



Doc # 20

Amateur Radio on the International Space Station

ARISS Report to the ARRL Board of Directors

July 2026

Submitted by:

**The ARRL ARISS Committee,
Director Tharp, Chairman**

ARRL ARISS Committee Members for 2026

Director Tharp - KB7HDX

Director Wilson – N2XDD

Director Long – W9HT

Vice Director Temples – K9HI

Ms. Rosalie White – K1STO, ARISS Liaison to ARRL

Summary of ARISS Program

Amateur Radio on the International Space Station (ARISS) is a well-known international working group that promotes STEM education and Amateur Radio. In 1996 the ARRL CEO tasked ARRL Headquarters staff to meet NASA's challenge to set up just 1 worldwide ISS ham radio team. The staff set about establishing ARISS-International, contacting IARU societies while AMSAT-NA contacted other AMSAT societies. The ARRL has been an ARISS sponsor since 1996. ARISS was built on the shoulders of human spaceflight radio activities since 1983 when national amateur radio groups began working with space agencies to fly Amateur Radio to support educational and ham radio activities on the Space Shuttle (SAREX), Mir (Mirex) and the ISS (ARISS).

The ARRL-led portions of these projects always included leadership roles, advice to ARISS on items related to FCC and IARU regulations, public relations support to the ham community, and sometimes education activities related to school radio contacts.

Each year ARISS helps astronauts earn ham licenses and make multiple Amateur Radio school contacts and sometimes, radio contacts with hams. ARISS activity puts Amateur Radio in the lives of students, educators, media, communities, political leaders, and hams. For ARRL Field Day 2025, astronauts Nichole Ayers and Jonny Kim were on the air for quite a few orbital passes, welcoming people to the ISS via amateur radio and making many hams happy. Not only did this thrill the ham making the QSO, but at most Field Day events, a lot of hams and visitors were near the radio listening to the crew contacts.

Hams are proud to know astronauts are licensed hams. Hams enjoy making thousands of Amateur Radio contacts each year via the ARISS cross band repeater and using ARISS packet. Hams capture ARISS SSTV images downlinked by ISS crews—very popular with hams and students, and educators enjoy involving their classrooms.

Authorizing Board Motion to Establish the ARRL ARISS Committee, Minute 27, January 2019

In January 2019 the ARRL Board of Directors established the ARRL ARISS Committee and tasked it with improving ARRL's support to the ARISS program. The ARRL Board motion:

Be it therefore resolved: A permanent ARISS committee is created by the Board to develop an interactive relationship with ARISS. Said committee should consist of three members of the Board, with assistance of the ARRL Lifelong Learning Manager and the ARRL Communications Manager as consultants, all to be appointed by the ARRL President. The committee will recommend the framework under which the ARRL will support ARISS to include recommendation of the ARRL representative to ARISS, standardized mission support, operational needs, ongoing mentoring and assistance to local Amateur Radio clubs in support of ARISS contacts, and a standardized set of Public Relations messages to ensure consistency of the ARRL message to ARISS, local Amateur Radio groups and the public at large.

ARRL ARISS Committee Communications

The Committee is appreciative of Ms. White's continuing to notify the Committee and Directors, Vice Directors, and Section Managers in the respective divisions and sections when an ARISS radio contact near them has been scheduled by NASA.

The Committee would like to note that many times these contacts receive final approval from NASA within less than a week of a contact, and on occasion, the amount of time for notification is three days. ARISS makes every attempt to put the word out as soon as contact dates are finalized.

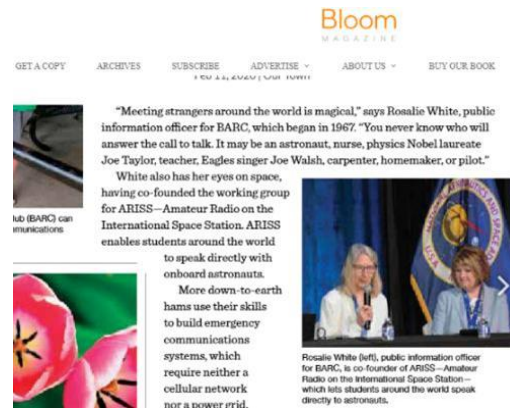
Ms. White also sent many releases or notes not specific to ARISS school contacts to the committee chair, including school proposals in the review stage. Other examples include:

- ARISS radio contact with ties to the National Governors Association Winter Meeting in Washington DC; all state governors were invited to watch the ARISS contact and the video about ARISS.
- Astronaut Mike Fincke talking at length about ARISS during NASA's SpaceX Crew 11 Post-Flight News Conference.



