



# NanoRacks Internal Space Station Platforms

NanoRacks ISS Workshop  
George Washington University  
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# NanoRacks Internal Science Platforms



Frames 1, 2, 3

MixStix

Plate Reader

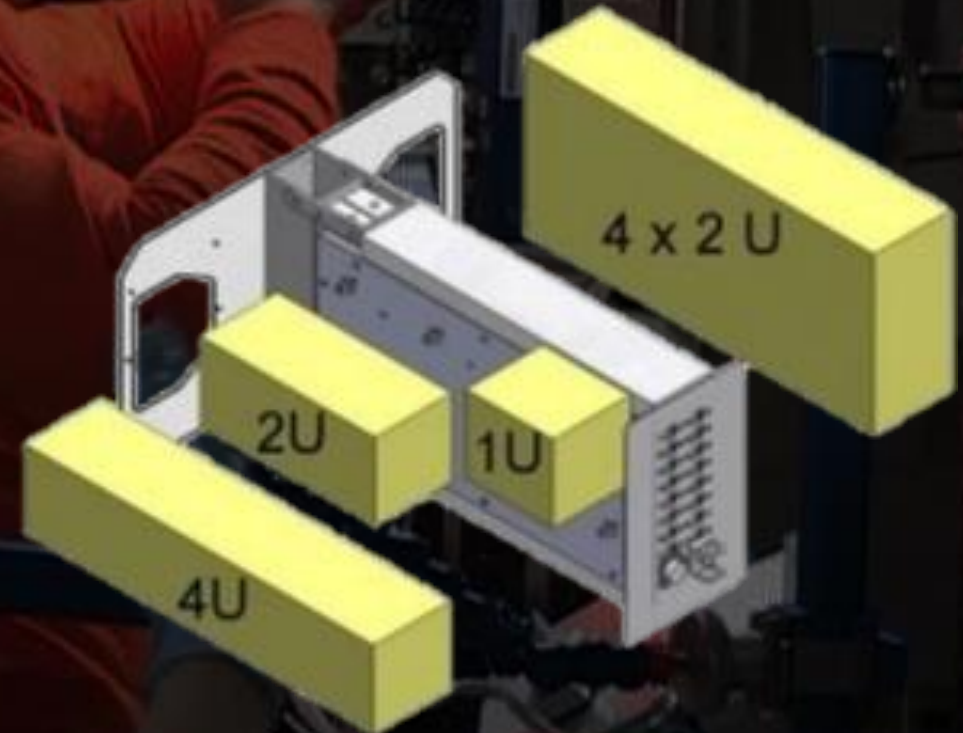
Protein Crystal Growth

Microscopes

Sample Hotel

# NanoRacks Platform 1 & 2

- USB 2.0 Connection
- Provides Data & Power
