



Doc # 19

Amateur Radio on the International Space Station

Committee Report to the ARRL Board of Directors

July 2023

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. Ms. White 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 ARRL and AMSAT began working with space agencies to fly Amateur Radio to support educational and ham radio activities on the Space Shuttle (SAREX), Mir (Mirex) and then worked with other countries' IARU and AMSAT societies to support radio on the ISS (ARISS). In March 2021, ARISS-USA became a 501(c)(3) organization.

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

Each year ARISS, with NASA approval, helps astronauts earn ham licenses, learn on-the-air protocol, including a little on handling pile-ups, and how an ARISS school contact works. ARISS activity puts Amateur Radio in the lives of students, educators, media, communities, political leaders, and hams. In the past six months, astronauts Josh Cassada, Steve Bowen, and Warren Hoburg got on the air numerous times just to talk to 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.

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 1st Half 2023

The committee met via ZOOM on March 23rd. Vice Director Morine (invited guest to the committee meeting) and Vice Director Temples were still working on updating the document for use by ARRL officials when interacting and/or visiting an ARISS contact in person. This document is intended to be used as a “best practice” and a “what to do” and “what not to do” guide. It is still a work in process. At the meeting, Ms. White gave a comprehensive update on ARISS actions.

ARRL ARISS Committee Communications

The Committee appreciates 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 is tentatively scheduled by NASA— she also shares some information about the school or education group. When the ARISS contact day and time are finalized, she emails again. During first-half 2023, she sent 31 of this type of email.

The Committee would like to note that many times ARISS school contacts receive final approval from NASA in less than 2 weeks of a contact, sometimes in even less time. Ms. White is diligent about getting the information to ARRL as soon as contact dates are finalized.

At times, the ARRL Hq staff wants to do ARRL Social Media posts about upcoming ARISS school contacts. Ms. White provides details on what STEM- and ham-related activities the schools had planned to do, and which schools had student hams.

Photo: Council Rock H.S. South had a table full of young hams (one is still studying for the license) controlling the ham radio station while local club members (sitting in back) watch.



In addition to emailing Directors, Vice Directors, and Section Managers about upcoming school contacts, since January 1, Ms. White forwarded 13 news releases to the committee and to the ARRL Hq publicity team. There was a news release for each US school and education group that hosted a 2023 ARISS contact (and an additional 8 news releases about overseas schools). ARRL

Section officials sometimes write ARISS news stories or releases. When a Section Manager and ARRL PIO have asked for tips or assistance, Ms. White has networked with Sierra Harrop, who provided help to the ARRL Section official.

Besides news releases about school contacts, Ms. White sent ARISS's releases or information to the Committee and the Hq PR team on the following items:

- i.) details on a new window opened by ARISS to accept ARISS Education Proposals (also sent to Mr. Ewald to share with SMs),
- ii.) a list of schools selected for ARISS contacts
- iii. crew members who are getting on the air to make QSOs with hams--3 of the crew in 2023!
- iv. crew members selected to be launched to space who have earned a ham radio license
- v. ARISS and ARRL Hq partnering on an exhibit at education conferences
- vi. ARISS working with space companies other than NASA...planning for the future
- vii. flying ARISS's lead engineer to Johnson Space Center to test hardware (recently, HamTV)
- viii. ARISS exhibiting at a major ham convention, i.e., HamCation, Hamvention

Photo: At HamCation, a girl with her Extra class license uses ARISS's long spring to show her dad how it can represent standing waves—ARRL's exhibit table is on the right.



