

ARISS USA Report



**ARISS International
Delegates Meeting
*17 July 2008***

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2007 ARISS Delegate Changes

Stepping Down

**Ken Pulfer, VE3PU
Canada**



**Robin Haighton, VE3FRH
Canada**

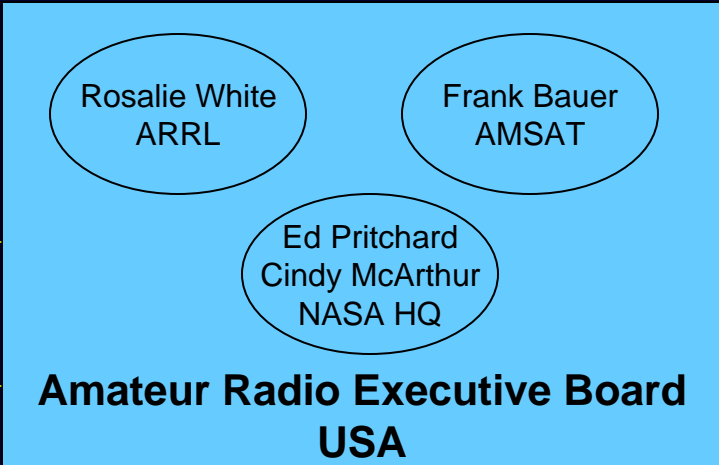
Stepping Up

**Daniel Lamoureux, VE2KA
Canada**



**Stefan Wagener, VE4NSA
Canada**

Team Interactions



Program Manager-F. Bauer
Deputy Program Manager-M. Steiner
Technical Support Officer-C. Jackson

School Group Operations
W. Marchant
K. Pugh

Hardware Development
L. McFadin

Educational Outreach
R. White

General Operations & Troubleshooting
K. Ransom

Software Development
G. Carman

Crew Training
D. Taylor

Public Relations
K. Ransom

ISS Ham/ARISS USA

GSFC Station NN1SS
K. McCaughey

Astronaut Office
Ellen Baker

ISS PO Representative
M. Severance

Payload Integration Manager
K. Ransom

School Operations BMEs
S. VanderArk

Flight Operations & Crew Training

Code CB Education
Matt Keil

Space Station Program Office Interfaces

US Team Meeting Rhythm

- US Team Supports Weekly Team teleconferences and periodic committee meetings and teleconferences
- Teleconferences include:
 - Ops team (Wed. night)
 - US team (Thursday morning)
 - ISS Ham Technical Team teleconference with Energia – (first and second Tuesday of the month)
 - ARISS international partners – (third Tuesday of the month)
 - ARISS International school group/education – (virtual meetings)
 - -Meetings with NASA Education and ISS Program Office— periodic
 - ARISS Project Selection and Use---as required
 - ARRL/AMSAT Tag-up--- as needed
 - Program Manager, US Delegates, Deputy Program Manager, Technical Support Officer Tag Up—Monday & mornings

Discussions with NASA on Expansion of ARISS Outreach

- Types of outreach:
 - Internal NASA
 - International Ham Radio Community, ARRL, AMSAT-NA
 - General Public, including science & engineering community
- Expansion ideas started or completed include:
 - Weekly status reports to NASA and ham radio community—done regularly
 - Monthly status reports—done regularly
 - 90 day status report—done regularly
 - Annual report—done regularly
 - US Congressional representatives information release—supported
 - Additional school lesson plans—in work
 - Distance Learning Network (DLN)—In work
 - ARISS featured as part of the Education Web Site

Discussions with NASA on Expansion of ARISS Outreach (Continued)

- Expansion ideas being discussed/in-work include:
 - Set up teleconferences between US ARISS leaders and Johnson Space Center (JSC) Education Office
 - Regular coordination with ARWG
 - Update the NEEIS form
 - More involvement for ARISS with NASA Legislative Affairs Office
 - Create a Power Point presentation with JSC on ARISS education
 - Archive ARISS QSOs on the Web
 - More contact with teachers via a listserv

Note: Some of the above will require additional support from NASA

Discussions with NASA on Expansion of ARISS Outreach (Continued)

- Listserv/school coordination: additional support
- New school requirements:
 - Requirement for schools to submit high quality photography, video & audio from each contact
 - Requirement for schools to submit facts and stories about the QSOs, including how the schools was changed by the QSO
 - Timely acquisition & archive of release forms for students & teachers so that material can be used on web sites and in articles—Martha at AMSAT-NA is the repository for these release forms
 - Team members to write articles and compile information for web site and magazine articles