- 16 Connections for CubeLabs

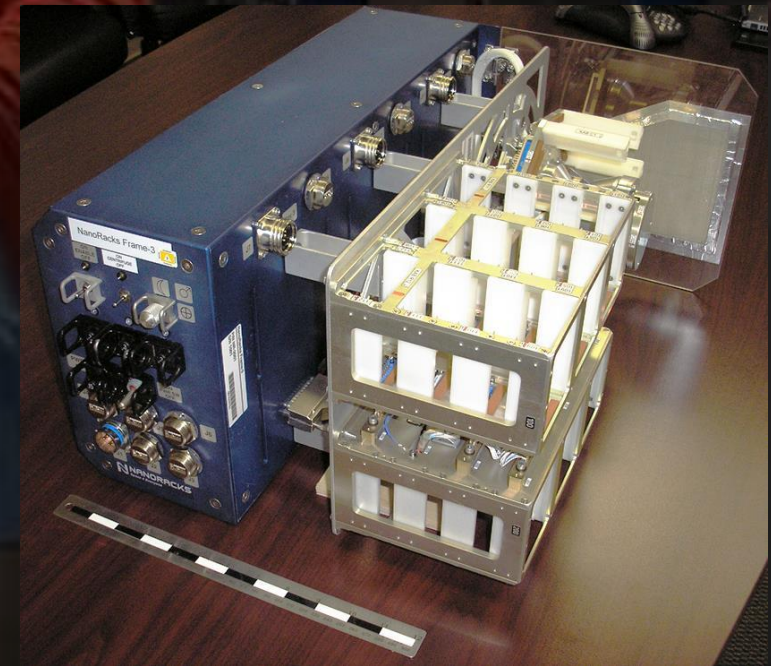




# NanoRacks Platform-3



- More power!
- Up to 50W
- USB & Serial connections
- Centrifuge



# NanoRacks Plate Reader

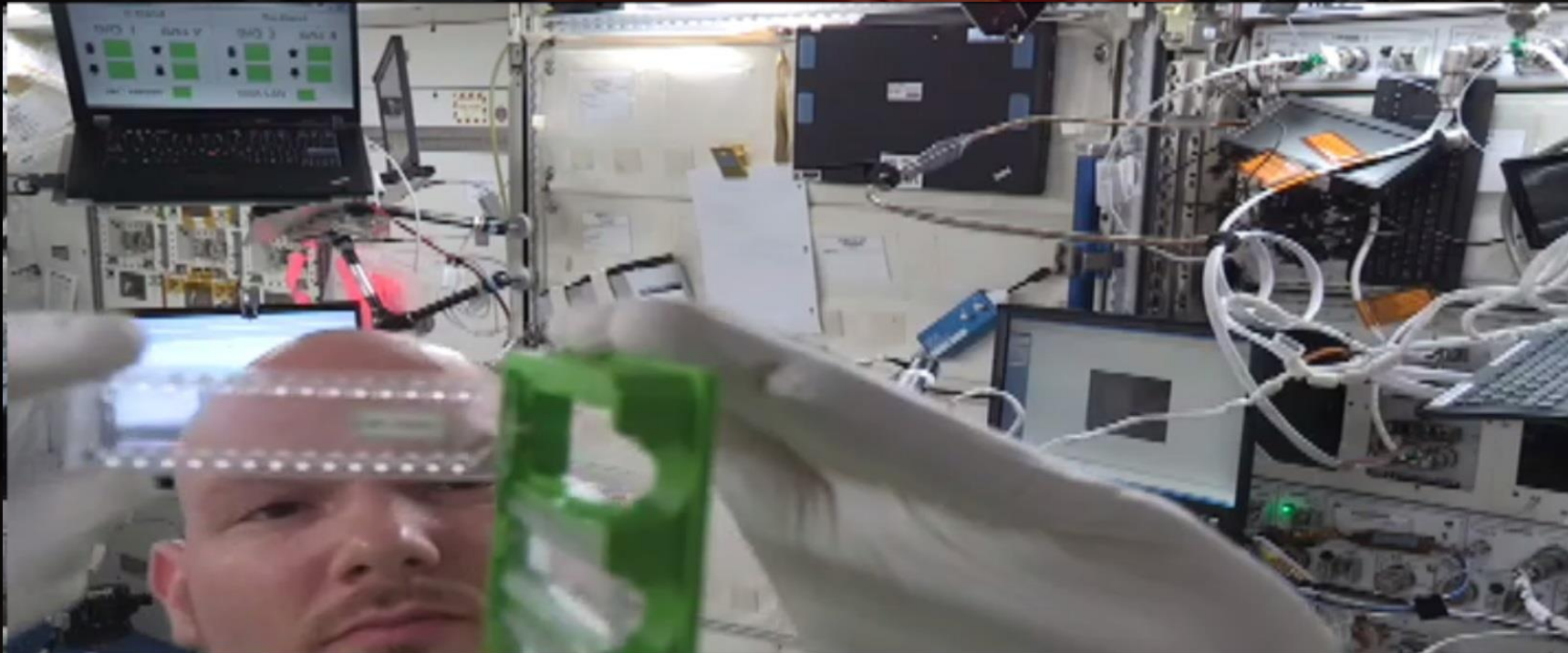
- Measures properties of materials using light absorbance or reflection
- Common lab instrument
- Can use most standard microplate formats
- COTS modified for flight



