

ARISS and Education: *Who will join AMSAT in 2031?*



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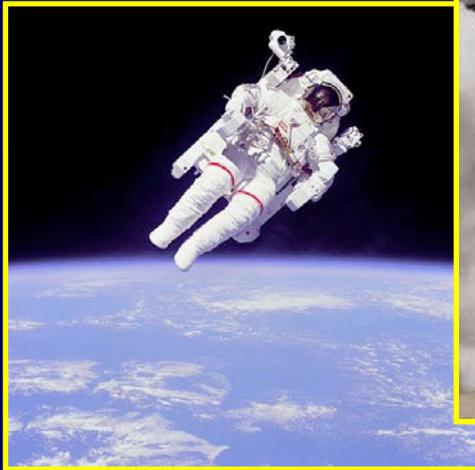
Why is education important?



- AMSAT had its beginnings in the early days of the Space Age, when human-made satellites were still in their infancy
- Many of our members recall becoming interested in technology when Sputnik was launched, ushering in a new age

Technology today

- Current youngsters have grown up with technology and the Space Age as routine parts of their lives, and society does not necessarily hold up the value of being technology developers as opposed to just technology consumers



Education: still important

From NASA's Education website* -

NASA will continue the Agency's tradition of investing in the Nation's education programs and supporting the country's educators who play a key role in preparing, inspiring, exciting, encouraging, and nurturing the young minds of today who will be the workforce of tomorrow.



* - <http://www.nasa.gov/offices/education/about/index.html>

Amateur Radio on Human Spaceflight Missions

Since 1983, teams in the U.S. (SAREX), Germany (SAFEX) and Russia (MIREX), have worked with the space agencies to fly amateur radio and to support Educational Outreach on:



Space Shuttle

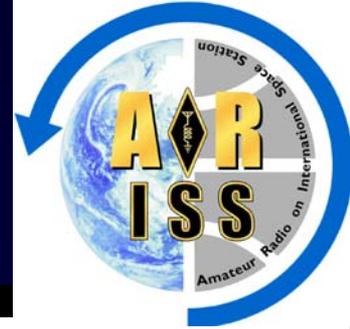
ISS



Mir



Amateur Radio on the International Space Station (ARISS)



What is ARISS?

- International program that inspires students, worldwide, to pursue careers in science, engineering and mathematics through communication with the ISS on-orbit crew via amateur radio
- Local community drawn into this once-in-a-lifetime human spaceflight pursuit
- Provides an experiment platform for new telecommunications techniques
- Promotes interest in the amateur radio (ham radio) hobby as a link to better engage students in science and math



NASA recognizes the unique capability of amateur radio to engage the public, and in particular our students, in activities that inspire their interest in Science, Technology, Engineering, and Math – STEM

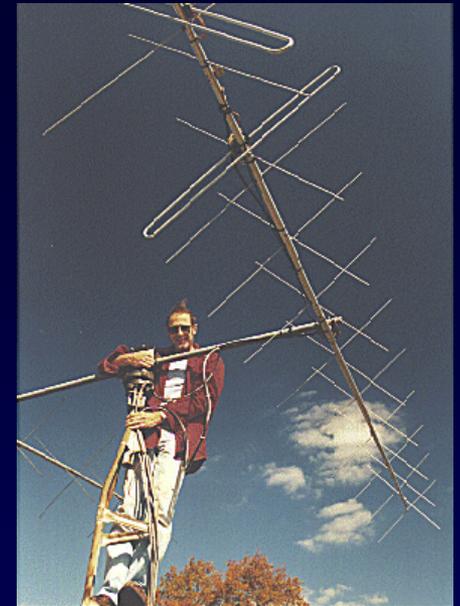
ARISS Objectives



Spark Student's Interest
In Science & Technology



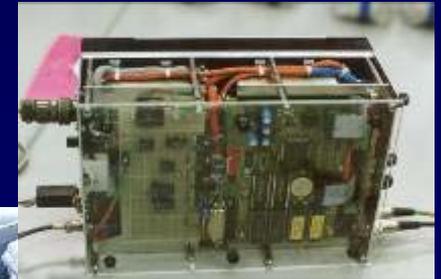
Crew Family Contacts
(Crew Psychological Ops)



Promote Interest
In Amateur Radio



Human Spaceflight
Awareness



Experimentation

Development & Operations on the International Space Station (ISS)

Working with our international partners to develop & operate Amateur Radio on the International Space Station (ARISS)

ARISS Team

- Nine international partners thus far—Belgium, Canada, France, Germany, Italy, Netherlands, Japan, Russia and the United States
- MOU—Formed ARISS to represent the amateur radio community to the ISS Program
- All volunteer team



USA Sponsors



National Aeronautics and Space Administration (NASA)

- Provides resources (people, money, and volume and time on the ISS)



AMSAT

Radio Amateur Satellite Corporation (AMSAT-NA)