- Artemis II mission: AREx being activated again, made up of volunteers from ARISS and AMSAT international organizations who determined how to passively track a signal using small dishes (1.2 - 6.0 meters in diameter) to capture, process, and log Doppler measurements. Their proposal was accepted by NASA. Five AREx teams around the globe worked to do the weak-signal tracking experiment throughout the Artemis II mission. Afterwards, data was submitted to NASA SCA. One AREx objectives was to help ARISS have and operate amateur radio systems for lunar and deep space for many years to come, continuing to engage classrooms of students. ARISS was quite honored to be in this collaboration during Artemis II with NASA SCA and to have the exciting opportunity to take part in, and learn from, this historic "return to moon" mission!

- No ARISS contacts for 3 weeks when Crew 11 came back to Earth early.
- A short magazine article ran in Bloom about ham radio and ARISS that included Ms. White.



ARRL and ARISS Goals

The number one goal of ARISS is to be all about education and inspiring youth about STEM and STEM careers, especially space and radio communications. The agreement between ARISS and schools is for them to handle the media in their area. Schools do a fine job with that, resulting in many media hits. ARISS prepares and distributes news releases to the ham radio community and aerospace community prior to an ARISS school contact. Naturally, these news releases have a balanced mix of information on radio and space and on related careers and ISS onboard research. See Appendix B. for a list of 77 media hits about ARISS!

ARISS Goals in 2026 – Continuing to Secure the Future of ARISS/Amateur Radio in Space

The following paragraphs describe some of the things ARISS is doing to ensure its activities continue into the future.

ARISS leaders traveled to Colorado Springs, CO for the National Space Symposium to network with education representatives from Blue Origin, Voyager, and others. The team talked about university programs and presented ideas on ARISS’s educational offerings that may be of interest to companies developing new space stations.

ARISS team members discussed submitting a proposal to the VAST company about ARISS radio contacts and accompanying STEAM education. VAST would be like Axiom, flying missions in mid-2027 to the ISS for starters, while building their space station. Axiom expressed interest in ARISS hardware and their fifth set of crew members flying to the ISS in 2027 would be like other AX flights ARISS supported with ARISS contacts for crew.

Frank Bauer talked to many people at AIAA's ASCEND conference for representatives from space commerce and policy. He spoke to reps whose company are developing space stations (Starlab, VAST, Axiom) and organizations such as NASA SCA, AIAA, Challenger Center, and American Rocketry Challenge. He was 1 of 4 presenters at a ISS National Lab forum. He was 1 of 3 panelists talking about work force development. Retired astronaut Carl Walz touted ARISS programs when he and Frank talked to Commercial LEO Destinations companies' reps.

NASA SCA selected a proposal from AREx (Amateur Radio Exploration), among other groups, to collaborate in supporting a Doppler-tracking experiment for Artemis II. AREx, made up of volunteers from ARISS and AMSAT international organizations, determined how to passively track S-band Artemis II transmissions using small dishes (1.2 - 6.0 meters in diameter) to capture Doppler measurements, and submit the data to NASA SCA, who accepted ARISS's proposal to do this. (A little more information is in another part of this report.) A long-term objective of AREx was set in previous years to help ARISS have and operate amateur radio systems for lunar and deep space and to engage students while using those radio systems. ARISS was honored to be in a collaboration with SCA for this experiment! Image below: ARISS's social media post about being selected by NASA



Prior to ARISS's Hamvention forums, NASA gave guidance to ARISS on talking about ARISS transitioning from educational radio operations on the ISS to commercial space companies' platforms. This was a sure sign that NASA would like to continue to work with ARISS.

For its annual meeting, the ARISS-International working group came together in London on June 2-5 at The British Interplanetary Society. Team members traveled from Japan, USA, Germany, England, Spain, Italy, Netherlands, and Russia and tied in virtually from France, Canada, USA, and Belgium. The team focused heavily on ARISS's future, discussing and collaborating on new ideas to transition from ARISS activities on the ISS to a future on other space platforms, including Lunar ones. Multiple space stations and lunar mission operations taking place at the same time could have leaders who all request ARISS activities as part of their education programs. Space vehicle platforms could be those built by commercial space companies and nation states. While nothing is guaranteed, recently, NASA asked ARISS to establish a single

team focusing on amateur radio for future space vehicles (just as the ARISS-International working group did for the ISS). Specifically, this team would develop operational systems and educational capabilities for new platforms, using amateur radio to engage youth and the public in STEM/STEAM. The ARISS-International working group wishes to fulfill that vision. ARISS can build on its track record with SpaceX and Axiom, since 90% of private astronauts who've lived on the ISS have enjoyed doing ARISS activities. Two images below are from A) the ARISS-International working group meeting, B) visiting the British Science Museum.



