



**Doc # 19**

## **Amateur Radio on the International Space Station**

### **ARISS Report to the ARRL Board of Directors**

**January 2024**

**Submitted by:**

**The 2023 ARRL ARISS Committee,  
VD Tharp, Chairman**

#### **ARRL ARISS Committee Members for 2023**

Vice Director Tharp

Vice Director Nelson

Vice Director Temples

Director Vizcarrondo

Ms. Rosalie White, ARRL representative to ARISS

Mr. Steve Goodgame, ARRL HQ staff liaison

## **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.

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 Activities for 2nd Half 2023:**

The committee met via ZOOM on November 29. VD Tharp initiated several discussions via committee emails. Vice Director Morine (invited guest to the committee) and Vice Director

Temples submitted a proposed change to the document included in the SM work book. It was reviewed by Ms. White and VD Tharp and is still a work in progress.

The committee exchanged regular email throughout the year mostly pertaining to news announcements submitted by Ms. White.

### **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 weeks of a contact, and on occasion, the amount of time for notification is even shorter. ARISS makes every attempt to put the word out as soon as contact dates are finalized.

At times, Mr. Inderbitzen asks Hq staff to do ARRL Social Media posts about these upcoming school contacts. Ms. White provides ARISS news releases and notes on what STEM- and ham-related activities the schools plan, and if known, what schools established student ham clubs.

In addition to emailing Directors, Vice Directors, and Section Managers about upcoming school contacts, after the last ARRL ARISS board report, Ms. White forwarded 23 news releases on ARISS school contacts and notes on all scheduled ARISS school contacts to the committee and to Mr. Inderbitzen and his team.

Ms. White also sent many releases or notes not specific to ARISS school contacts to the committee and to Mr. Inderbitzen and his team. Here are a few examples:

- i. on White House Deputy Chief Technology Officer asking ARISS to fact check some sentences on ARISS for a speech to be given
- ii. announcing a unique ARISS SSTV special session for ARRL Teachers Institute
- iii. NASA requesting 1,000 ARISS flyers to take/give out at the Oct. World Radio Conference!
- iv. ARISS school contact written up by US Congressional Rep for The Congressional Record!
- v. ARISS aiding with licensing a new astronaut
- vi. new window opened to accept ARISS Education Proposals, sent to Mr. Ewald for SMs, too
- vii. 40-year event ARISS is planning at Kennedy Space Center
- viii. news bulletin & release on a last-minute very experimental ARISS-US SSTV session
- ix. no contacts the rest of the year and not until after January 17 2024.

So Mr. Tharp would have a very good idea of typical ARISS activities, Ms. White emailed weekly reports and then switched to reports on a quarterly basis.

Ms. White collaborates with ARRL Hq ARRL News Editor John Ross, KD8IDJ. Since July they traded seven emails in order for her to do fact-checking for him, at his request. Also per his request, she explained the ARISS education proposal process and some background on Owen Garriott's flight. They have a good working relationship.

Ms. White shares with Mr. Goodgame's office the names and contact information of ARISS teachers interested in Teachers Institute. His office reciprocates, but instead of sharing names of TI educators with an interest in ARISS contacts, he tells them at TI about ARISS. He and she exchanged several emails on the special ARISS SSTV session that ARISS volunteers designed, planned, scheduled, and set up for having 2 special images to be transmitted from the International Space Station to be downloaded by Teachers Institute participants.

Ms. White worked with Steve Ewald on ARISS having its 40-year celebration being sanctioned. She emails him whenever ARISS has a news release about opening a window to accept ARISS Education Proposals from school; he forwards this to Section Managers.

Also, special news items went to the committee and Mr. Inderbitzen—examples are: US Congresswoman Foxx's newsletter to constituents about her visiting a school ARISS contact and about her giving a testimonial at the US House of Representatives, shown on C-Span.

Ms. White emailed the Committee an update on ARISS continuing to work with Axiom Space Company and helped license 2 more Axiom astronauts in addition to 1 NASA astronaut. Axiom crews have been and will be supporting ARISS school contacts. ARISS guided crew members in options for study material, study methods, test sessions, and the FCC license process. Between July 1 and December 31, ARISS led ops training sessions (some were refresher sessions) with 13 NASA astronauts or astronaut candidates in training, and 3 Axiom crew members.