Details about “one-off” topics sent to the Committee or to VD Tharp have included:

- * ARISS advertising for a part-time educator to lead the ARISS-US Education Committee
- * a school that created a video about ham radio and their ARISS contact
- * a rundown of the many activities done at Hamvention (2 exhibit spaces, forum, 4 mini-forums, DARA Award Dinner, Ms. White being introduced to new Directors/Vice Directors, and Ms. White visiting benefactor-companies and a few big donors)
- * Two ARISS schools whose students enjoyed School Club Roundup.
- * A Section Manager planning to go to an ARISS contact who asked Ms. White for ideas on what ARRL items (i.e., pins) to take and how to interact with the school

Of major note: Ms. White was pleased to inform the Committee that NASA invited ARISS's social media leader to attend a launch and pre-launch events. He asked a question about Amateur Radio during a NASA news conference filled with media reps. The result was both NASA Associate Administrator Bob Cabana, KC5HBV and SpaceX Crew 3 NASA Commander Raja

Chari, KI5LIU giving special accolades to ARISS and Amateur Radio. Watch at: <https://www.youtube.com/watch?v=8aJb8YjwOk0> --begin at 14:13...it has had 1.5k views.

In between meetings, the Committee works effectively via email on various subjects. VD Tharp and Ms. White emailed several times about Hq making changes to ARRL committee reflectors and a few issues caused by those changes. She aided VD Temples when he realized he had not received five Committee messages.

Ms. White shares with Mr. Goodgame the names and contact information of ARISS teachers interested in Teachers Institute.

ARRL News Editor John Ross, KD8IDJ and Ms. White have begun working together on ARRL news stories as needed. They have traded emails on several things such as him asking her to fact-check schools' submitted stories. She and Mr. Ross arranged a time to meet at Hamvention. Ms. White has done fact-checking, also, for *QST* editor Leanna Figlewski.

ARRL and ARISS Goals

The number one goal of ARISS is to be all about inspiring youth about STEM, especially space and radio communications, and about education. The hands-on education youth programs that ARISS is developing are only lightly described in this report because assisting with education was not a priority topic named by the Board at its January 2019 meeting when establishing the committee and its framework. Meantime, ARISS and Mr. Goodgame continued collaborating even more than in 2022.

ARRISS's three education programs in development include:

- a. ARISS *STAR*, a youth telerobotics program with ties to the ISS for youth, thanks to the ARRL Foundation and help from VD Tharp;
- b. STEREO (Student Teacher Education via Radio Experimentation & Operations), a teacher hands-on education program, thanks to ARDC; and
- c. Student Mission Control, a youth hands-on program tied to ISS scenarios and ISS sensors' transmissions, thanks to the National Science Foundation.

Because of these education programs, the volunteer leader of the ARISS-US Education Committee (made up of formal and informal educators) became overwhelmed and stepped down in mid-June. ARISS has realized that a full-time teacher does not have the bandwidth to teach all day and lead such a committee in the evenings. This is why ARISS will be hiring a part-time educator to fill the position of leading the ARISS-US Education Committee.

The increase in 2023 for collaboration with Mr. Goodgame focused greatly in the area of ARRL Hq and ARISS partnering and sharing some costs at two education conferences. These types of conferences, with attendees from elementary through college level, charge big prices for booths and registrations. ARISS thanks the ARRL Board and Officers for their help with a budget that covers conference travel.

The first conference collaboration was for the National Science Teachers Association (NSTA) National Conference in March in Atlanta, GA. Two ARISS volunteers set up and staffed a booth and supported a forum. A Florida teacher also gave a forum all about her ARISS contact. Mr. Goodgame set up and staffed a booth, as well. At ARISS's booth, 300 teachers learned about ARISS and ham radio—and ran out of ARISS flyers, getting more printed before the final day. (NASA had ARISS flyers at their booth and ran out, too!) At ARRL's booth, teachers learned about ham radio, Teachers Institute, and study materials.

The second conference ARISS and ARRL partnered at was the International Society for Technology in Education (ISTE) conference in June in Philadelphia. ARISS sent two educators; they and Mr. Goodgame and his YL set up and shared a booth. Both ARRL and ARISS ran out of ARISS flyers. An ARISS educator attending the conference presented a forum that highlighted ARISS. One of ARISS's educators was interviewed by a self-described Ed Tech Blogger who Tweeted to her 3.4k Followers that attendees should walk to the ARISS display. ARISS's educator and Mr. Goodgame were videotaped by a blogger with 3.4k Followers; the video was posted at LinkedIn and re-posted by ARISS's LinkedIn.