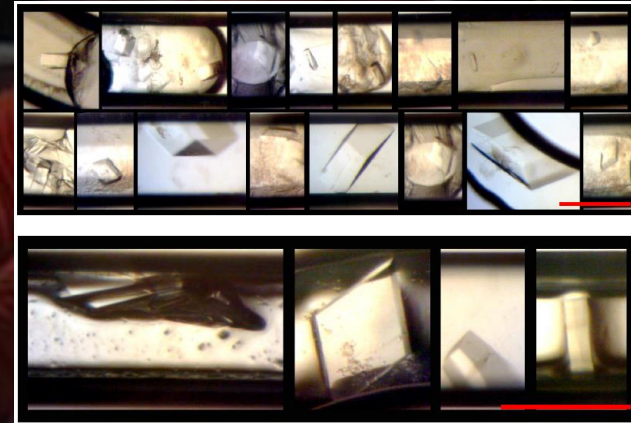
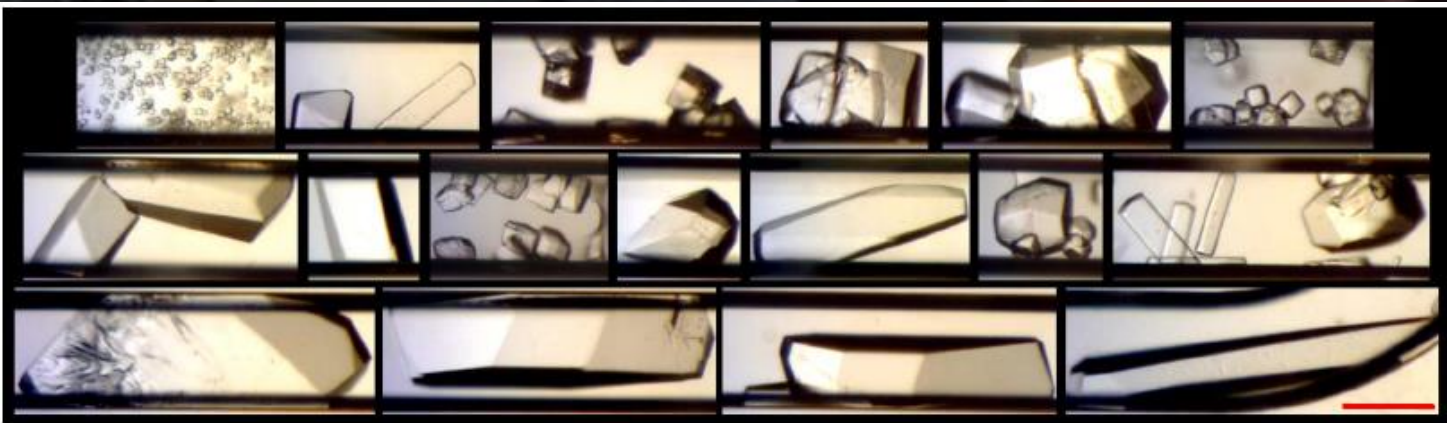


# Protein Crystal Growth

- Microfluidic Card system for Protein Crystal Growth
- ~4  $\mu\text{L}$  sample, 400-800 different conditions/card



