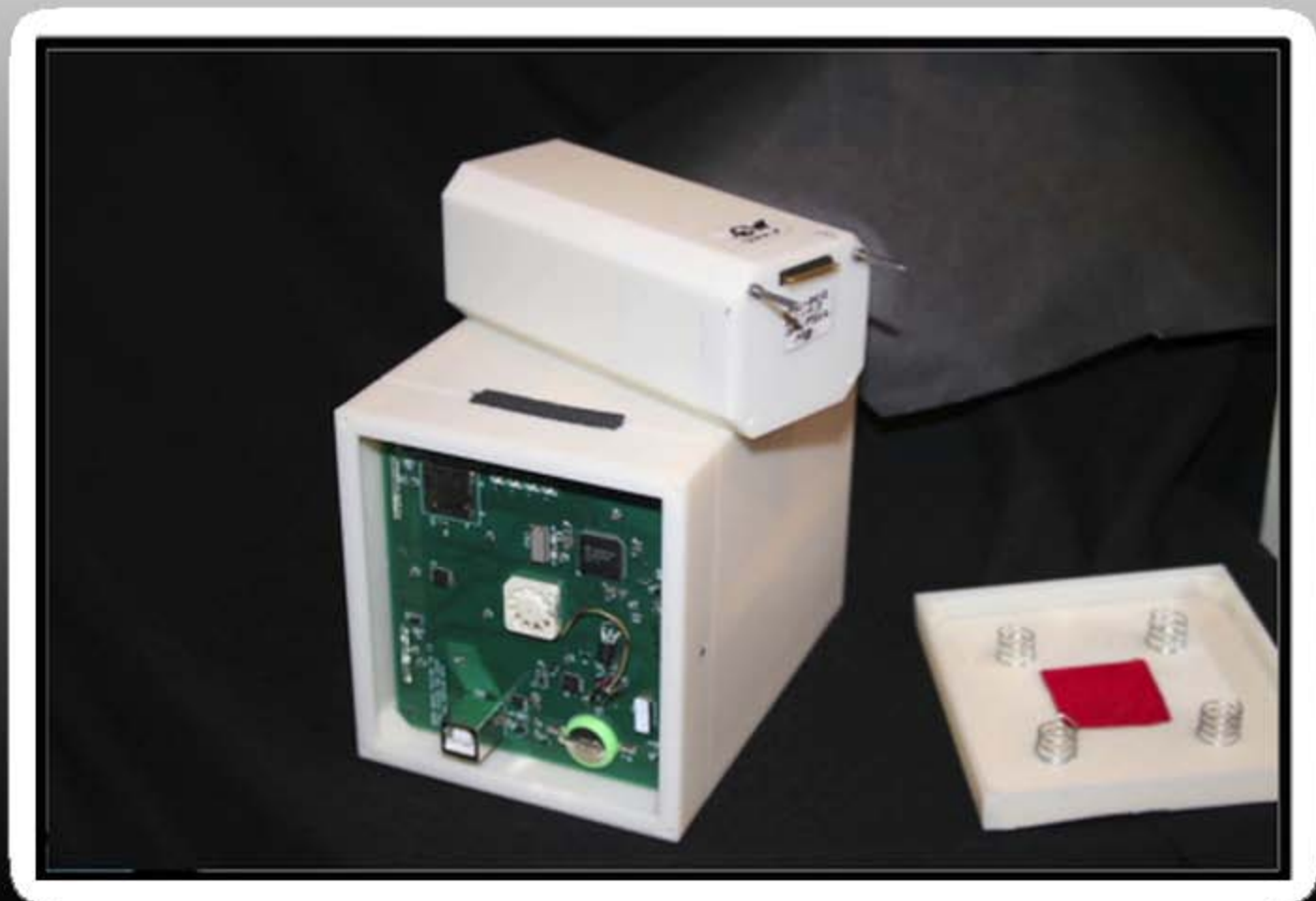


Valley Christian's ISS STEM Program

"To Space and Back in 9 months"