More on Outreach

A lower-level goal of ARISS and for ARRL is ensuring Amateur Radio stories about ARISS are publicized and that outreach is done at every opportunity.

NASA aids ARISS with doing outreach about ARISS and Amateur Radio by offering PR opportunities. In February, ARISS was honored to receive an invitation from NASA to exhibit with 4 other education groups by setting up an ARISS display table for the National Space Council's Users' Advisory Group (UAG) meeting in Washington DC. The UAG is a very-high-level group that reports to the White House and after the meeting, headed there to give a report on the meeting's activity. Before the meeting, the ARISS table had been visited by 31 committee members including the 12th NASA Administrator, Charles Bolden.

Photo: Before the UAG meeting started, 12th NASA Administrator Charles Bolden talked to ARISS's Kathy Lamont and Frank Bauer.



See Appendix A. for tables listing education conferences, ham conventions or hamfests, and aerospace conferences that ARISS participated at; this includes club meetings.

Part of the development of the STEREO education program described earlier, included ARISS going all out at the 2023 Space Port Area Conference for Educators at Kennedy Space Center in June. ARISS team members supported a special ARISS radio contact for only educators who are participating in the STEREO program. Also, the ARISS team gave a forum and set up a display table, talking to 150 educators. Following the conference, ARISS held an Educate the Educator workshop, teaching 22 educators a set of hands-on lessons on how to use the SPARKI Radio Kit as a basic electronics teaching tool in their school, how to work with software-defined radios (part of the kit), how to make ham radio contacts, and more. At the end, teachers gave glowing reports.

Photo: Teachers at the Space Port Area Conference for Educators, learning to use handheld radio equipment.



See Appendix B. for the list of 70 media stories created by reporters that school media coordinators invited to ARISS contacts or sent news releases to with invitations to come.

(ARISS prepares and distributes news releases to ham radio news outlets and space industry news outlets. ARISS' news releases have a balanced mix of information on radio and space.)

ARRL ARISS Committee Travel for ARISS at Conventions, Conferences

Vice Director Tharp provided handouts for ARISS and the ARISS-STAR program along with ARRL materials at Mike and Key Electronic Swapmeet in March; Sea-Pac, the ARRL Northwestern Division Convention in July, and the Wenatchee Hamfest in July.

Photo: ARRL and ARISS table at Mike and Key Swap (W7VO photo)



Photo: ARISS display at Sea-Pac convention (KB7HDX Photo)



Photo: ARISS display at Wenatchee Hamfest (KB7HDX photo)



Again, ARISS thanks the ARRL Board and Officers for their help with a budget that covers conference travel.

ARISS Contacts in the US in the First Half of 2023

US ARISS radio contacts in first half 2023 (in addition to those in other countries were):

Brentwood Elementary School of Engineering -- Raleigh NC
Norwich Free Academy -- Norwich CT (an occasional Elmer there is Dave Sumner, K1ZZ)
Cache County School District -- Millville UT
Lana'i High and Elementary School -- Lana'i City HI
Stone Magnet Middle School -- Melbourne FL
West Michigan Aviation Academy High School -- Grand Rapids MI
Montross Middle School -- Montross VA
Council Rock High School South -- Holland PA
Webb Bridge Middle School -- Alpharetta GA
Fairview Elementary School -- Olathe KS
Middlesboro Middle School -- Middlesboro KY
The Children's Inn at NIH (National Institutes of Health) -- Bethesda MD
SPACE-2023 (Space Port Area Conference for Educators) -- Kennedy Space Center FL

Thank You, ARRL!

ARISS thanked ARRL for running ads about ARISS or the ARISS *STAR* program in 5 of the 6 issues of *QST* from January through June.

