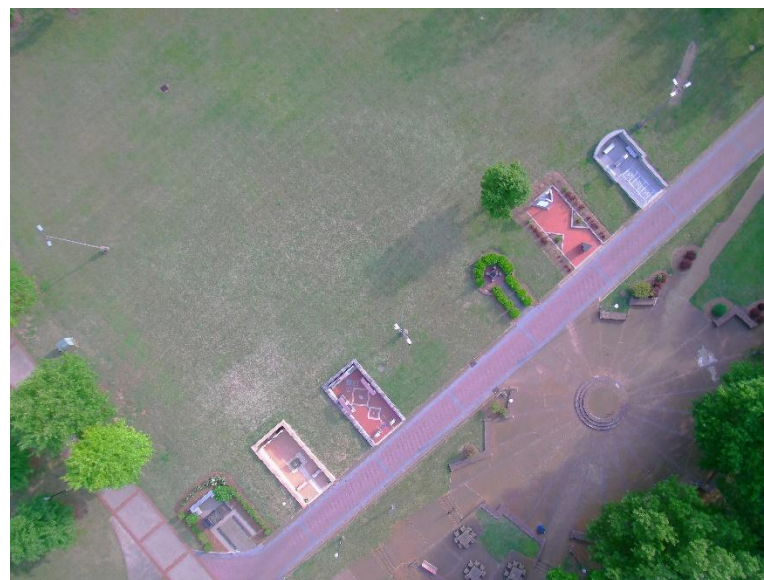
UMES ENGR150 Engineering Design



Vanilla Aircraft 5 Day UAV Mission



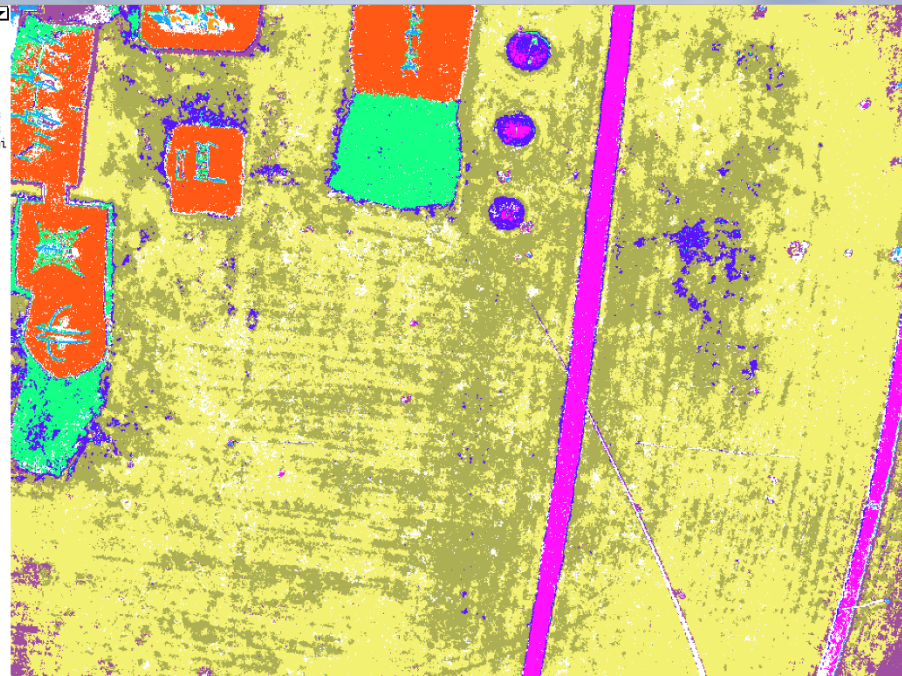
TSU GEO3500



Cooper Upper Elementary



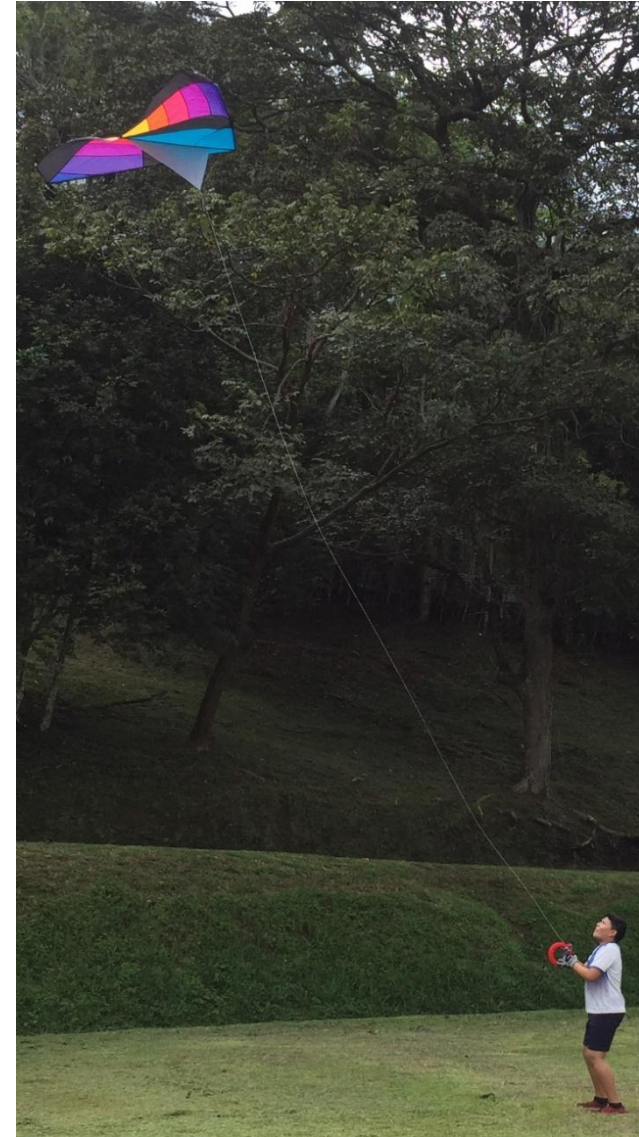