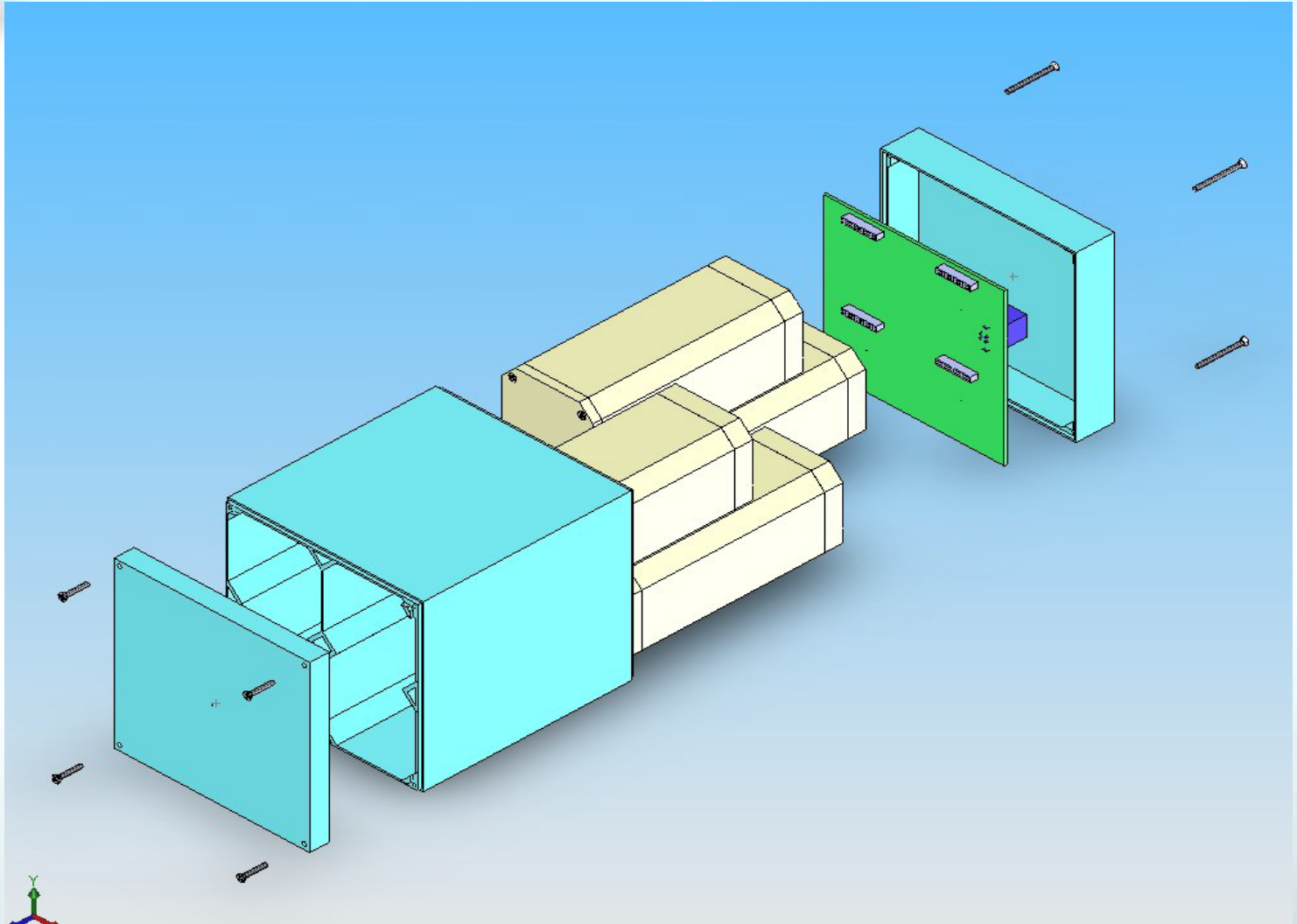


ISS NanoLab Project Objectives

- Provide a *low cost* and *exciting* method for students to *launch* automated science *experiments* to *space* and *back* within the nine month *school year*.
- *Help* other schools and organizations get into space and *promote STEM*