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

Respectfully submitted,

Mark J. Tharp, KB7HDX
ARRL ARISS Committee Chair

Rosalie White, K1STO
ARRL ARISS Representative

Appendix A.: Outreach Events

Outreach to Hams and/or the General Public
Cowtown Hamfest, Dallas TX – ARISS Table & 2 Forums
HamCation convention, Orlando FL - ARISS Booth
Skyview Radio Society, New Kensington PA – ARISS Club Talk
Mike & Key Radio Club Hamfest, Puyallup WA – ARISS Exhibit
Vero Beach Amateur Radio Club, Vero Beach FL – ARISS Club Talk
QSO Today Virtual Ham Expo, worldwide – ARISS Forum
Montgomery Amateur Radio Club, Montgomery Co. MD – ARISS Club Talk
Platinum Coast Amateur Radio Society, Melbourne FL – ARISS Club Talk
Hamvention, Dayton OH – ARISS Exhibit, ARISS Forum, 3 mini-forum for hams
Griffith Observatory Public Star Party, Mt. Hollywood CA – ARISS Exhibit
ARRL Northwest Division Convention, Seaside OR – ARISS Exhibit
Wenatchee Hamfest, Dryden WA – ARISS Exhibit

Outreach to Educators, US-wide
Montross Middle School STEM Night, Montross, VA – ARISS Exhibit
HamCation Education Forum, Orlando FL – ARISS Educator Forum
Space Exploration Educators Conference, Houston TX – ARISS Exhibit, Forum
Ohio Afterschool Annual Conference, Powell OH – ARISS Forum, flyers to all
ARRL Education Workshop, Roswell GA – 2-day ARISS Workshop
National Science Teachers Assn National Conference, Atlanta GA – Exhibit, Forum

Air & Space Forces STEM Showcase, Arlington VA—Exhibit Table, Forum

American Rocketry National Finals, The Plains VA – ARISS Exhibit Table

ARISS Orientation Webinar, US-wide – ARISS webinar

Bay Area Economic Partners Education Workshop, Houston TX –ARISS Class

Space Port Area Conference for Educators, KSC FL – Exhibit, 2-day Workshop

International Society for Technology Education, Philadelphia PA – Exhibit, Forum

Hamvention, Dayton OH – 1st year of giving an ARISS mini-forum for educators

Appendix B: List of 70 Media Hits from First Half 2023

This report does not include all the stories and posts that the ARISS team volunteers work on for the ARISS web page, ARISS Facebook, ARISS Twitter, ARISS Instagram. This report does not include countless social media posts done by schools, school districts, NASA (some translated into Spanish for their “*en Espanol*” web site), the ISS Fan Club, and overseas groups such as ARISS-Europe.

Raleigh *News Observer* did 2 stories -- before AND after the contact

<https://www.newsobserver.com/news/local/education/article271643197.html>

Durham *Herald-Sun* (you need a subscription to read)

<https://www.heraldsun.com/news/local/education/>

ABC Eyewitness News



SCIENCE

Elementary school students in Raleigh use amateur radio to talk to International Space Station

By Amber Rueda 📸
Thursday, January 26, 2023

Facebook Twitter Email



& picked up by Yahoo.com

<https://www.yahoo.com/now/raleigh-students-amateur-radio-talk-221452919.html>

CBS 17 News

<https://www.cbs17.com/news/contact-raleigh-students-connect-with-international-space-station-astronauts/>

AOL.com

<https://www.aol.com/not-scary-astronaut-iss-inspires-210724951.html>

& picked up by Canada Today

<https://canadatoday.news/ca/its-not-scary-astronaut-on-the-iss-inspires-raleigh-students-to-pursue-careers-in-space-245112/>

News25Now.com

<https://www.newsnow.com/us/Science/Space+Exploration/ISS>

WNCT 9-TV

<https://www.wnct.com/news/contact-raleigh-students-connect-with-international-space-station-astronauts/>

& picked up by *Local Today News* and also NewsBreak.com

<https://localtoday.news/nc/contact-raleigh-students-connect-with-astronauts-on-the-international-space-station-2-142198.html>