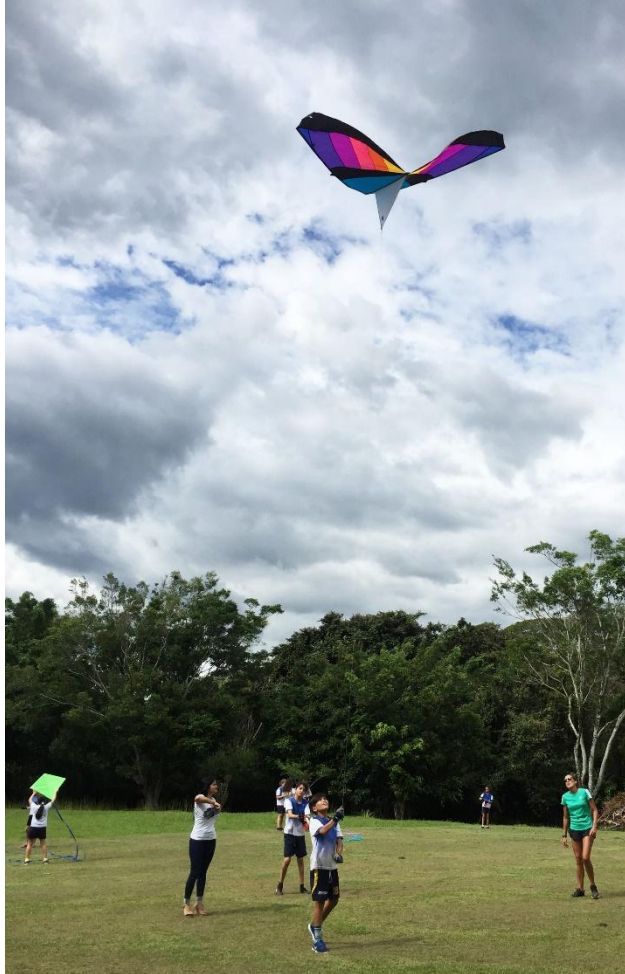
Classes
background
Grass
Matt surface
Gravel
Track
Bare soil
Play Structures
Worn grass - soil
Matt Edging



Costa Rica



Costa Rica



American Kitefliers Association (AKA)

