



February 2021

# ARCOver

A Community Service Organization Dedicated to Amateur Radio Since 1970

## In this issue:

- ◆ President's Message
- ◆ 2021 Club Officers
- ◆ Meeting Info
- ◆ Extended Field Day Waivers
- ◆ Ham Radio Forms
- ◆ RadFxSat-2 Satellite Signals
- ◆ MARS Announces
- ◆ CHESS CubeSat
- ◆ Plans to Retrieve Titanic
- ◆ ARISS and Partners Investigate



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## President's Message

SBARC members,

Well we are into the vaccination plan. I have heard of our qualifying members getting their shots. And, it sounds like as we move toward summer a much wider distribution of the Covid vaccine will be provided to the general population. I am hoping we can get to a place where we can ditch the mask. That will be the real bench mark of getting past this pandemic. Go get that shot if you have the opportunity!

I know that socializing has been a reason for this club to exist. Often exchanging technical ideas connected with food. Maybe in the near future we can get out to a patio dining place or meeting up at one of our favorite dining spots. Stay positive and optimistic.

I am still hearing that Greg's N6RRY-11 balloon is still in orbit! Google APRS.fi. It's now been traveling along for greater than three months. It's probably now a solid on orbit record for our balloon crew. Last month I heard it had set a record of four circumnavigations around the earth. Lost track but it just popped up again this week over Italy. An amazing ride and survival.

For the February meeting, Diana Feinberg-AI6DF, will be presenting both NEMBS and Winlink. These are both communications modes used in disaster communication scenarios. Diana was appointed ARRL Los Angeles Section Manager in June 2016 after having served as Chair for Hamcon by the Los Angeles Area Council of Amateur Radio Clubs conventions. She is now engaged as our Section Manager and continues to be very active in all aspects of amateur radio. Diana is the President of the PVARC where she is very active, the present training officer for LACDCS, and at the Southwestern division ARRL Los Angeles Section Manager. Her goal has been to organize Disaster Communications preparedness with both DCS and ARES members in the Los Angeles area. Join us on February 18th on Zoom for Diana's presentation.

Upcoming monthly club activities include, the SBARC virtual Zoom club meeting on February 18th at 7:30PM. And, the other things we use to do: The TRW/NGC swap meet remains cancelled. After the swap meet a few of us use to head over to Denny's. These have all been suspended until after the COVID shutdown.

As always, it's your amateur radio club, let us know what you would like to see happening with your club



73's...  
Scott-N6LEM

## CLUB OFFICERS

**President:**

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**Council:**

**Tim** -KI6BGE, 310-809-4007 ki6bge at gmail dot com

**Council:**

**Mark**—KA6ZTO, 714-642-1126 ka6zto at yahoo dot com

**Past Pres: OPEN**

# Meeting FEBRUARY

February 18th at 7:30 p.m.  
on Zoom



Expect an email with the invite to the meeting. Click the link in the email and Zoom software launches to join.



We are honored to have Diana Feinberg-AI6DF as our presenter for this month's meeting. She is an Extra class licensee, while wishing to be a very active DXer from which she is somewhat handicapped due to her HOA restrictions (no external antennas).

Diana was appointed ARRL Los Angeles Section Manager in June 2016 after having served as Chair for Hamcon by the Los Angeles Area Council of Amateur Radio Clubs conventions. She is now most active as our Section Manager and continuing to be very active in all aspects of amateur radio.

She is currently the President of the Palos Verdes Amateur Radio Club (PVARC), which she's been very active in for years. She's also the training officer for Los Angeles County Disaster Communications Services (LACDCS).

Her main goal is to organize Disaster Communications and preparedness with both DCS and ARES at this time in the Los Angeles area.

Disaster Communications training and preparedness are upper most on her mind. This is so especially because since both ARES and DCS are now being trained with Digital Communications for those services including Red Cross. The special digital modes of NBEMS and WinLink, among others are especially appropriate for use in case of real disasters.