NewsBreak.com

<https://www.newsbreak.com/news/2904427578188/contact-raleigh-students-connect-with-international-space-station-astronauts>

Delicious Food.com

<https://deliciousfood.com/astronaut-on-iss-inspires-raleigh-students-to-pursue-careers-in-space/>

Good Morning America-ABC, Raleigh NC, ARISS school contact touted on the “ticker banner” running at the bottom of Good Morning America show



Fox News - did 2 stories on Norwich Free Academy – video only, then story and video
<https://www.fox61.com/video/news/local/norwich-free-academy-ham-radio-club-connects-with-the-international-space-station/520-e0fa58da-e444-41c1-90ce-e518fa30ec2b>

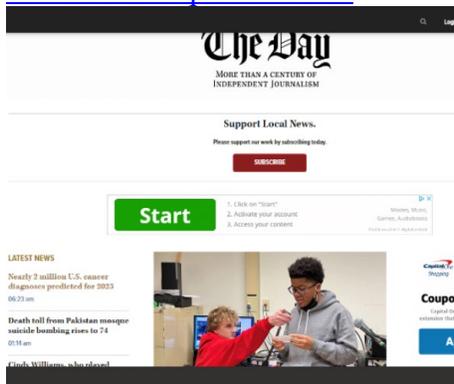
Fox News - story with video posted 2 hours later
<https://www.fox61.com/article/news/local/new-london-county/norwich/norwich-free-academy-ham-radio-club-talks-with-the-international-space-station/520-244dc7b9-2b63-4f7a-a8ef-1438d94e6d7f>

The Bulletin

<https://www.norwichbulletin.com/videos/news/2023/01/31/norwich-connecticut-high-school-students-radio-conversation-nasa-international-space-station/11151640002/>

The Day

<https://www.theday.com/local-news/20230130/nfa-students-talk-with-astronaut-aboard-international-space-station/>



Herald Journal - Utah

https://www.hjnews.com/news/education/nasa-astronaut-fields-questions-from-cache-valley-students-in-ariss-event/article_0b9154fe-a81e-11ed-9c15-7fd9df9688a9.html

Cache Valley Daily

<https://www.cachevalleydaily.com/news/archive/2023/02/16/cache-county-students-speak-with-nasa-astronaut-aboard-international-space-station/>

Cache County School District, UT– 2 stories

[Astronomy students prepare to talk live with an astronaut on the International Space Station](#)

&

[The PodCACHE: Making Contact with the International Space Station](#)

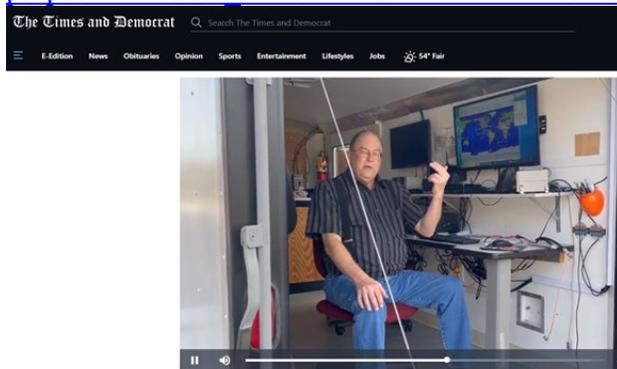
Utah Public Radio

<https://www.upr.org/utah-news/2023-02-10/cache-valley-students-made-live-contact-with-an-astronaut-in-space>

Aggie TV News: <https://www.youtube.com/watch?v=AAmgYk8Rz6U> Segment starts at 3:14

TheTimes and Democrat

https://thetandd.com/news/local/are-we-really-going-to-get-to-talk-to-an-astronaut-oca-students-prepare-to/article_8d81c76e-2c31-59b3-8d8f-ca569cff02cd.html



Lee Ott, vice president of the Edisto Amateur Radio Society, or EARS, talks about the types of equipment that can be used to communicate with amateur radio operators, or even astronauts in the International Space Station.