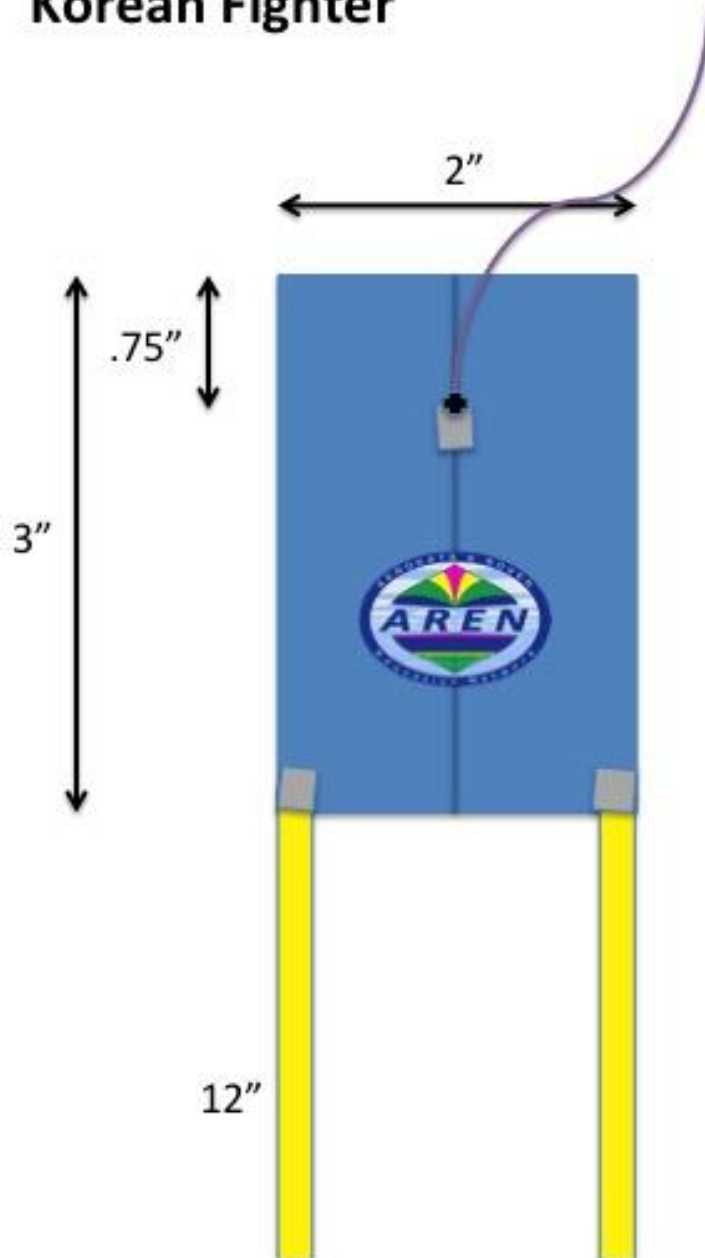




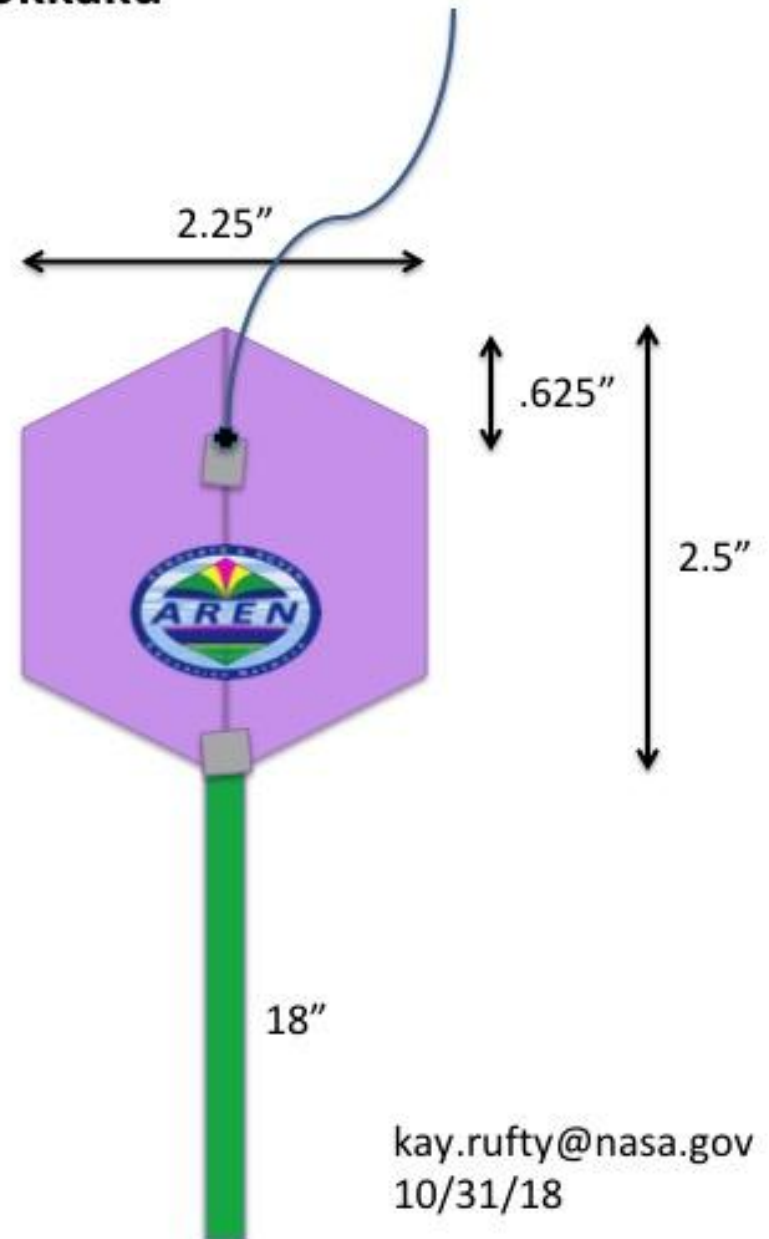
American Kitefliers Association (AKA)