### **ARRL and ARISS Goals**

The number one goal of ARISS is to be all about education and inspiring youth about STEM, 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. ARISS prepares and distributes news releases prior to an ARISS school contact to the ham radio community and aerospace community. Naturally, these news releases have a balanced mix of information on radio and space. See Appendix B. for the list of media hits.

### **ARRL ARISS Contacts in the US in the first half of 2023**

US ARISS radio contacts in the second half of 2023 in addition to in other countries were:

Youth on the Air (in the Americas), Ottawa ON  
Camp William Snyder, Haymarket VA  
Mohammed Bin Rashid Space Center, Dubai UAE  
Baltasinsky District Youth, Rep. of Tatarstan, Russia  
Emrates Amateur Radio Society Youth, Sharjah, UAE  
Karasuyama Resident Center, Setagaya, Japan  
STEM for Girls, St. John's NL, Canada  
Australian Air League, Salisbury, S. Australia  
Bowman Middle School, Bakersville NC  
Augusta Prep School, Augusta GA  
Egemen Yildiz Secondary School, Izmir, Turkey

Esprit Engineering High School, Little Ariana, Tunisia  
GST University, Southwest State University, Kursk, Russia  
Escuela Preparatoria LaSalle, Coahuila, Mexico  
Colegio Educacion de Talento, Yerba Buena, Argentina  
149 Secondary School, Baku, Azerbaijan  
Technological University Dublin, Ireland  
IEPSCF Colfontaine & Belgian KSOO Koninklijke School, Belgium  
Sekolah Kebangsaan Wansa Maju Seksyen, Kuala Lumpur, Malayasia  
Covenant Christian Academy, West Peabody, MA  
Kaliningrad University, Kal Kaliningrad, Russia  
Valley Stream South High School, Valley Stream NY  
St Peter in Thanet Junior School, Kent, UK  
A. L. Burruss Elementary School, Marietta GA  
Walkerston State School, Walkerston, Australia  
New Heights School & Learning Services, Calgary AB  
Pupils of Schools of Aznakaevsky District, Tatarstan, Russia  
Carl Maria Weber Schule & Gym im Loekamp, Eutin & Marl, Germany  
Orangeburg Christian Academy, Orangeburg, SC  
Harbor Creek School, Harborcreek PA  
Primary School of Zipari, Zipari, Greece

### **ARRL ARISS Committee Travel at Conventions, Conferences**

Vice Director Tharp provided handouts for ARISS and the ARISS-STAR program along with ARRL materials at a table exhibit at the Mike and Key Electronic Swap meet in March, Sea-Pac, the NW Division Convention in July, the Wenatchee Hamfest in July, and the Pacific NW DX Convention in British Columbia. (The Pacific NW DX Convention rotates between Seattle, Portland, Spokane, and Vancouver, BC each year.)

See Appendix A. a table on ARISS volunteers' outreach at ham conventions, hamfests, club talks, education conferences, aerospace conferences, events

### **Thank You, ARRL**

ARRL thanked ARRL for its support of ARISS from July through December. ARISS was proud to see the August QST article about ITU Secretary-General Doreen Bogdan-Martin, who said, "...expressing appreciation for ham radio ... outreach to young people through programs like ARISS and YOTA..." (ARRL ran social media posts about this.)

ARRL regularly thanks ARRL for its annual support to ARISS and for the generous funding it has provided for 2023 and earlier years. ARRL's sponsorship is critical to ARISS and is greatly appreciated.