## ARRL to Extend Field Day Rule Waivers from 2020, Add Class D and E Power Limit

ARRL.com 02/10/2021



The COVID-19 pandemic-modified **ARRL Field Day** rules from 2020 will continue this June with the addition of a power limit imposed on Class D (Home Stations) and Class E (Home Stations-Emergency Power) participants. The news from the ARRL Board's Programs and Services Committee comes as many clubs and groups are starting preparations for Field Day in earnest. Field Day 2021 will take place June 26 – 27.

"This early decision should alleviate any hesitancy that radio clubs and individual Field Day participants may have with their planning for the event," said ARRL Contest Program Manager Paul Bourque, N1SFE.

For Field Day 2021:

- Class D stations may work *all other* Field Day stations, including other Class D stations, for points. This year, however, Class D and Class E stations will be limited to 150 W PEP output.
- An *aggregate* club score will be published — just as it was done last year. The aggregate score will be a sum of all individual entries that attributed their score to that of a specific club.

ARRL Field Day is one of the biggest events on the amateur radio calendar. Last summer, a record 10,213 entries were received.

"With the greater flexibility afforded by the rules waivers, individuals and groups will still be able to participate in Field Day, while still staying within any public health recommendations and/or requirements," Bourque said.

The preferred method of submitting entries after Field Day is via the web applet. The ARRL Field Day rules include instructions on how to submit entries, which must be submitted or postmarked by Tuesday, July 27, 2021.

The **ARRL Field Day** web page contains for complete rules and entry forms, as well as any updated information as it becomes available. Join the ARRL Field Day **Facebook page**.

## Article: Ham Radio Forms a Planet-Sized Space Weather Sensor Network

02/10/2021

The **article** “Ham Radio Forms a Planet-Sized Space Weather Sensor Network,” appeared on February 9 in *Eos, Earth & Space Science News* — an American Geophysical Union (AGU) publication. It sprang from a project by the Ham Radio Science Citizen Investigation (**HamSCI**), founded by Nathaniel Frissell, W2NAF, of the University of Scranton, one of the paper’s authors. The others are David Kazdan, AD8Y, and Kristina Collins, both of Case Western Reserve University (W8EDU). The article says that with their experience dealing with ionosphere-influenced propagation, amateur radio operators have an empirical knowledge of space weather and offer a ready-made volunteer science community.



The article covers the method and research being used to monitor the effects of solar activity on Earth’s atmosphere, telecommunications, and electrical utilities — and the valuable data being crowdsourced from amateur radio signals.

“To fully understand variability on small spatial scales and short timescales, the scientific community will require vastly larger and denser sensing networks that collect data on continental and global scales,” the article asserts. “With open-source instrumentation cheaper and more plentiful than ever before, the time is ripe for amateur scientists to take distributed measurements of the ionosphere — and the amateur radio community is up for the challenge.”

“The reach of these crowdsourced systems, and the support of the amateur community, offers tremendous opportunities for scientific measurements,” the article notes.

The research acknowledges a handful of HamSCI collaborators — from organizations and universities — and is supported by National Science Foundation grants. HamSCI’s Personal Space Weather Station initiative aims to develop a network of specially equipped amateur stations that will allow amateurs to collect useful data for space science researchers. As the article explains, ham radio operators and researchers, through HamSCI, are designing hardware for a distributed network of personal space weather stations.

November and December 2021 mark the 100th anniversary of the successful ARRL Transatlantic Tests, which took advantage of data gathered via university and individual amateur stations — an early example of citizen scientists leveraging amateur radio.

The 2021 HamSCI virtual workshop will take place March 19-20.

## RadFxCat-2 Satellite Signals Detected, AMSAT Engineering Continues to Assess Status

ARRL.com 01/28/2021

AMSAT reports that it’s continuing to assess the status of the RadFxCat-2 / Fox-1E amateur radio CubeSat after a ham in Nevada reported hearing his CW signal weakly via the spacecraft’s transponder on January 27. AMSAT Engineering and Operations was able to confirm the reports from Brad Schumacher, W5SAT, and determined that RadFxCat-2 is partially functioning, although signals are extremely weak.



“We also appreciate those who joined in determining whether they could detect their own or other signals in recent passes today,” AMSAT said in a January 28 bulletin. “Please do not attempt to transmit through the transponder until further notice. This is very important to the next steps we are taking now.”

