



Ham Hum

October 9, 2020 Volume LXX, Issue 10

Upcoming **Program for October 9, 2020** will be held on **Zoom**. We will be featuring an interesting and relevant presentation from an Audiology Researcher at Boys Town National Research Hospital. Boys Town is considered one of the leading experts both nationally and internationally on all aspects of hearing related research. The topic will be “Ham Radio Hearing Aids”. Topics to be covered include: the science of hearing, what causes general hearing loss, how can ham radio causes hearing loss, how is hearing loss determined and measured, how can hearing loss be mitigated in ham radio, the history and science of technology used to improve hearing, how does different hearing aid technology work or interface with ham radio, cochlear implants when all else fails, and what to do when you suspect an hearing loss in you or a family member.

Note from the Editor, Brian—WE0BEP: An acquaintance of mine, Karen Fox, who works at NASA is a Heliophysics Communications Lead, sent me the following link which she said might be of interest to read.

<https://www.nasa.gov/feature/goddard/2020/everyday-effects-of-the-solar-cycle/>

AKSARBEN ARC Club Meeting – September 11, 2020

The meeting was called to order at 7:16 PM Zoom. There were 32 attendees.

Officers and Board members present included: Pat W00JU Dan, N0POT; Dave, N0JSB; Brian, KE0GKB; Rea, N0REA

Secretary's Report - Brian, KE0GKB - The minutes were posted in the Ham Hum. The minutes were approved with no corrections.

Treasurer's Report - Dave, N0JSB - - As of August 30 the club accounts had balances of: Main Checking \$4,534.65, Repeater Checking \$332.60 Savings \$6,993.62, CD Life Member one \$6,495.39, CD Life Member two \$6,758.01, and CD Repeater \$1,112.65 This leaves the balance of all the club accounts at \$26,226.92.

In the month of August there were deposits totaling \$11.48 Amazon Smile.

In the month of August there were expenses totaling \$233.80. This consisted of a \$100.00 donation to Red Cross, A\$100.00 Donation to the Salvation Army, and \$33.80 for Ham Hum.

A Motion was made by Rea N0REA to approve the financial report with a second by Mary N0TRK, Motion Carried.

An additional motion was made by Mary N0TRK that we approve both the Secretary's report and the financial report with one vote. A second was made by John WBOCNC, the motion carried.

President's Report - Sean, AD0QG - no report.

Vice President's Report -- Pat, W00JU Tonight's program will be "The Sport of Amateur Radio Direction Finding" by Robert Frey WA6EZV, he is also a DX'er with contacts in 349 confirmed countries.

Disaster Preparedness:

SATERN - Mary, NOTRK - The Satern net is Monday nights and 7PM, you do not have to be a Satern member to participate.

There will be a Satern meeting on Saturday if you are interested send me an email at NOTRK@cox.net

ARES - No report

Community Service Committee - Mary, NOTRK- The Market to Market relay is October 3, 2020, all volunteers and participants will need to wear mask except when they are running. If you are interested in volunteering please contact me at NOTRK@cox.net.

Education Committee - Rea N0REA- There are no classes scheduled at this time due to Corvid. There is a testing session at the Red Cross in Council Bluffs on September 29, you must have a reservation to test and mask are required. If you would like to make a reservation contact me at N0REA@arrl.net

Membership Committee - Mary, NOTRK Three new members were presented to the club, KF0BLT Robert Galliant, KE0ZSE Jeffrey Sargas, A motion was made by Pat W00JU with a second by John WBOCMC. A third application was presented for K3WKB Joel Sherburne. A motion was made by Bill KD0FJR with a Second by Kyle AD0ZC to accept Joel, all applications were approved by a unanimous vote.

Web Services - Mary, NOTRK/Adam, KDOMMG -The website is working fine.

Repeater - John- WBOCMC I did get down to the Channel 12 site and everything tested out fine. The problem where the repeater stayed keyed up turned out to be a dirty connection on the Link receiver at the KETV site, the connection was cleaned, and everything appears to be resolved.