Students from Orangeburg Christian Academy will get the exciting experience of talking directly with crew members of the International Space Station through a program designed to inspire their interest in science, technology, engineering and math.

WLTX-TV - Orangeburg

<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>

Carolina Weather Group ARISS interview <https://www.youtube.com/watch?v=WsSlxaHmh70>
Begin at 2 hours 45 minutes. Garnered 470 views.

Bucks County Herald - story prior to Council Rock South H.S. ARISS contact

<https://buckscountyherald.com/stories/council-rock-south-students-headed-out-of-this-world-on-ham-radio,23213>

CBS News

<https://www.cbsnews.com/philadelphia/news/council-rock-high-school-south-speaks-with-astronauts-on-international-space-station/>

Northampton NewsBreak

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<https://www.newsbreak.com/northampton-pa/2940121178773-council-rock-south-students-headed-out-of-this-world-on-ham-radio>

EPA ARRL Section News

<https://epa-arrrl.org/council-rock-south-high-school-has-out-of-this-world-contact-with-international-space-station/>

NASA items posted in early March

[Johnson Space Center YouTube](https://youtu.be/EbZF7wk4x-Q) <https://youtu.be/EbZF7wk4x-Q> - on Social Media—got 7,000 views!

The YouTube was also aired on NASA TV each week for a month.

[ISS Facebook](#)

[ISS Research Twitter](#) (amplified by [@Space Station](#))

[ISS Instagram](#)

KHON-2 Hawaii

<https://www.khon2.com/local-news/astronauts-will-be-reached-by-students-with-amateur-radio/>

Hawaii News Now

<https://www.hawaiinewsnow.com/2023/03/14/out-this-world-lanai-kids-get-picked-live-qa-with-astronauts-international-space-station/>

ISS Twitter "A ham radio call to students in Hawaii..."

https://twitter.com/Space_Station/status/1639032128590495748

Space Coast Daily

<https://spacecoastdaily.com/2023/03/stone-magnet-middle-school-students-to-speak-with-astronaut-warren-hoburg-on-the-space-station-march-31/>

WAM.AE

Ham radio, or amateur radio, is a popular hobby that enables communication between individuals, groups, and remote regions

<https://wam.ae/en/details/1395303149308>

& picked up by

The National

<https://www.thenationalnews.com/uae/uae-in-space/2023/04/19/sultan-al-neyadi-calls-pupils-during-first-ham-radio-session-from-iss/>

WOOD TV.com

<https://www.woodtv.com/news/kent-county/west-michigan-aviation-students-speak-with-astronaut-in-space/>

FOX 17 – Grand Rapids MI

<https://www.fox17online.com/news/local-news/grand-rapids/flight-students-get-call-from-international-space-station>

WKTV

<https://www.wkvtjournal.org/aviation-academy-students-connect-with-international-space-station-astronaut>

Bollyinside

<https://www.bollyinside.com/news/space/international-space-station-reaches-out-to-flight-students/>

Northern Neck News - online

https://www.newsontheneck.com/living/education/montross-middle-school-students-communicate-with-international-space-station/article_bce335c2-e44d-11ed-bd25-fb4c18442e3e.html

The Westmoreland News – newspaper, does not have online outlet



Trail Gazette newspaper, not online - Colorado girls got licenses—they had a 2022 ARISS contact



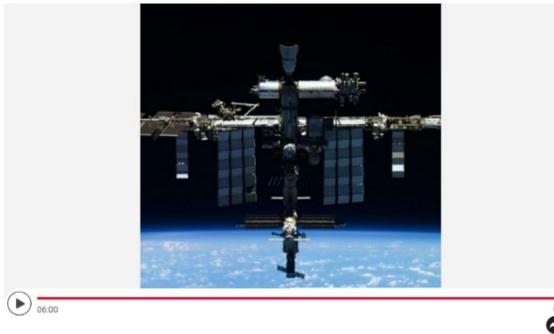
Applied Sciences - May 12, 2023 posting on a late 2022 contact