The next crucial step in evaluating the condition of RadFxCat-2 is to determine whether or not the 1200 bps BPSK telemetry beacon is operating and, if possible, to copy telemetry from the beacon. AMSAT continues to ask that those with 70-centimeter receive capability listen on the beacon frequency of 435.750 MHz,  $\pm$  Doppler, upper sideband (USB). Use FoxTelem to capture any telemetry, and set FoxTelem to ‘Upload to Server’ so that AMSAT will receive the telemetry data. Recordings are welcome, with a detailed description.

AMSAT stressed that keeping the RadFxCat-2 / Fox-1E transponder clear “is essential to putting all power and attention to the beacon telemetry.” Available data suggest that RadFxCat-2 is OBJECT M from the Virgin Orbit LauncherOne launch, NORAD ID 47320, international designation 21-002M.

“We thank the amateur satellite community for their perseverance and assistance while the AMSAT Engineering and Operations teams work to understand and resolve the situation with RadFxCat-2,” AMSAT said.

## MARS Announces Schedule of Dates for 60-Meter Interoperability

ARRL.com 02/03/2021

The Military Auxiliary Radio System (MARS) has announced dates in 2021 during which MARS members will operate on 60 meters for interoperability with the amateur radio community. Some dates coincide with quarterly Department of Defense Communications Exercises (COMEX).



All exercises will begin on channel 1 as the initial calling channel and move to other 60-meter working channels as may be appropriate.

“In addition to voice calls, I want to introduce passing ICS 213 messages in both voice and digital modes to enhance the overall interop experience,” said US Army MARS Chief Paul English, WD8DBY. “Our exercises will yield the frequencies to other scheduled exercises or mission activations, which may be called by other agencies for interop support (e.g., hurricane, wildfire, etc). We regularly instruct MARS members to work cooperatively with the amateur radio community during the use of the 60-meter interop channels. We will continue to track our 60-meter usage and activities.

English said he plans to provide a quarterly usage report of 60-meter interoperability activities.

### February 23 – 27

Exercise: DOD COMEX 21-1; Location: CONUS

### March 1 – 7

Exercise: Interop Outreach; Location CONUS

### April 3 – 10

Exercise: Interop Outreach; Location CONUS

### April 30 – May 6

Exercise: DOD COMEX 21-2

### May 7 – 8

Exercise: Armed Forces Day Cross-Band Test; Location: CONUS

### June 1 – 6

Exercise: Interop Outreach; Location CONUS

### July 5 – 10

Exercise: Interop Outreach; Location CONUS

### July 20 – 22

Exercise: DOD COMEX 21-3; Location: CONUS

### August 2 – 8

Exercise: Interop Outreach; Location CONUS

### September 1 – 6

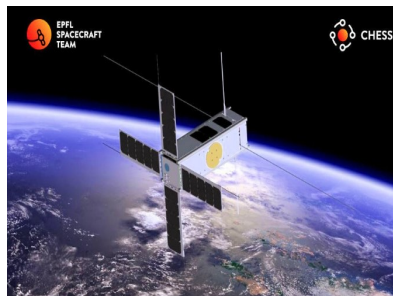
Exercise: Interop Outreach; Location CONUS

### October 1 – 31

Exercise: DOD COMEX 21-4; Location: CONUS

## CHES CubeSat Constellation to Carry FUNcube Transponders

ARRL.com 01/27/2021



In 2020, a project between AMSAT-UK, AMSAT-NL, and Swiss universities got under way with the aim of equipping two Swiss satellites — for now under

the **CHES** name — with linear amateur radio transponders. Linear transponders permit several CW or SSB contacts to take place simultaneously within a prescribed passband. The satellites also include features for classroom demonstrations and experiments. The CHES (Constellation of High Energy Swiss Satellites) project includes two satellites, which will be built simultaneously and later launched as a constellation.

“The main science objective is to improve the understanding of the upper atmosphere by in-situ measurements...taking advantage of a constellation of identical nanosatellites to study the composition of the terrestrial atmosphere and its density,” the CHES website explains.