ARISS Radio Contacts in the first half of 2026

Because of the unusual early return of Crew 11, the ARISS team saw a reduction in the number of ARISS school radio contacts that could be scheduled.

ARISS radio contacts in the first half of 2026 in addition to other countries included:

- Conn Magnet Elementary School, Raleigh NC
- Klimop Tongeren, Tongeren-Borgloon, Belgium
- Hilltop Elementary, Canfield, OH

- XRP Governor's Competition, Washington, DC (tied to US National Governor's Association meeting)
- Center for Creativity, Innovation, and Discovery in Providence, UT
- CityKidz Pre and Primary School, Johannesburg, South Africa
- Brazilian Navy Academy), Rio de Janeiro, Brazil
- St Joseph's Primary School, Bombala, NSW, Australia
- Lewis Center for Educational Research, Apple Valley, CA
- Ecole et Lycée de Luxembourg City, Luxembourg
- Simon Langton Grammar School, Canterbury, UK ***FIRST USE OF HamTV AGAIN!
- Istituto Gabriele D'Annunzio Lanciano, Chieti, Italy
- Walnut Grove Elementary School, Suwanee, GA
- Emporia State University, School of Science & Mathematics, Emporia, KS
- Albert Camus Middle School & Lycee du Vimeu, France
- Elementary School Slava Raskaj, Ozalj, Croatia
- Scouts Australia Western Branch, Mount Hawthorn, Australia
- Arizona State University STEM Preparatory Academy, Mesa, AZ
- University of Bordeaux, Gradignan, France
- Scouts Australia at Wireless Institute of Australia 2026 Meeting/Technical Expo, New S. Wales, Australia
- National Technology University, San Rafael, Argentina
- NANO Wissenschaft Begreifen, Potsdam, Germany
- Tobe Junior High School, Tobe, Japan
- Colegio San Lucas, Tigre, Buenos Aires, Argentina
- Siksika High School, Siksika, Alberta, Canada
- Minamigaoka Elementary School, Tsu, Japan
- Ecole Henri Clément with Collège Jorge Semprun, France
- Collège Louis Aragon, Imphy, France
- Youth on the Air Camp 2026 (YOTA Camp 2026), Huntsville, AL
- National STEM Festival, Washington, DC

The following is a short item on one US ARISS school radio contact:

Despite school being delayed due to a bad snowstorm, Conn Magnet Elementary (Raleigh, NC) went ahead with their ARISS radio contact. Raleigh ARS members and 100 students braved the storm. Two livestreams allowed 1,500 snowbound youth, parents, and community members to watch the contact and see a video on STEM activities students had done (see image below that shows some of the many STEM activities). Astronaut Chris Williams told students: "The ARISS contact made my day!" The North Carolina Superintendent of Public Instruction attended and afterwards, she said she was impressed!



ARRL Travel at Conventions, Conferences

See Appendix A. for a list of ARISS team members' outreach at ham conventions, hamfests, club talks, education conferences, aerospace conferences, school classrooms, and more.

Thank You, ARRL

ARISS thanks ARRL for its support of ARISS from January through July. It is an important contribution toward our financial health.

At ARISS forums at ham conventions, ARISS regularly thanks ARRL for its annual support to ARISS and for the generous funding it has provided. ARRL's sponsorship is critical to ARISS and is greatly appreciated.

Respectfully submitted,

Rosalie White, K1STO
ARISS Liaison to ARRL

Mark J. Tharp, KB7HDX
ARRL ARISS Committee Chair

Appendix A.: Volunteer Outreach Activities... (ham conventions, hamfests, club talks, education conferences, aerospace conferences, talks, etc.)