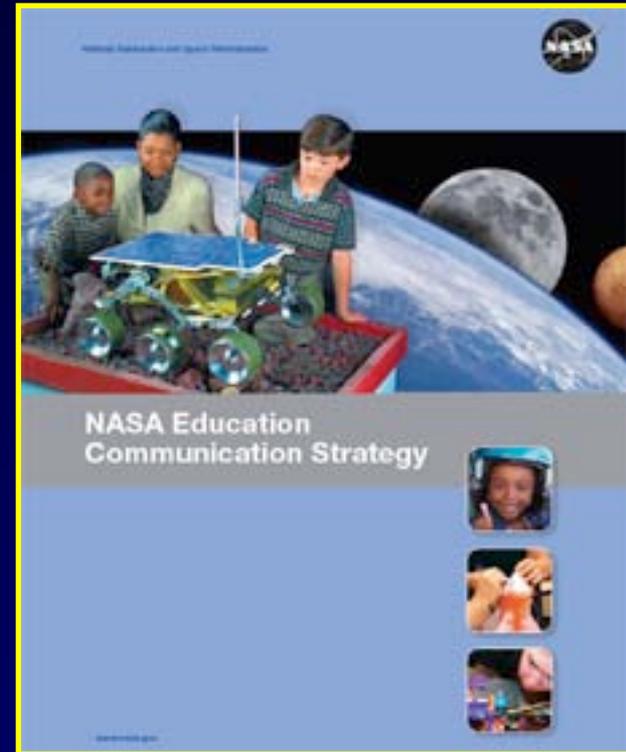
AMSAT and the ARRL provide resources (volunteers and paid employees, flight and test hardware, and the use of amateur ground stations)



American Radio Relay League (ARRL)

NASA and ARISS Education

- Over the past few years NASA Education has been told by Congress to focus more on gathering information on the outcomes of its programs
- Not good enough to just do stuff, must measure what is actually being accomplished
- This has led the JSC Education Office through its Teaching from Space projects to emphasize more than ever the educational content of all its projects, including ARISS



Spring 2011: A New Beginning

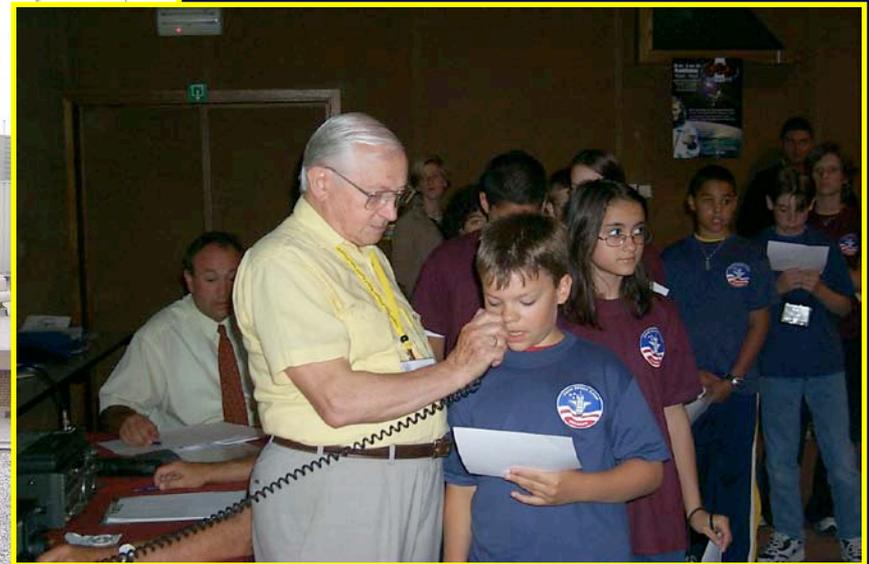
- Teaching from Space issued a call for proposals to over 18,000 people and institutions
 - Invited them to take advantage of amateur radio contacts with the ISS
 - Proposers to concentrate on the educational program that surrounds the contact, not the particulars of the contact itself
- This opened up the opportunity for AMSAT and ARRL to reach out to the selected schools to help them even more with educational resources and with the technical implementation of the contact, using their technical strengths
- 5 primary and 10 alternate schools and institutions selected
 - Currently in the process of preparing for potential contacts to occur mid-January 2011 through mid-July 2011

Continuing series of proposals

- This November the request for proposals will go out for the next six month window
- Information on the process can be found at <http://www.nasa.gov/audience/foreducators/teachingfromspace/students/ariss.html>.
- Details can be obtained by sending an email to the NASA Johnson Space Center's Teaching from Space office at JSC-TFS-ARISS@mail.nasa.gov

How can you help?

- Become a mentor or help a selected local organization through the process of preparing for and pulling off the contact itself



AMSAT in 2031...

- In 20 years, will there be enough men and women in STEM careers to keep the US on the competitive edge of technology development?
- In 20 years, will AMSAT have people interested enough in technology to want to get involved and keep the organization alive?
- In 20 years, will there be some bright young engineer about whom you can say:

“I helped them get their start in the technical field when they became interested in STEM during an ARISS contact that I helped make happen!”

For further information

- ARISS: www.ariss.org
- NASA Education:
<http://www.nasa.gov/offices/education/about/index.html>
- Mark Steiner, K3MS: k3ms@amsat.org