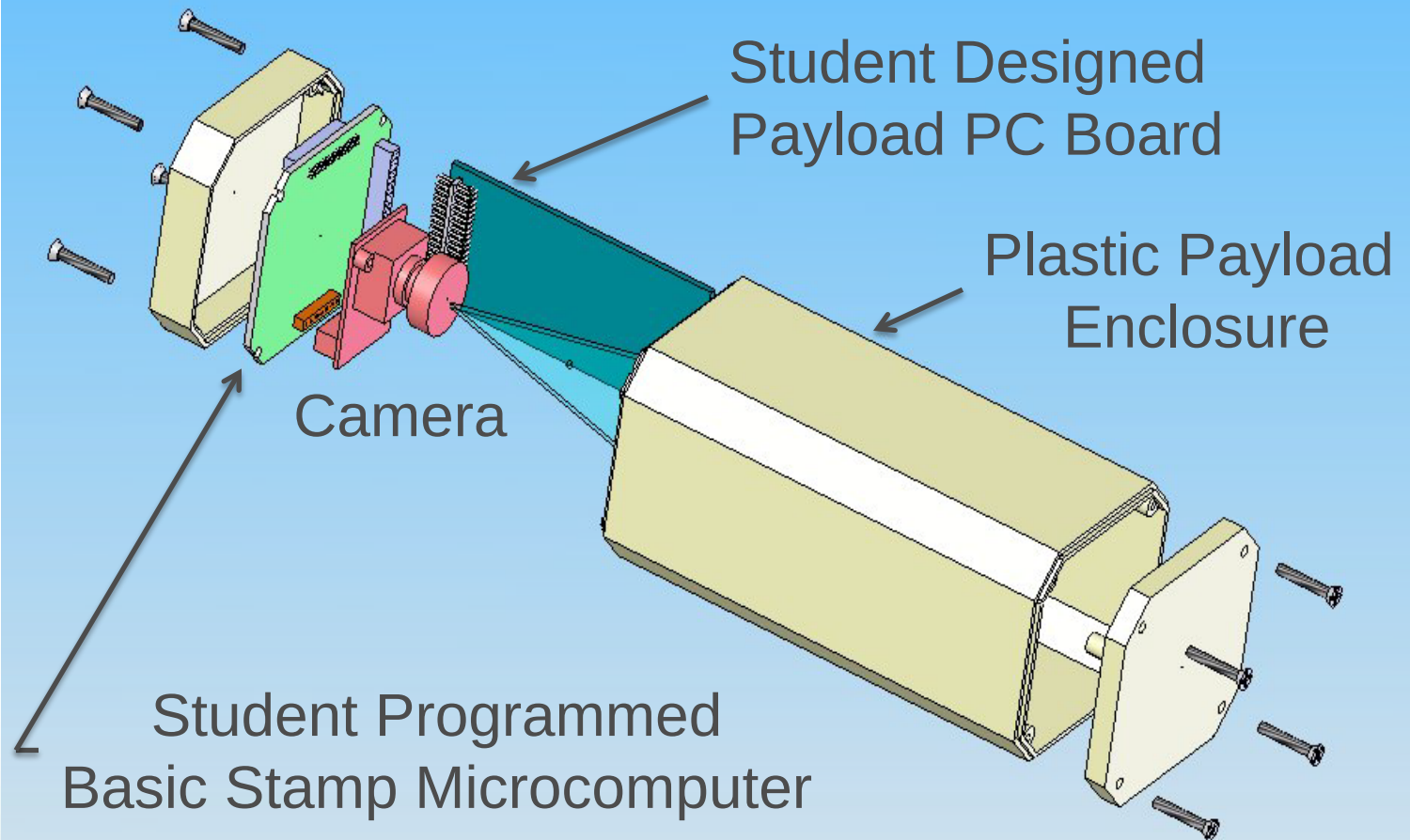


NanoLab Exploded View





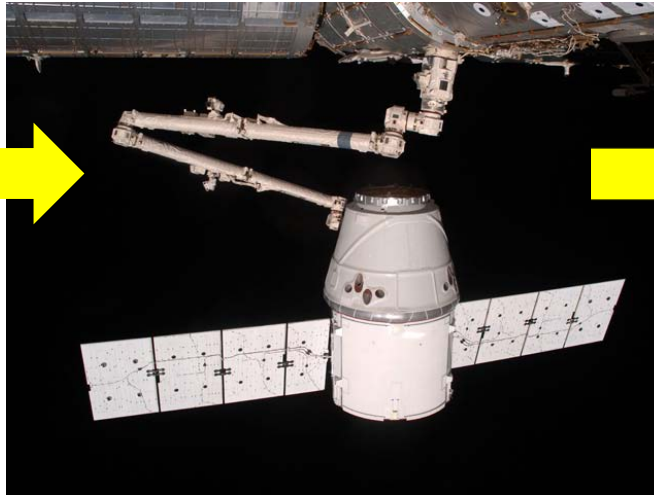
MicroLab Exploded View



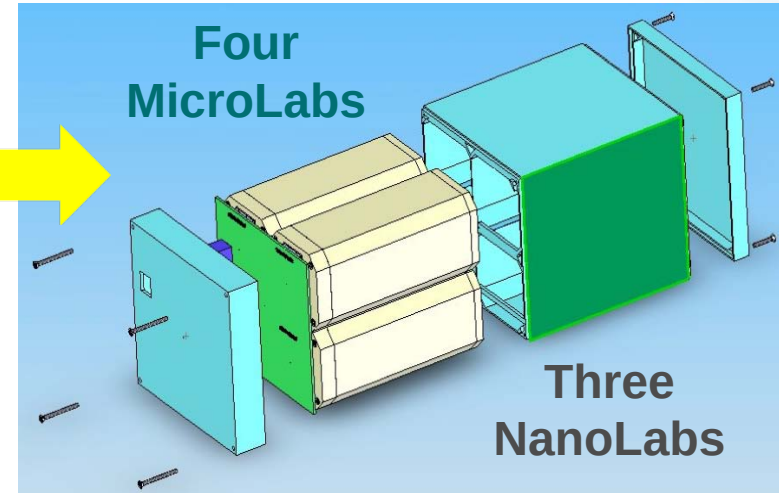


All Three NanoLabs Operational

Launched on March 1, 2013 on
SpaceX-2 Dragon ISS Supply Vehicle



NanoLab Exploded View



Data



To Be Returned May 15, 2013
on Russian Soyuz Capsule





2013 ISS NanoLab Partners

Note:

8 Partner Schools

12 Experiments

120 Students & Mentors



BEWiSE Girls of San Diego



Girl Scouts of Hawaii



Los Gatos High School (Los Gatos, Ca.)



Maranatha Christian HS (San Diego)



Minnehaha Academy (Minneapolis)



Riverside Christian HS (Riverside)



Fremont Christian HS (Fremont, Ca.)

Valley Christian High School of San Jose, Ca.



Wide Variety of Experiments

Alum Crystal Growth - BEWiSE Girls of San Diego

Hawaiian Microgreen Plant Growth - Girl Scouts of Hawaii

Iron Oxide Resistance - Los Gatos High School

ISS CO₂ Sensor - Maranatha Christian High School

Latex Polymer Coalescence - Minnehaha Academy

E-coli Growth & Battery Test - Riverside Christian HS

ISS Microgravity Measurement - Fremont Christian High School

Wisconsin Fast Plant Growth - Valley Christian High School

Electromagnetic Ferro Fluid - Valley Christian High School

E-coli Growth - Valley Christian High School



AMSE Institute
Applied Math • Science • Engineering



Electroplating - Valley Christian High School



On Orbit Operations Status

- Launched On SpaceX2 Dragon March 1, 2013
- Power turned on April 5, 2013
- 11 of 12 MicroLab Experiments Sending Photos and Text Data
- One MicroLab Experiment in Troubleshooting Mode
- Number of JPEG Photos and Data Files - 4,500+
- Scheduled to be returned on Soyuz May 5, 2013 for Analysis on the Atomic Force Microscope



SpaceX Dragon Increases Return Options

Launch Supply Vehicles



Japanese HTV-3 (Jan 2011)



European Ariane 5
ATV-3 (Feb 2012)



Orbital Sciences
Cygnus
Available July 2013

Launch & Return Vehicles

**Three
NanoLabs
Launched
March 1, 2013
On Dragon**



SpaceX2 Dragon



Russian Soyuz
**NanoLabs Return on
May 15, 2013**



NanoLab Technical Description

Valley Christian High School NanoLab Technical Description By Student Mason Ivy