Five different events – ARISS educator presented talks and guided lessons during January about radio communications, ARISS, and STEM, events took place mostly in 3 Illinois towns reaching 21 educators, 164 students, and 130 community members. Details:

- Regional Office of Education in Pana IL—a presentation to teachers on how ARISS contacts work and related STEM lessons
- Greenville (IL) Junior High students--had an introduction to amateur radio communications and activities.
- Winterheat in St. Louis, MO—youth received on-the-air radio lessons (see photo below)



- At Winterfest in Collinsville, IL—a talk to ham operators on ARISS and ARISS contacts
- ARISS Information Webinar (virtual) for teachers

ARISS SPARKI Educator Workshop - for multiple teachers who traveled to Kennedy Space Center

Space Exploration Educators Conference, Houston TX – ARISS exhibit booth

HamCation, Orlando FL – ARISS exhibit booth and forums

Upagraha Amateur Radio Club – outreach event on ARISS & ham radio to 12k students!

Hilltop Elementary School, Canfield, OH – 840 students learned about ham radio, talked virtually to astronaut John Shoffner

Emporia (KS) State University’s annual STEM outreach event – an ARISS educator gave the keynote speech, title: “Enhancing Your Future with STEM and ARISS”

Saint Louis (MO) Science Center's "SciFest: Engineering Expo" – an ARISS educator helped 1,876 elementary through high school age students (and 300 educators) learn design engineering and discover ARISS

An ARISS educator took Greenville (IL) Jr High School STEM Club members to WGEL radio station – a tour and learning about radio communications, to get on the air, how radio connects technology, science, and people

An ARISS educator gave a talk about ARISS – a webinar hosted by NASA 3-D Thursdays for Rural Educators, webinar sponsored by the NASA Science Mission Directorate to connect rural educators to STEM resources (including ARISS)

An April ARISS Slow Scan TV-SSTV – had many participants

RARSfest – ARISS team set up an exhibit booth there and presented a forum

2026 Symposium on Space Educational Activities – ARISS educator gave a presentation and submitted a paper (winning 1st prize in its category) and a poster talk, all featuring ARISS's radio station on the ISS

ARISS educators - gave presentation on ARISS and other communications in space at the International Technology and Engineering Educators Association conference

ARISS leader at Johnson Space Center – traveled to Marshall Space Flight Center (AL), gave presentation to the Payload Operations Integration Working Group, and talked about ARISS at the meeting's open forum where Astronaut Mike Barrett was visiting and gave his thoughts on ARISS, "He gushed about how he had been thrilled to do ARISS school radio contacts and hopes ARISS can support ops on the Moon!"

Frank Bauer set up an ARISS booth – Open Cockpit Day at Maryland Aerospace Heritage Center

ARISS leaders at Colorado Springs, CO for National Space Symposium – networked with education representatives from Blue Origin, Voyager, and others, presenting ideas on ARISS's university and high school educational offerings

ARISS volunteer & grandson set up ARISS booth: American Rocketry Challenge near Washington DC

ARISS volunteer with the Associazione Radioamatori Italiani's CQ ISS YouTube show – gave talk on ARISS. within 10 days, 490 views

Frank Bauer – presented at 2 forums at the ASCEND conference in Washington DC

ARISS volunteer with Orlando ARC members – went 3 days to Sally Ride Elementary, helped kids make QSOs, do a fox hunt, try satellite QSOs

10 ARISS team members at Hamvention – talked to 2,900 attendees, set up a double booth, 3 forums, talked to 3 YouTubers interviewers (see photo below—Rosalie White at the far right)



ARISS display at 2026 SEA-PAC – thanks to Mark Tharp

ARISS team members at the Gocław Cultural Terminal for the the Kosmiting Summit 2026 – gave ARISS presentations

National STEM Festival – ARISS booth for 2,000 attendees

SAIL250 - ARISS booth in a tent –at Martin State Airport (MD) and an ARISS exhibit at the next door Maryland Aerospace Heritage Center National Electronics Museum

ARISS volunteer – featured on the World Radio League podcast and 2 of their shorts

ARISS volunteers – booth and 2 talks at HAM RADIO convention in Germany (60k attendees)

Appendix B: List of 77 *Known* Media Hits from first half 2026 (a 12% increase from last report)

ARISS's Ana Guzman at Johnson Space Center – responsible for NASA posting 5 media items explaining how the ARISS amateur radio station on the ISS allows students to connect with astronauts in hopes that youth will become engaged in STEM and STEM careers. Each media item included a portion about Ana – what about space and communications inspired her and what about ARISS caused her to earn here ham radio license. URLs are below.