Respectfully submitted,

Rosalie White, K1STO  
ARRL ARISS Representative

Mark J. Tharp, KB7HDX  
ARRL ARISS Committee Chair

## Appendix A.: Outreach Events

Events for Hams, the General Public, Youth, the Space Industry
4 outreach events led by Ohio ARISS Educator STEM trailer with ARISS displays
ISS R&D, Seattle WA booth & teacher forum
Space Celebration Day, St Peter School UK a day of STEM including radio
NASA SEES, Austin TX mentoring high school students about space & radio
ARRISS educator & high school Mentor Day, Falls Church VA ARISS and STEM lessons
Sierra Nevada Amateur Radio Society, Reno NV talk on ARISS
Augusta Prep Science Night, Augusta GA radio activities
Livonia Amateur Radio Club, Livonia MI ARISS talk
Ohio State WestFest, Columbus OH ARISS displays and STEM activities
Space Camp by ARISS team in Italy radio and space hands-on lessons
Night of Stars in Belgium radio and space hands-on lessons
AMSAT-NA Annual Symposium, Dallas TX ARISS forum talks
Bonner County Radio Club, Ponderay ID ARISS talk
Pacific NW DX Convention, Kelvin BC, ARISS display
ARRISS Team at STEM Camps, Transinne Village, Belgium radio and satellite lessons
Melbourne Hamfest, Melbourne, FL ARISS forum talk
Bonner County Radio Club, Ponderay ID ARISS talk
CARAFest Convention, Columbia, MD ARISS table, explained STEM tools
AMSAT-UK Colloquium, Milton Keynes, UK 2 ARISS forum talks
Stone Mountain Hamfest, Lawrenceville GA ARISS forum talk
ISS National Lab Committee, Washington DC panel session talk on ARISS
2 outreach events led by Ohio ARISS educator STEM trailer with ARISS display
Winchester Academy, Winchester VA ARISS demonstration to students

Youth on the Air event, Broadstairs UK    ARISS demonstrations to students

ARISS Webinar on Owen Garriott, virtual    ARISS interviewed Owen's son R. Garriott

## Appendix B: List of 40 *Known* Media Hits from Second Half 2023

ARISS events likely resulted in many more media hits than the 40 between July and December that ARISS is aware of. Also, this report does not include all of the stories and posts that the ARISS team volunteers develop for the ARISS web page, ARISS Facebook, ARISS Twitter, and ARISS Instagram, ARISS Mastodon, and LinkedIn.

Prince William Living news outlet    Camp Snyder ARISS contact

<https://princewilliamliving.com/ariss-contact-is-scheduled-for-scouts-at-camp-william-b-snyder-near-haymarket/>

National Capital Area Council BSA    Camp Snyder ARISS contact  
Web article with beautiful graphic

Thanet News    St Peters ARISS contact

<https://theisleofthanetnews.com/2023/07/26/out-of-this-world-space-celebration-at-st-peters-junior-school/>

WJHL-TV    Bowman MS ARISS contact

<https://www.wjhl.com/news/local/north-carolina-students-speak-with-astronaut-in-space/>

US Congresswoman Foxx-newsletter to constituents    Bowman MS ARISS contact

<https://www.ourlocalcommunityonline.com/2023/09/01/foxx-report-9-1-23/>

The Mitchell News    Bowman MS ARISS contact

<https://www.mitchellnews.com/local-news/bowman-students-chat-astronaut>

Queen City News    Bowman MS ARISS contact

<https://www.qcnews.com/news/u-s/north-carolina/north-carolina-students-speak-with-astronaut-in-space/>

WKYK / WTOE    Bowman MS ARISS contact

<https://www.ourlocalcommunityonline.com/2023/09/01/foxx-report-9-1-23/>

ISS National Lab    NASA Crew 6 photo essay featuring ARISS and science program

<https://www.issnationallab.org/crew-6-science-photo-essay/>

Augusta Good News    Augusta Prep School ARISS contact

<https://augustagoodnews.com/augusta-prep-students-have-conversation-with-astronaut/>

## AUGUSTA GOOD NEWS

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### Augusta Prep Students Have Conversation With Astronaut

September 1, 2023 | Charman Z. Brackett | Comments Off

*(Featured photo: Al Tobar asks a question at the Aug. 31 program at Augusta Preparatory Day School. Charman Z. Brackett/Augusta Good News)*

Ayanna Khan's eyes lit up as she related her experience talking to an astronaut Thursday.

"It was really cool," said Khan, an eighth grader at Augusta Preparatory Day School who on Aug. 31 had the opportunity to ask Dr. Steve Bowman, an astronaut aboard the International Space Station, a question during a program from the school's deck.