Field Day - Mary NOTRK - Awards from field day
Mitch W0JG talked the furthest who talked to New Zealand
Eddie K0IL made the most contacts with 477 contacts on CW
Mitch W0JG made the most SSB contacts with 438 contacts on 6 bands.
Scott KA4ZZQ had the most 6-meter contacts.
K0USA had the most stations on the air
Tom N0STN had 51 digital contacts
Greg WD0DEZ had 17 contacts.
Tom KE0ULW worked 3 different modes.
Adam KDOMMG had Most unique sections.
Brian WE0BEP worked everything on 19 meters

Courtesy Committee - Bill Snyder KD0FJR - no cards were sent out.

Flea-Esta - No report

There was no Old Business.

New Business: The nominating committee was formed, and we have two board members to elect, one of them being the treasurer and also the President and Vice president. If you are interested in serving or nominating someone please contact the board at board@aksarbenarc.org

There was no old or new business before the club, so a motion was made by Pat W00JU with a second by Jack WA0SAQ and the meeting was adjourned at 7:45

Area Nets

Monday

7:00 PM 145.290 South-West Iowa ARES Glenwood, IA.

8:00 PM 144.250 NE Missouri SWOT.

9:00 PM 146.940 AARC Chat Net. Ak-Sar-Ben ARC Omaha, NE.

Tuesday

9:00 PM 145.310 Washington Co. ARES Washington Co, NE.

Wednesday

7:00 PM 146.670 Dodge Co. ARES Dodge Co, NE.

7:30 PM 7.122 CW Four State QRP Comfortable Net.

8:00 PM 3.564 CW Four State QRP Comfortable Net.

8:00 PM 145.310 Saunders Co. ARES Saunders Co, NE.

8:30 PM 7.122 CW Four State QRP Comfortable Net.

9:00 PM 3.580.5 PSK Four State QRP Comfortable Net.

9:00 PM 146.820 Pottawattamie County ARES Council Bluffs, IA.

Thursday

8:30 AM 7.122 CW Four State QRP 40M Morning Net.

7:30 PM 145.310- Lincoln/Omaha SATERN Net. Ashland, NE.

8:00 PM 28.350 SSB 10-Meter Net.

8:00 PM 144.250 2-Meter SSB Net.

8:00 PM 147.360 Heartland DX Association.

Friday

10:00 PM 224.760- Tone 146.2 Promote the Band Net

Saturday

12:00 PM 146.82 Swap Net Council Bluffs, IA.

8:30 PM 3.921.000 QCWA Chapter 20.

Sunday

8:00 AM 3.902.500 Swap Net.

8:30 AM 3.897.500 3900 Club.

8:30 PM 443.925+ (103.5 tone) IRLP Net.

2:00 PM 50.200 6 Meter Net

9:00 PM 146.940- Douglas Co. ARES net, KØUSA repeater.

Kirtland Air Force Base New Mexico is where the AF Research Laboratory is using a new way to track and monitor a phenomenon known to us Hams as the "Sporadic E". Occurring in the upper atmosphere, large structures of dense plasma form at mid latitude locations around the world, disrupt radio frequency (RF), electromagnetic waves and impact both the DoD and civilian radio systems in positive and negative ways.

Previous methods to observe these structures were insufficient for identifying and tracking them over large regions, as explained by Air Force Research Laboratory physicist Ken Obenberger. It would be advantageous to actively identify where these structures are, where they are going, and how dense they are, and we thought we could find a better way. The new method developed by Obenberger and collaborators at AFRL and the University of New Mexico, leverages the unintentional RF emissions from power lines, and using broadband radio noise, they can map and track dense Sporadic E structures.

"Since power lines are widespread we can observe Sporadic E over a very large region surrounding our observatory, the Long Wavelength Array (LWA), which is an asset of our collaborators at the University of New Mexico," Obenberger said. "This technique could be used anywhere in the world where there is an electrical grid and an instrument similar to the LWA, and we are lucky because there are not many." This kind of technology could be very interesting to industries that work on or rely on High Frequency (HF) and Very High Frequency (VHF) communications like Marine radio, citizen band (CB) radio, FM radio, and digital TV. Amateur HAM-radio operators have long used Sporadic E for long-range communications in the VHF band, also known as the "2-meter" and "6-meter" bands by hams. Climatology of Sporadic E can provide a probability that it will occur, but the actual presence of sporadic E can only be determined through trial and error observations at the time.