The first satellite will have a nearly circular orbit at an altitude of 400 kilometers. The second will have an elliptical orbit with an altitude of 350 × 1,000 kilometers.

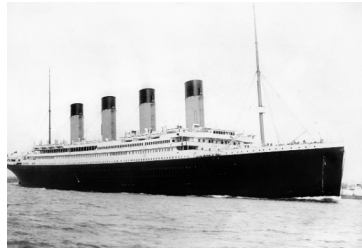
The amateur radio payload is a joint project of AMSAT-UK and AMSAT-NL. A successful review of system requirements was completed in December. Launch will not take place until the fourth quarter of 2022.

The satellites themselves are a project of the École polytechnique fédérale de Lausanne (**EPFL**), with support from several other schools. — *Thanks to AMSAT News Service via AMSAT-UK*

## Plans to Retrieve Titanic Wireless Equipment Put on Indefinite Hold

ARRL.com 02/02/2021

RMS Titanic, Inc., (RMST) the company that owns salvage rights to the *Titanic* shipwreck, has indefinitely put off its plans to retrieve the vessel's radio equipment for exhibit. The company cited the coronavirus



pandemic for the delay, according to a court filing the company made on January 29. The Atlanta-based company said its plans have faced "increasing difficulty associated with international travel and logistics, and the associated health risks to the expedition team." RMST's primary source of revenue comes from its exhibits of its vast collection of *Titanic* relics, which have been closed or seen only limited attendance due to virus-related restrictions.

RMST — a subsidiary of Premier Exhibitions and the "salvor-in-possession" of the *Titanic* wreck site — said its planned expedition to recover the ship's wireless station equipment remains a top priority, however, and will "take place as soon as reasonably practicable." The Marconi-equipped station transmitted the distress calls after the *Titanic* (on its maiden voyage) struck an iceberg some 370 miles off the coast of Newfoundland in 1912 and began sinking. The transmissions, heard by some nearby vessels, have been credited with helping rescue some 700 passengers in lifeboats deployed from the *Titanic*, but about 1,500 passengers were lost in the disaster. RMST has said the radio transmitter could unlock some of the secrets about a missed warning message and distress calls sent from the ship.



The coronavirus pandemic aside, RMST has been in an ongoing legal battle with the US government over whether the recovery operation would be legal. In May of 2020, a US federal judge in Virginia gave permission to retrieve the ill-fated ship's wireless gear. The judge ruled that the radio gear has "significant historical, educational, scientific, and cultural value" and could soon be lost within the rapidly decaying wreck, and said the company would be permitted "minimally to cut into the wreck" to access the radio room.

RMST has said it would try to avoid cutting into the ship, noting that the radio room may be reachable via an already-open skylight. But, the National Oceanic and Atmospheric Administration (NOAA) has contended that the retrieval expedition is still prohibited under US law and under an international agreement between the US and the UK. NOAA has argued that any benefit to be realized from cutting into the vessel to recover the Marconi equipment would not be "worth the cost to the resource and not in the public interest."

RMST sought permission to carry out what it called a "surgical removal and retrieval" of the Marconi radio equipment, which is in poor shape after more than a century under water. The undersea retrieval would mark the first time an artifact was collected from within the *Titanic*, which many believe should remain undisturbed as the final resting place of the victims of the maritime disaster. The wreck sits on the ocean floor some 2 1/2 miles beneath the surface and remained undiscovered until 1985.

RMST plans to use a manned submarine to reach the wreck and would then deploy a remotely controlled submarine to retrieve the radio equipment.



## ARISS and Partners Are Investigating Space Station Ham Radio Failure

ARRL.com 01/29/2021

Amateur Radio on the International Space Station (**ARISS**) and its partners are troubleshooting a failure within the on-board NA1SS amateur station in the ISS Columbus module.

The problem does not appear to be with the radio equipment in Columbus, however. ARISS realized the problem when a contact with a school in Wyoming, between ON4ISS on Earth and astronaut Mike Hopkins, KF5LJG, at NA1SS, had to abort when no downlink signal was heard.