WJBF ABC Augusta Prep School ARISS contact news story

<https://www.wjbf.com/news/august-prep-students-speak-to-astronaut-aboard-the-international-space-station/>

WJBF ABC August Prep short interview

<https://www.youtube.com/watch?v=2Wha2Ej8jZw> -- starts at 47 seconds into the news show

WRDW CBS TV a short piece from an earlier long piece on August Prep School ARISS contact

<https://www.wrdw.com/2023/09/01/im-going-go-space-million-times-augusta-prep-students-meet-astronauts/>

NASA SPACE UPDATE August Prep School ARISS contact

e-newsletter describing high points of the ARISS contact and a bit of the school's STEM activity, and featured two photos of students talking on the mic

White House Deputy Chief Technology Officer Austin Bonner media appearance--Keynote 2 speaker at Mobile World Congress who said, "Over 100 different ISS crew members have used amateur radio and ARISS to talk to youth around the globe."

NASA SCan took 1,000 fliers for handing out at the World Radiocommunications Conference

The Western Journal ham operator makes ham contact with licensed astronaut on the ISS

<https://www.westernjournal.com/man-stands-outside-strange-antenna-repeats-phrase-minutes-later-gets-call-nobody-expected/>

ItemLive Covenant Christian Academy ARISS contact

<https://itemlive.com/2023/10/13/one-giant-leap-for-covenant-christian/> Teacher quote was:

"...through our student population we reach over 50 communities in Massachusetts. So that's a lot of communities that are learning now about ham radio that probably never knew about it before."

Salem News Covenant Christian Academy ARISS contact



[https://www.salemnews.com/news/covenant-christian-academy-students-speak-with-international-space-station-through-ham-radio/article\\_0f9c9a68-6a0b-11ee-baed-9fc56bfb6610.html](https://www.salemnews.com/news/covenant-christian-academy-students-speak-with-international-space-station-through-ham-radio/article_0f9c9a68-6a0b-11ee-baed-9fc56bfb6610.html)

Ground News Covenant Christian Academy ARISS contact picked up Salem News article, but also had 2<sup>nd</sup> article: <https://ground.news/article/one-giant-leap-for-covenant-christian>

Niche School Covenant Christian Academy ARISS contact website carried short snippets announcing the ARISS ham radio contact

The Daily Item Covenant Christian Academy ARISS contact [West Newbury man helps students reach outer space | Local News | newburyportnews.com](#)

**The Daily Item**  
SERVING THE NORTH SHORE SINCE 1877

Itemlive.com SATURDAY, OCTOBER 14, 2023

### Peabody students have out-of-this-world experience

By Ben Pierce  
ITEM STAFF

PEABODY — The entire student body of Covenant Christian Academy welcomed a very special guest speaker Friday morning. Astronaut Loral O'Hara answered the questions of curious learners, approximately 254 miles above the Earth's surface aboard the International Space Station. The communication was conducted through amateur radio, also known as ham radio, as part of the Amateur Radio on the International Space Station program. A team of engineers from Bruker BioSpin facilitated the connection between CCA's small gym and the vast reaches of outer space. Senior Radio Frequency Engineer Joseph Grifoni explained the basic functions of the radio that made contact between O'Hara and the students possible.

STUDENTS, A7

ITEM PHOTO  
SPONSOR: HANNA

Covenant Christian Academy student Lydia Rossetti asks astronaut Loral O'Hara a question via ham radio as she orbits the Earth on the ISS.

p.2 had 1/3 column space & photo

Bollyinside Covenant Christian Academy ARISS contact [West Newbury Man Helps Students Connect with International Space Station for Radio Project - Bollyinside](#)

ITVX Kent ARISS contact [School children in Kent speak to astronaut aboard International Space Station | ITV News Meridian](#)

Goethe Institute Cultural Magazine (Federal Republic of Germany organization promoting understanding in the world) story featured ARISS <https://www.goethe.de/prj/zei/en/art/24972351.html>

US Congressional Record Congresswoman Foxx's testimonial on the Bowman MS ARISS contact

Atlanta News First A.L. Burruss ARISS contact  
Marietta students speak with astronaut aboard International Space Station

Marietta Daily Journal A.L. Burruss ARISS contact  
[ALB\\_Space-11.jpg | mdjonline.com](#)

Bollyinside A.L. Burruss ARISS contact [Marietta Students Connect with International Space Station Astronaut in Amazing Experience - Bollyinside](#)

Amateur Radio Daily 40<sup>th</sup> anniversary of amateur radio & human spaceflight

[ARISS to Celebrate 40th Anniversary of Amateur Radio and Human Spaceflight](#)