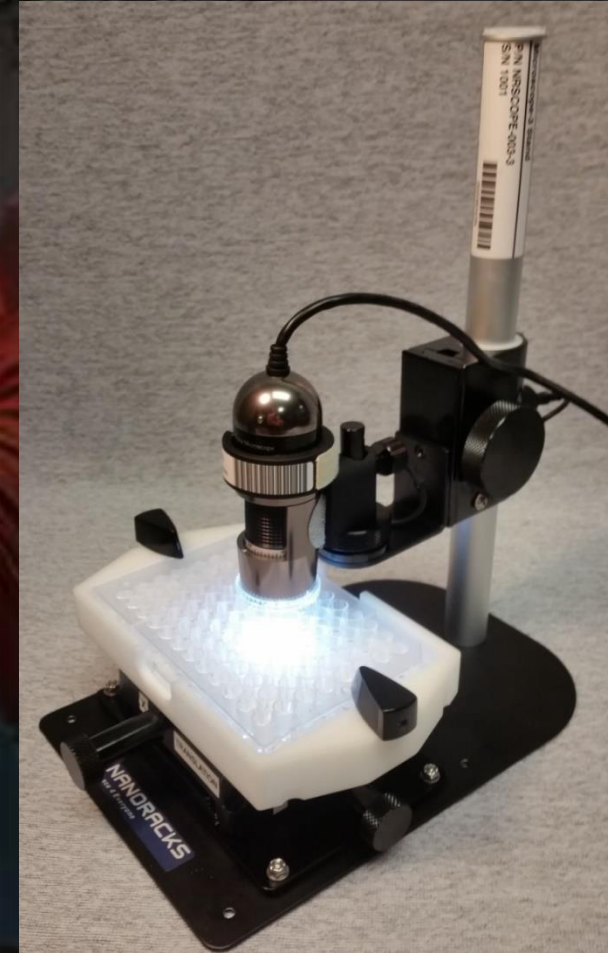
# Protein Crystal Growth





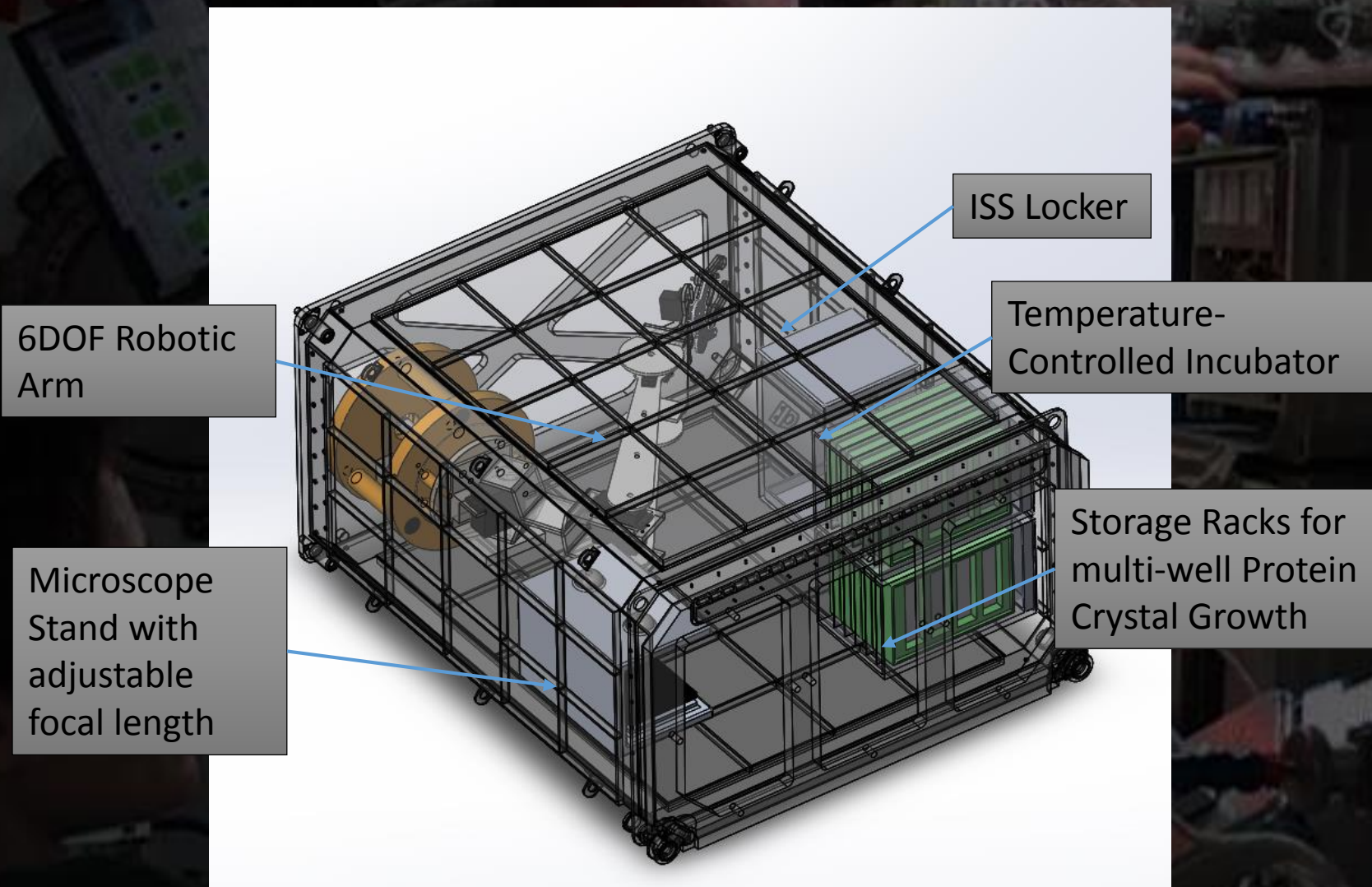
# NanoRacks Microscope-3

- USB Microscope
- 20-240X Magnification
- 5 MP pics/video
- XY Translation Stage
- Holds any low profile microplate
- White or black background