Our Terrific Volunteers

- In the US, ARISS gained a higher number of volunteers in the past year and a half than in previous years
- These volunteers have spoken up to take on duties of all types
- The more active ARISS volunteers garnered NASA Group Achievement Awards from Johnson Space Center early in 2008. These certificates were especially cherished because behind the scenes, some of the impetus for having these certificates awarded came from Astronaut Bill McArthur, KC5ACR, who the ARISS Team highly respects

The Range of ARISS Education

- A major goal was to create synergy in local ham clubs so that after an ARISS contact, the club continues to involve students in ham radio education projects and license classes
- An example includes ARISS Mentor Steve Michalski, KB9UPS, and the Toledo (OH) Mobile Radio Association
 - Worked with Fassett Middle School students.
 - Club set up a ham station in a nearby Challenger Center where ham license classes are offered to students
 - Steve is nudging the school toward the ARRL Education Technology Program

Ham Radio Educational PR

- More and more ARISS volunteers take part in ARRL Kid's Day
 - Barry Cohen, K2JV, and his area club, the New Providence (New Jersey) Amateur Radio Club sponsored a Kid's Day event, and got good PR using lettering on a large marquee near their operating site
 - Two weeks later, the club supported the Central Middle School's ARISS QSO, reported by four newspaper people including from the *New York Times*, 1 radio station, and 3 TV stations plus the school district's video team allowing all 14 district schools to see the QSO live on their website. Cohen worked for a number of weeks with the students who learned about Amateur Radio, ARISS and space technology.
- The 350th ARISS contact took place recently, along with the first Korean school contact and the first Croatian school contact
- We touched ten thousand people during the QSO held at the National Air and Space Museum.
- We reached very terminally ill youngsters at Arnold Palmer Children's Hospital in Florida.
- Start-up of ARISS astronaut sitting in the Johnson Space Center (JSC) ISS Service Module simulator
 - On February 8, the Bay Area Charter Elementary School in Texas spoke with Mike Finke, KE5AIT, through W5RRR repeater using the Service Module mock-up

Help Needed—ARISS Volunteers

ARISS needs experienced team members to support the following:

- SuitSat Hardware Development
- ARISS Operations Support
- Website Support
- Communications and Public Relations Support
- Educational Outreach

And generalists to support a multitude of tasks

Contact: Frank Bauer, KA3HDO or one of the international delegates to support

Crew Ops Observations & Expectations

Recent Past

- Past few crews have been very prolific in performing school contacts (Bill McArthur, KC5ACR, Suni Williams, KD5PLD, Clay Anderson, KD5PLA)
- General QSOs sporadic; dependent upon crew interest

Present

- High crew workload resulting in no school contacts at times and no general ham radio contacts during most of Expedition 16
 - Install and c/o US Harmony Node
 - Install and c/o European Columbus Module
 - Install and c/o Japanese Kibo Module
 - 3 Shuttle flights
 - 2 Soyuz flights
 - Inaugural ATV (Europe Automated Transfer Vehicle) flight

Near Future

- Mike Finke and Richard Garriott operations on ISS should include a significant number of general QSOs, school contacts, SSTV and special ops
- Mid-2009 change to crew of 6 could change ops dynamics
 - Many more schools and general QSOs??

Hardware Development/Ops Lessons Learned

- ISS is not like Mir → don't expect the same type of ops

Differences:

- Mir crew relied on ham radio equipment to support family contacts, radiograms, air to ground comm
- Ham radio on Mir was the prime external outlet for the crew
- ISS communications system much more robust
- IP Phone on ISS requires very few ARISS family contacts

Similarities:

- Proven educational outreach capability that requires nearly zero setup overhead
- “Dyed in the wool” hams use the equipment extensively

- After 7 years of continuous operations little crew time for hardware installation, checkout or troubleshooting

Lesson Learned

***Future ARISS Equipment needs to be
Completely Autonomous***

2008 Space Flight Participant Richard Garriott



Richard Garriott
W5KWQ

Proposed ARISS Activities:

- Earth-view SSTV downlinks—up to 50 Earth views per day
- School contacts—2 Challenger Centers, 2 international and 2 domestic
- Owen Garriott, W5LFL, 25th anniversary commemorative ham contacts
- Support needed: SSTV picture reception (multiple stations), collection & sorting and web distribution

Planned Launch—Oct 2008

ARISS Information

<http://www.ariss.org>