LI Herald Valley Stream South ARISS contact

[A look at the questions Valley Stream South students sent to the International Space Station | Herald Community Newspapers | www.liherald.com](#)

Times & Democrat – 3 stories on Orangeburg Christian Academy ARISS contact

1<sup>st</sup> story done in July

2<sup>nd</sup> [https://thetandd.com/news/local/orangeburg-christian-academy-students-talk-with-iss-astronaut/article\\_5b5243fe-93a0-11ee-bd58-6ff77b51f95a.html?utm\\_campaign=snd-autopilot&utm\\_medium=social&utm\\_source=facebook The Times and Democrat&fbclid=IwAR0iAkWVDunxOwbkO7DLDrA81hxoRLscwmz43SdNmL6IMPdri9KsNOX4GhU](https://thetandd.com/news/local/orangeburg-christian-academy-students-talk-with-iss-astronaut/article_5b5243fe-93a0-11ee-bd58-6ff77b51f95a.html?utm_campaign=snd-autopilot&utm_medium=social&utm_source=facebook%20The%20Times%20and%20Democrat&fbclid=IwAR0iAkWVDunxOwbkO7DLDrA81hxoRLscwmz43SdNmL6IMPdri9KsNOX4GhU)

3<sup>rd</sup> – no longer viewable [https://thetandd.com/news/local/education/school-news-orangeburg-christian-academy/article\\_ce687bdc-9167-11ee-94f8-b347ac4adce2.html](https://thetandd.com/news/local/education/school-news-orangeburg-christian-academy/article_ce687bdc-9167-11ee-94f8-b347ac4adce2.html)

WLTX CBS Orangeburg Christian Academy ARISS contact

<https://www.wltx.com/article/news/local/i-mean-whats-cooler-than-talking-to-an-astronaut-orangeburg-students-s-preparing-for-space-callouth-carolina/101-4639ca16-cf04-40a8-8023-ec95f3a349f6>

Ground News picked up 1 of Times & Democrat stories on Orangeburg Christian Academy ARISS contact

<https://ground.news/article/orangeburg-christian-academy-students-talk-with-iss-astronaut>

NEWSBREAK Orangeburg Christian Academy ARISS contact

<https://www.newsbreak.com/orangeburg-sc/3256089334441-local-orangeburg-christian-academy-students-communicate-with-astronauts-highlights-from-the-iss-report-on-december-5-2023>

NASA web article 40<sup>th</sup> anniversary of amateur radio & human spaceflight –caused NBC Today show to contact Rosalie—she directed the producer to Harbor Creek School and worked with the producer up until 2 days before the show aired

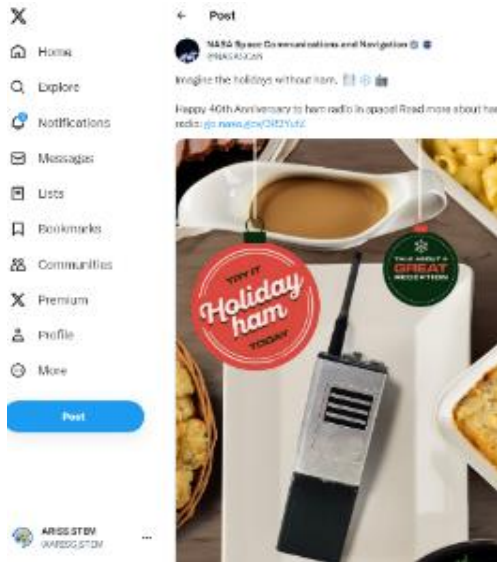
<https://www.nasa.gov/missions/station/iss-research/ham-radio-in-space-engaging-with-students-worldwide-for-40-years/>

The Daily Item story about a YL operator who made a 1983 ham radio contact with crew on Columbia **MOMENTS IN TIME: Ham radio enthusiast gets birthday message from space in 1983**

Greek City Times Zipari Primary School ARISS contact

<https://greekcitytimes.com/2023/12/06/primary-school-in-kos-iss/>

NASA X, Facebook, and Instagram posts with incredible viewership –in 4 days’ time, just on Twitter, **garnered 2.2 million Reach, 29.4K views/impressions!**



### Appendix C: Things of Interest



US ARISS Contacts—only missing S.D.—from Dec 21, 2000 to December 31, 2023