

A photograph of the International Space Station (ISS) in space, viewed from a distance. The station's complex structure, including its large solar panel arrays, is illuminated by a bright light source, likely the Sun, creating a strong glow and lens flare. The Earth's horizon is visible in the background, showing a thin blue line against the blackness of space.

Come Onboard the ISS!

**Mark Severance
Manager**

**ISS National Laboratory Educational Projects
NASA-Johnson Space Center**

Your Mission: Get Involved!

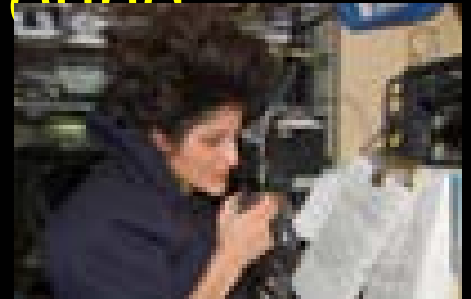
- There are now a number of ways students, educators and life long learners can get involved in the ISS Mission
 - Student Designed Experiments
 - Amateur Radio Contacts with the ISS Crew
 - Student Designed Payload Experiments
 - Ground Based “Control Group” Experiments
 - Educational Downlink Sessions with the ISS Crew
- *You can be a part of the ISS Mission along with the 16 nations of the 5 international human spaceflight agencies*

Kids In Micro-g Experiment Design Challenge

- 5th – 8th grade students and their educators can design a microgravity experiment to be performed by the ISS Astronauts
- Experiment should have an observably different outcome from the classroom when performed onboard the ISS
- Details:
www.nasa.gov/mission_pages/station/science/nlab/experimentchallenge.html
- Search: “Kids In Micro-g” – Opens Wednesday!

Track the ISS & Talk With the ISS Crew via Amateur Radio

- The Amateur Radio on ISS (ARISS) school contact activity allows direct communication with the crew via amateur radio ground stations

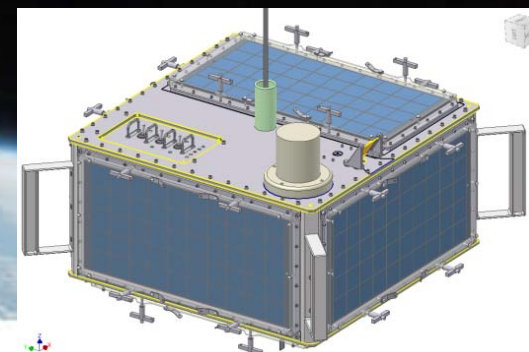


- STEM content from an ISS and Amateur Radio perspective
- Details: www.arris.org
- Search: "ARISS"



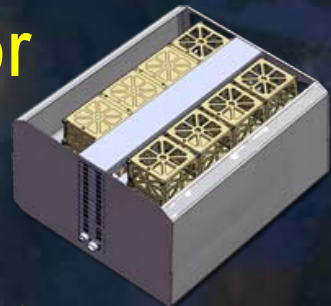
Track the ARISSat Educational Satellite

- Small satellite to be released by the ISS Cosmonaut crew during a spacewalk in February 2011
- Morse code Beacon signals, voice greetings and experiment data can be received on a simple “VHF Ham Band” receiver
- Future satellites will host additional student experiments
- Details: www.amsat.org
- Search: “ARISSat”



Build Your Own Experiment Inside an ISS Payload

- The NanoRacks CubeLab payloads offers a standardized venue to support simple to sophisticated student experimentation or research
- Input power and output data provided
- Sounding Rocket & Reduced-g aircraft flight enue
- A major new K-12 educational initiatives coming soon!
- Details: www.nanorackslc.com
- Search: “Nanoracks” or “CubeLab”



Perform Control Group Experiments In the Classroom

- The BioServe Space Technologies “CSI” Payload offers the opportunity for students and educators to follow real-time experiments with an in-class control group experimental set up
- Over 180,000 students participated in the study the of Monarch butterfly lifecycle in 2009-2010
- Archived experiments available

- Seed germination and insect behavior experiments to launch next year
- Details: www.colorado.edu/engineering/BioServe/
- Search: “BioServe CSI”



Control a Camera to Observe the Earth

- Earth Knowledge Acquired by Middle school students (EarthKAM) allows students to operate a camera onboard ISS to observe geographic features of interest



- Details: www.earthkam.ucsd.edu
- Search “EarthKAM”



Control a Satellite Inside ISS

- Synchronized Position Hold Engage and Reorient Experimental Satellite (SPHERES) internal satellites flying out tasks inside the ISS under the control of student developed software
- Local and National activities

- Details:

http://www.nasa.gov/mission_pages/station/science/experiments/SPHERES-Zero-Robotics.html

- Search: ISS SPHERES



In-Flight Education Downlink Sessions With the ISS Crew

- These sessions provide a live interactive audio/visual Q&A seminar with the crew via the TDRSS satellites

- **Details:**

www.nasa.gov/audience/foreducators/teachingfromspace/home/downlinks.htm

- **Search: Inflight Education Downlinks**



More to Come! Keep Looking Up!

- More educational opportunities will be announced in the coming months!
- ISS viewing opportunities occur roughly every two months in the morning & evening twilight
- Details:
<http://spaceflight.nasa.gov/realdata/sightings>
or
<http://www.heavens-above.com>
- Search: ISS Sightings