“Today was a tough one for ARISS,” ARISS-International Chair Frank Bauer, KA3HDO, began in a message on January 28 to the ARISS team. Bauer explained that during a January 27 spacewalk to install exterior cabling on the ISS *Columbus* module, the current coax feed line installed 11 years ago was replaced with another built by the European Space Agency (ESA) and Airbus. It included two additional RF connectors to support the commissioning of the **Bartolomeo** payload-hosting platform installed last spring on *Columbus*.

“On January 26, prior to the EVA [extravehicular activity], our *Columbus* next-generation radio system was shut off and the ISS-internal coaxial cable to the antenna was disconnected from the ARISS radio as a safety precaution for the EVA,” Bauer said. During the spacewalk, an external four-connector coax feed line replaced one with two RF connections.

“This change was made to allow ESA to connect ARISS and three additional customers to Bartolomeo, as compared to ARISS and one additional RF customer,” Bauer explained.

With the spacewalk completed, the ISS crew restarted the ISS ham radio station on January 28, but no voice repeater or automatic packet repeater system (APRS) downlink reports were heard. During a scheduled school contact at 1746 UTC, no downlink signal was heard either, and the attempted contact had to be terminated.

“Clearly, there is an issue,” Bauer continued. “More troubleshooting will be required. It may be the new external RF cable that was installed during yesterday’s EVA. It might also [have been caused by] the connect and disconnect of the interior coaxial (RF)

cable. So, the interior cable cannot be totally discounted yet.”

Bauer said the crew photographed the coaxial cable and connector attached to the ARISS radio inside the ISS. “Because the exterior cable is a Bartolomeo cable and not an ARISS cable, we are working with ESA and NASA on a way forward,” he said. “NASA has opened a Payload Anomaly Report on this issue. We have talked to both the NASA and ESA representatives.”

Bauer said ARISS has asked its Russian team lead Sergey Samburov, RV3DR, if ARISS could temporarily use the RS0ISS radio in the ISS *Service Module* for school contacts that are already scheduled until ARISS can resolve the issue.

“On behalf of the ARISS International Board, the ARISS Delegates, and the entire team, I want to thank all of you for your tremendous volunteer support to ARISS,” Bauer said. *We will* get through this and be more resilient as a result.”



## CALENDAR

**Council Meeting** - 4th Wednesday of the month  
Call Joe - WB6MYD (310) 328-0817

**Club Meeting** - 3rd Thursday of the month  
**February 18, 2020 - 7:30 p.m.**

### Via Zoom

(look for email invite from  
jmlanphen@gmail.com a few days before)

**Club Nets** - **W6SBA WEEKLY NET**  
Every Thursday @7:30pm  
(except the night of club meetings)  
**PVUSD EMERGENCY NET**  
1st Tuesday of the month  
09:30 Hours on the W6SBA repeater

**TRW Swap Meet** **Cancelled Until Further Notice**

**VE Sessions** - **Scheduled on Saturday of even months**  
Contact Betty, N6VZF, with questions  
(All VE sessions are scheduled for Room 4 in the Health  
Conference Center)

**Social Event** - **Contact: Joe WB6MYD**  
**Phone: (310) 328-0817**  
**jmlanphen@gmail.com**

## CLUB SERVICES

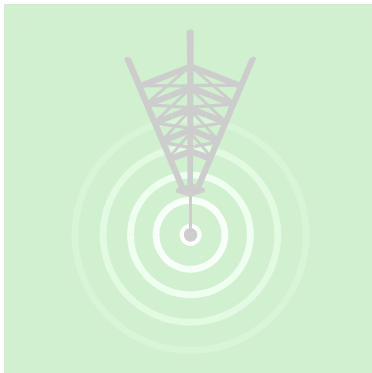
Awards Manager (HF/VHF)	Cliff - K6LH
Health & Welfare	Joe - WB6MYD
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**South Bay Amateur Radio Club Repeater**  
**224.38 MHz · PL - 192.8 Hz Offset -1.6 MHz**  
(See Calendar for Weekly Net Times)

## NEWSLETTER SUBMISSION

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Address Correction Requested

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