Korean Fighter



Rokkaku



kay.ruffy@nasa.gov
10/31/18



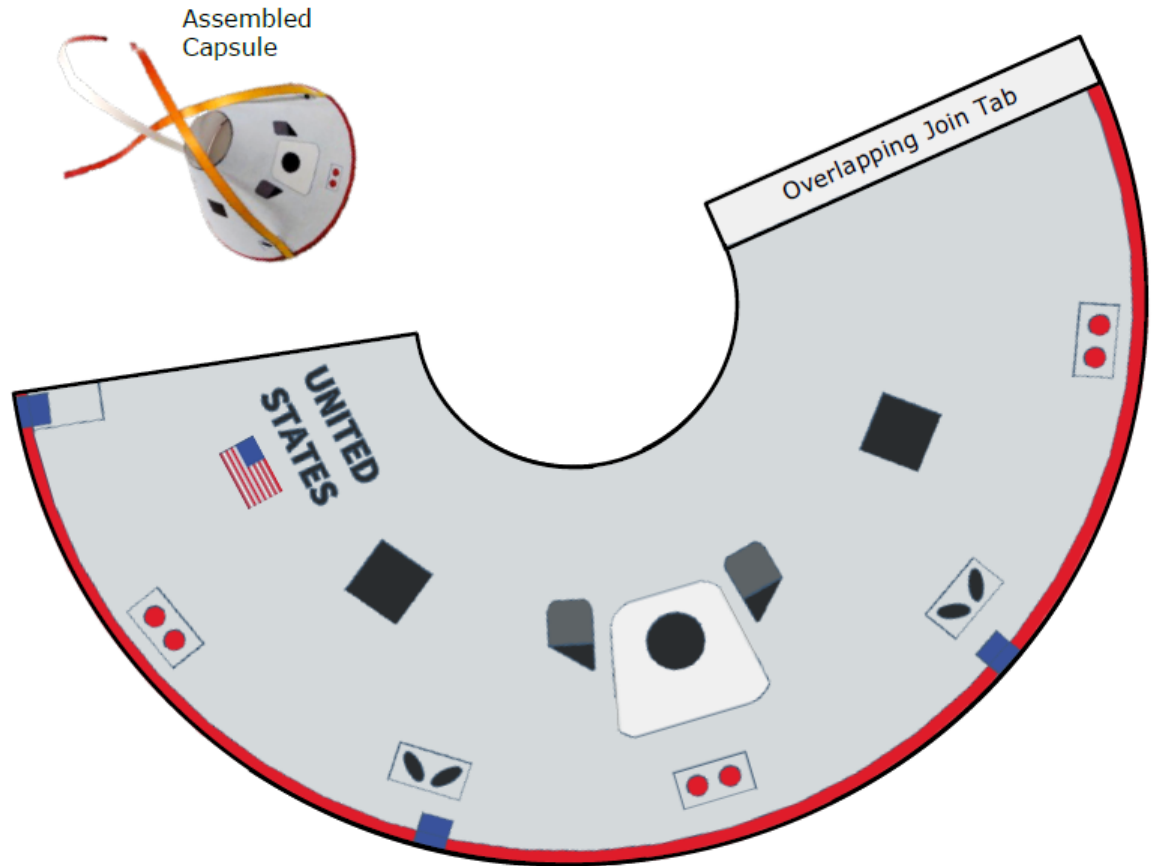
APOLLO MOON LANDING

50TH ANNIVERSARY FLYING CAPSULE



Instructions

- Cut out the cone and 3 streamers below
- Tape the two sides of the cone together
- Tape the streamers to the specified areas on the cone
- Measure and cut 3 pieces of 24 inch thread
- Tape thread on the inside of the cone opposite the streamers
- Tie a knot connecting the 3 thread so that the drogue hangs evenly
- Grasp the knot and fly the Apollo capsule through the air (or use as a kite tail)!





Thank You!