<https://appliedsciences.nasa.gov/our-impact/story/caribbean-and-central-american-classrooms-connect-nasa-astronaut-space>

CFRA Media Outlet - Ontario school contact

OAW: LOCAL STUDENTS CONNECT WITH
US ASTRONAUT ON ISS VIA HAM RADIO

CFRA
TOP SOUND BITES
Friday, May 26th 2023 - 11:58 am



St. Francis Xavier Catholic High School students in grade 9 science are a unique opportunity

The Children's Inn-NIH News

Post on May 26, 2023 from our

The Inn Goes to Outer Space Through the ARISS Program



On Friday, May 26, the families staying at The Children's Inn at NIH had an out-of-this-world experience when they got a chance to speak live to John Shoffner on board the International Space Station as part of the Amateur Radio on the International Space Station (ARISS) program.

WATE TV

<https://www.wate.com/science/ky-native-to-pilot-spacex-dragon/>

St. Charles Herald Guide

<https://www.heraldguide.com/news/astronaut-lands-at-norco-luling-elementary-schools/>

Lexington Herald-Leader

<https://www.kentucky.com/news/state/kentucky/article275598976.html>

AOL.com

<https://www.aol.com/kentucky-middle-school-expecting-call-155537104.html>

106.3 FM WRIL

<https://www.facebook.com/thebig1063/posts/bell-countyclaiborne-county-alerta-short-time-before-5pm-there-was-a-multi-vehic/10158542052219057/>

Fox-TV

<https://bit.ly/3ICrQys> Fox-Kansas City claims: Local Market Viewership 23,557

Olathe Public Schools

Twitter post with short video earned 4,432 views

Olathe Public Schools

Facebook post—fairly long story, short video about ham radio, the contact, and ARISS

Fairview Elementary School Counselor's Twitter post
short video on the contact—earned 1,026 views.

NASA blog

—a short summary on the Fairview E.S. ARISS contact.

KMBC in Kansas City aired two short stories (early evening & late night) on the contact.

Astronomy Society of Kansas City web-post YouTube on ham radio, ARISS, hams

<https://www.youtube.com/watch?v=m1GDfk5EQV8>

ZAWYA

<https://www.zawya.com/en/press-release/people-in-the-news/sultan-alneyadi-engages-in-live-interaction-with-students-during-ham-radio-sessions-from-the-iss-ac6dn5p6>

Khaleej Times

<https://www.khaleejtimes.com/space/what-a-reaction-uae-girl-cant-contain-her-excitement-after-speaking-to-astronaut-sultan-alneyadi>

ERAU News - Embry-Riddle Aeronautical University

<https://news.erau.edu/headlines/stem-outreach-embry-riddle-to-connect-students-astronauts>

EMBRY-RIDDLE
Aeronautical University | News

Home All News Research Experts Media Resources

STEM Outreach: Embry-Riddle to Connect Students, Astronauts



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Hackster.io

<https://www.hackster.io/news/listening-to-ham-radio-operators-using-the-international-space-station-e0a910c79ea1>

Joshua Samuel blogger with over 3,400 Followers - video on LinkedIn taped ARISS & S. Goodgame at ISTE education conference and also, Ed-tech blogger Kathy Schrock with nearly 1,100 Followers

Final Note: ARISS has learned the hard way not to prepare news releases until 3 days ahead. That's because once NASA schedulers set the day/time, if there's a last-minute change because of delays in cargo launches, etc., the day/time/crew member for the ARISS contact will change. When we have had to update a news release due to a last-minute schedule change, having to distribute a revised news release has caused confusion, and sometimes the revised release was never seen. We've had several people get angry due to not noticing a revised release.

Appendix C: Things of Interest



US ARISS Contacts—still only missing S.D.—from Dec 21, 2000 to June 30, 2023