# Sample Hotel



# Science Payloads: Fruit Flies

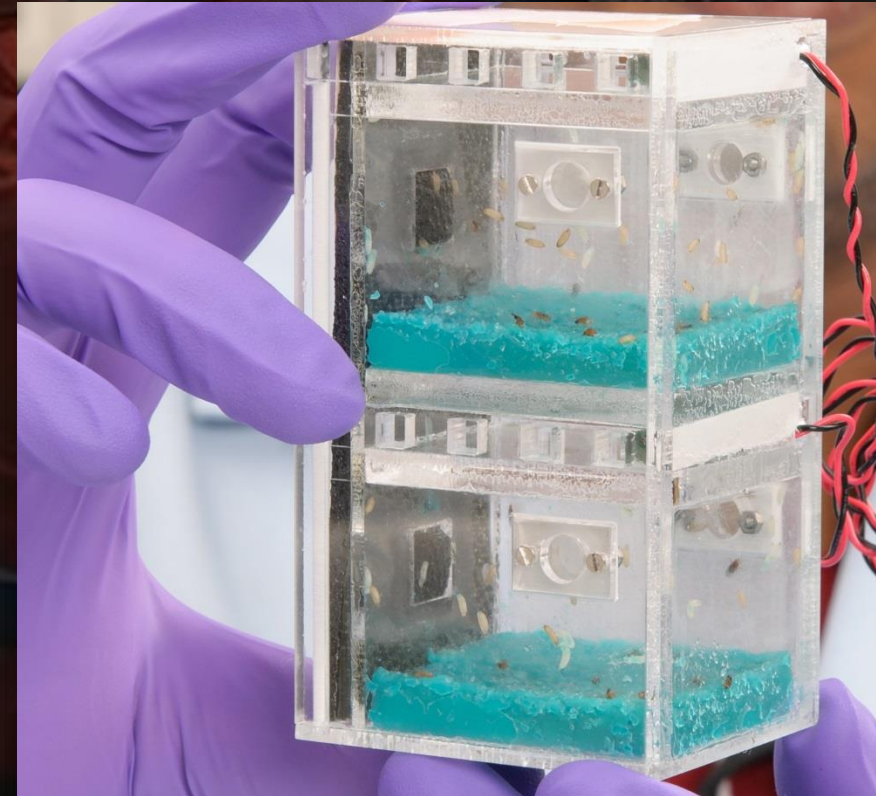
- HEART Flies, SpaceX CRS-3





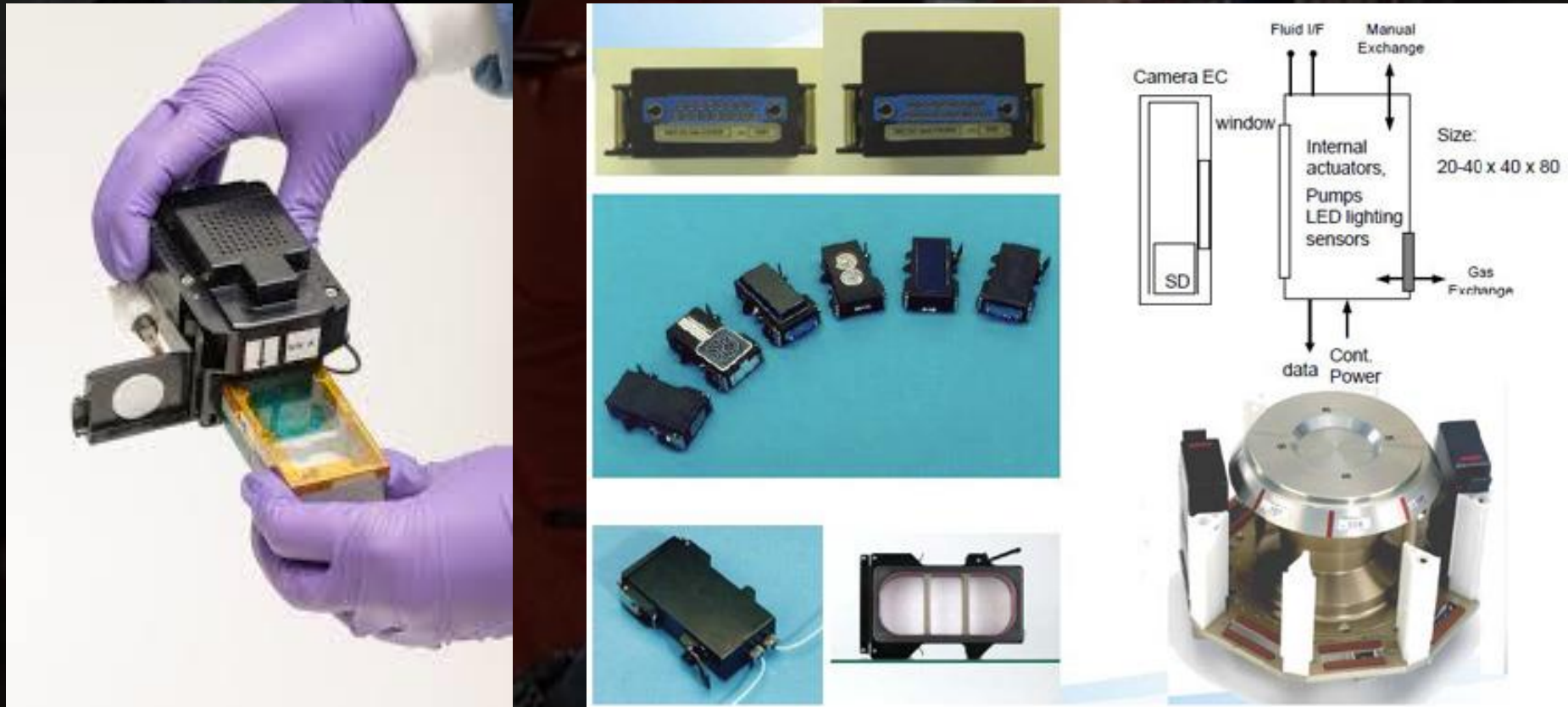
# Science Payloads: Fruit Flies

- AFEx, SpaceX CRS-4



# Science Payloads- Fruit Flies

- Fruit Fly Lab-1, SpaceX CRS-5



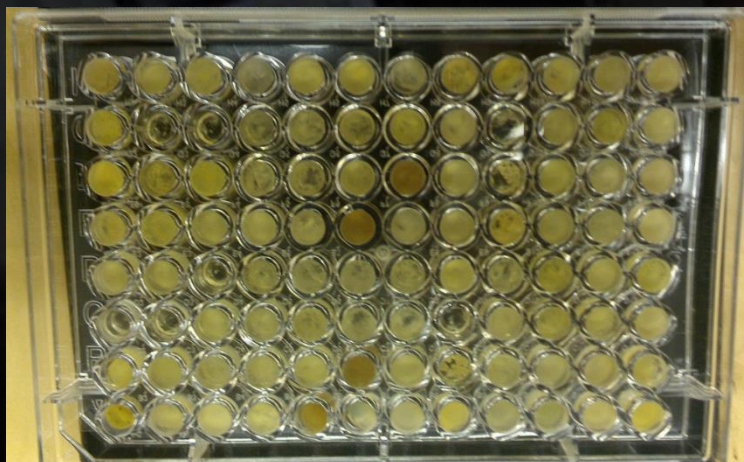


# Science Payloads: Project MERCCURI/SciCheer





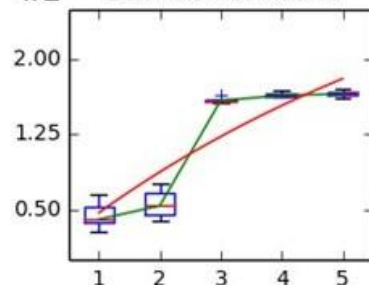
# Science Payloads: Project MERCCURI/SciCheer



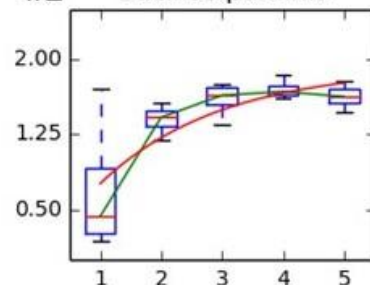
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## Best Sprint

#1 Parkway Middle School  
*Bacillus horikoshii*



#2 Pop Warner Chittenango  
*Bacillus pumilus*



#3 Mars Exploration Rover (JPL)  
*Paenibacillus elgii*