- https://www.instagram.com/nasa_es/reel/DTJklsDDWn2/ (a reel)
- <https://www.youtube.com/shorts/LhGwY5gaQZo>
- <https://www.youtube.com/watch?v=JtPuNmO6fA4>
- <https://www.nasa.gov/podcasts/universo-curioso-de-la-nasa/25-anos-de-ciencia-a-bordo-de-la-estacion-espacial-internacional/>

Farm and Dairy, for Ohio, Pennsylvania, and West Virginia readers--article on ham radio connections, ARISS, the Terre Haute (IN) Children's Museum ARISS contact and how the students learned about ham radio activities and air waves, among other things. URL: <https://www.farmanddairy.com/news/ham-radio-keeps-people-connected-even-when-all-else-fails/899088.html> Image below: Terre Haute kids doing hands-on ham radio activities



NASA's SpaceX Crew 11 Post-Flight News Conference – Astronaut Mike Fincke talked about ARISS activities during his mission; he was proud that “all crew mates participated in ARISS outreach” and listed countries they made QSOs with, and doing ARISS SSTV. He gave a shout-out to ARISS stating: “We salute the ARISS team.”

<https://www.youtube.com/live/glb4RtTwL40?si=ma4XP0Ny4AO32Ry>.

Image: NASA's SpaceX Crew 11 Post-Flight News Conference



The ISS National Laboratory (INL) 2025 annual report included ARISS in section titled “Educational Outreach and Workforce Development.” The report gave easy access to readers for INL’s information page about ARISS (<https://issnationallab.org/stem/lesson-plans/ariss-talk-with-astronauts/>). Image below is from the report.



Klimop Tongeren School ARISS contact –7 Media Hits

<https://www.nieuwsblad.be/regio/limburg/tongeren-borgloon/leerlingen-klimop-praten-met-astronaut-in-het-iss-er-hing-een-gigantische-spanning-in-de-lucht/131127202.html> and https://www.hbvl.be/regio/limburg/tongeren-borgloon/leerlingen-klimop-praten-met-astronaut-in-het-iss-er-hing-een-gigantische-spanning-in-de-lucht/130490235.html?utm_medium=referral&utm_campaign=share

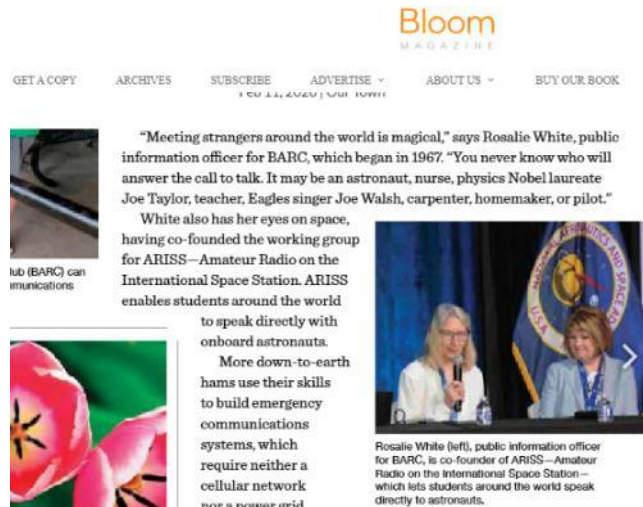
... plus 5 amateur radio operators captured the downlink, created YouTube posts, garnered over 600 listeners.

Hilltop Elementary School, Canfield, OH WKBN story

<https://www.wkbn.com/video/canfield-students-talk-to-astronauts-live-from-space/11506061>.

Article on ARISS contact at Center for Creativity, Innovation, and Discovery (Providence, UT)-*Herald Journal News* story, URL: https://www.hjnews.com/news/local/providence-students-talk-to-astronaut-on-the-iss-via-radio/article_4f648362-cf05-43d2-a643-1dc1194ced62.html

Bloom magazine, published bimonthly for south-central Indiana – one-page article about amateur radio, Rosalie White, and ARISS. See image below.



4 media hits from Naval Academy Brazilia—

RikyUnreal

Radioescutabrazil

Escuchando La Radio

racov.ro

St Joseph's Primary School – national radio station ABC Tropical North played parts of the ARISS contact on the Saturday Morning show, the show's host highlighted ARISS. The school reported that ABC "has a solid audience of several thousand people."