This is similar to how meteorologists can predict how likely thunderstorms will occur in the afternoons above New Mexico during monsoon season, but use Doppler radar to identify and track specific thunderstorms as they occur," notes Chris Fallen, one of Obenberger's collaborators at AFRL. "Ken's technique basically provides weather radar for sporadic E, only using radio noise from power lines as the radar transmitter.

Having accurate now-casting of sporadic E can be critical during disaster situations where oftentimes HAM operators play a key role in communicating vital information.

In the devastating aftermath of the 2017 Hurricane Maria, Puerto Ricans were without power for many weeks, and 130 local, amateur radio operators immediately became the only method of emergency communication.

Having accurate “now-casting” of sporadic E could prove critical during disaster situations where hams may play a key role in supporting communication of vital information.

“Better understanding will lead to improved design and use of radio systems that mitigate the negative effects and take advantage of the good effects, thereby ensuring a stronger emergency communication network,” Obenberger said. “We are interested in sporadic E and the effect it has on radio wave propagation, both good and bad.”



Long Wavelength Array stations sit in the desert near Kirtland Air Force Base, N.M.

Club Officers & Board Members

President	Sean Edwards	ADØQG	president@aksarbenarc.org
Vice President	Pat Connell	WØOJU	vicepresident@aksarbenarc.org
2018 Secretary	Brian Sohl	KEØGKB	secretary@aksarbenarc.org
2018 Treasurer	Dave Rice	NØJSB	treasurer@aksarbenarc.org
2019-2021 Director	Dave Rice	NØJSB	board@aksarbenarc.org
2019-2021 Director	Dan Buchholz	NØPOT	board@aksarbenarc.org
2018-2019 Director	Brian Sohl	KEØGKB	board@aksarbenarc.org
2018-2019 Director	Ray Blackburn	NØREA	board@aksarbenarc.org
Immediate Past President	Kevin Hill	KAØVNY	board@aksarbenarc.org

Club Committees

Courtesy Committee	Bill Snyder	KDØFJR	courtesy@aksarbenarc.org
Education	Ray Blackburn	NØREA	education@aksarbenarc.org
Field Day	Adam Kavan	KDØMMG	fieldday@aksarbenarc.org
Flea-Esta	Chris Rice		flea@aksarbenarc.org
Membership	Mary Joseph	NØTRK	membership@aksarbenarc.org
Monday Night .94 Net	Rich Swig	WAØZQG	wa0zqg@hotmail.com
P.I.M.P.	Jim Westcott	KAØKCV	pr@aksarbenarc.org
Prizes	Open	Open	prizes@aksarbenarc.org
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QSL Manager & Technical	Ed Edwards	KØIL	qslmanager@aksarbenarc.org
Special Events Coordinator	Pat Joseph	KØCTU	community_service@aksarbenarc.org

Technical Assistance	Ed Edwards	KØIL	technical@aksarbenarc.org
Web Services	Mary Joseph	NØTRK	web_master@aksarbenarc.org

Repeater Committee

Chairman	John Gebuhr	WBØCMC	repeater@aksarbenarc.org
Vice Chairman	Steve Schmitz	NØUP	repeater@aksarbenarc.org
Control Operator	Mary Joseph	NØTRK	repeater@aksarbenarc.org
Club Call sign Trustee	Corby Krick	KØSKW	trustee@aksarbenarc.org
Member	Russ Hilton	ADØQH	repeater@aksarbenarc.org

Other Contacts

ARRL Midwest Director	Rod Blocksome	KØDAS	k0das@arrl.org
ARRL Midwest Vice-Dir.	Art Zygielbaum	KØAIZ	k0aiz@arrl.org
EC Douglas County	Steve Schmitz	NØUP	dcares@aksarbenarc.org
EC Sarpy County	Dennis Mitchell	KCØYKN	
Vol. Council	Brian Zdan	KMØY	testing@aksarbenarc.org
NE Section Manager	Matt Anderson	KAØBOJ	ka0boj@arrl.org
VE Exams/ARRL Liaison	Ray Blackburn	NØREA	testing@aksarbenarc.org

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