NASA EXPRESS media hit in March – on ARISS window opening for teachers interested in an opportunity for students to talk directly to astronauts during an ARISS school contact

Lewis Center for Educational Research ARISS contact: had 2 TV stations covering the action

Ecole et Lycée Français – national TV RTL and 3 news outlets (*l'essentiel*, *communautefrançais*, and *Virgule*) wrote stories about the event

Walnut Grove Elementary (GA) - 4 TV stations (11 Alive TV, Atlanta News First, Fox 5, and CBS News) and the *Gwinnett Daily Post* newspaper covered the event – see image below.



ARISS contact at Lycée du Vimeu garnered 4 media hits covering the event -- Regional Radio France-Bleu, Regional TV France-Info, and newspapers *Le Courier Picard* and *L Eclairneur*.

Albert Camus Middle School - media stories:

- National TV France-2
- newspaper *La Croix*

Emporia State University (ESU), School of Science & Mathematics, Emporia, KS – story by station KVOE

World Radio League Podcast interview and “shorts” - Jim Reed featured at https://www.youtube.com/watch?v=NwX3ayyh_XU 733 views

- WRL also posted social media shorts from the interview - 79 viewers
- WRL posted shorts on Facebook, too

Primary School Slava Raskaj – stories by national Croatian TV, an area radio station, and web portal writers who posted video of the school’s ARISS contact (one reported 3k views)

Scouts Australia-Western Australia Branch in Mount Hawthorn, Western Australia

- ARISS contact reported by *The Victorian News*
- Audio distributed worldwide on Echolink
- Using VOIP for Internet Radio Linking Project

Diamond Harbour School - TVNZ 10 pm news' lead segment, also, the next morning's Breakfast News

National Technology University Regional in San Rafael, Argentina – 7 media hits:

- Dial Radio TV
- Diario San Rafael
- TV Argentina
- Canal 6
- Info Ya
- FM VOS
- Media Mendoza

Wodonga Scouts-Victoria, ARISS contact at Wireless Institute of Australia (WIA) General Meeting & Tech Expo:

- Australian Broadcasting Corporation Tropical North did 8-minute interview of ham operator leading the team supporting the ARISS contact
- A broadcast of the ARISS contact went to regional Queensland TV viewers

Tobe Junior High School –Society of Communicators and Networkers) International posted video on Facebook of the ARISS contact, garnered 1,100 views by people in 15 countries

Minamigaoka Elementary School – 5 media hits from students being interviewed by reporters:

- *Ise*—a newspaper
- ZTV
- Chunichi
- Asahi
- Yomiuri

YOTA Camp ARISS contact – 2 TV stations' reps and a social media reporter did stories

Things of Interest

Astronaut Sophie Adenot highlighted World Amateur Radio Day and ARISS. She posted a photo on Instagram of her talking on the ARISS radio mic and touted ARISS! In a few days' time, the post garnered 5.5k views.



ARISS HamTV video of the astronaut (see image below, the person at the top right) on the ISS was back at school (the UK's Simon Langton School) in late March. ARISS team members must put together and test special ARISS stations to support HamTV. (2nd image shows a test pattern)



Final testing when ISS

orbited over Europe transmitting color bars, an audio tone, and data from an HDMI camera.

The 2026 Cherri Brinley Outstanding Educator Award was presented to Melissa Dismukes Pore at the Space Exploration Educators Conference at Space Center Houston. Melissa led ARISS contacts in 2018 and 2024 at her high school in Arlington, VA. For years, she put radio and space into her junior high and high school science classes and sponsored the high school student engineering clubs and radio clubs.



ARISS-sponsored Slow Scan TV sessions continue to be incredibly popular with hams and non-hams, young and old. Here are details from April's week-long session, commemorating space activities such as the 45th anniversary of the first Space Shuttle flight, Cosmonauts Day, Robert Goddard's experiments, and the 65th anniversary of Yuri Gagarin's first flight. ISS crew members downlinked images to be received using simple (often home-made) antennas and basic ham radios. In a week's time, 2,249 participants posted 5,249 images to the online ARISS SSTV Gallery. ARISS team leader for SSTV said that about 50% of all participants had self-reported as to whether they were youth or educators:

- 345 high school or lower grade-level students
- 223 undergrad or higher-level students
- 193 high school or lower grade-level educators
- 318 undergrad or higher-level educators
- 615 non-ham operators and shortwave listeners.

Image below: one participant captured all 12 downlinked images, some sharper than others.

