



# The Beacon

A monthly newsletter of the Albemarle Amateur Radio Club serving Central Virginia

**Celebrating our 53<sup>rd</sup> Year**

April \_\_\_\_\_ 2016



The 2016 Science Fair, held at the JPJ arena, drew hundreds of high school participants. See the whole story in this edition found on Page 4. (Photo by Jim Wilson K4BAV)

**The AARC Monthly Meeting will be held at the NRAO, 520 Edgemont Road, Charlottesville, at 7 p.m. on April 12. We will have Tom Hanson, Director of the Emergency Communication Center as our speaker.**

## President's Corner

By Ed Berkowitz N3US



Well, it looks like the spring weather is here, so it is time to work on those antenna projects that you were unable to complete over the winter! Remember that AARC has an Antenna Team ready to assist you. Please contact [antennateam@albemarleradio.org](mailto:antennateam@albemarleradio.org) if you require help with your antenna projects. Remember, prior to any digging or trenching, you should call Miss Utility of VA at 811 to mark the location of your utility lines. If you have a propane tank,

remember also to call your propane company so that they can mark the location of any underground tanks and lines.

Recently, a construction company's cutting of a fiber-optic cable necessitated a call up of ARES to provide communication for several regional fire departments.

The Club participated in the Third Annual Maker Faire held on Saturday, March 26 at Monticello High School. Rick Oliver, W3KDR, Director for Education, spearheaded our efforts to prepare and participate in this event. The event was billed as "We are opening our Call To Makers! From robotics to fashion, rocketry to craft, 3D printing to woodworking, sculpture to architecture, engineering to design, drones to ham radio and who knows what else!" I also want to remind everyone about the upcoming Swapfest in Culpepper:

On April 9, 2016, the Culpeper Amateur Radio Association ([W4CUL.org](http://W4CUL.org)) will once again host an ARRL-affiliated Amateur Radio Swapfest at Culpeper Agricultural Enterprise, which is located at 10220 James Monroe Highway, two miles southeast of Culpeper on Route 29. The event runs from 0700 to 1400, and the entry fee is \$5/car, so carpooling saves money. This would be a good opportunity to purchase any wire, coax, etc. that you may need for your spring antenna projects. Besides, who knows what you might stumble upon that you cannot live with out. Additional information can be found at <http://www.w4cul.org/swapfest>.

Throughout 2016, the ARRL will be helping the National Park Service celebrate its 100<sup>th</sup> anniversary. Hams are sequentially activating at least 483 national park units, including memorials, battlefields, seashores, parkways, and

others. The ARRL will provide a certificate to amateurs working one or more such units, and a National Parks Honor Roll will include hams who have worked 75% of the 59 National Parks that have accredited operations. More information is available at [eee.arrl.org/npota](http://eee.arrl.org/npota). It is not too late to become involved with this program.

Hams licensed for fewer than three years (you know who you are), might also want to consider entering the ARRL Rookie Roundup 1800 UTC to 2359 UTC on Sunday, April 17. See: [www.arrl.org/rookie-roundup](http://www.arrl.org/rookie-roundup).

I must be getting really old, because I spend more time reading the obituaries and the longer and longer list of Silent Keys in QST. So I was saddened to learn about the death of one of my favorite comedians, Garry Shandling who was a Radio Amateur since the early 1960s. See <http://www.arrl.org/news/comedian-actor-tv-writer-and-personality-garry-shandling-ex-kd6oy-sk> for additional information about his Amateur radio interests.

## Our VP's Report

By Larry Eicher K4JZQ



Our thanks go to Col. Steve Sellers, Chief of the Albemarle Police Department, who gave us a great overview of police communications here in Albemarle County during our March 8 meeting. For those of you who missed the meeting, you can check out the video on U Tube via the link found on the AARC website.

For April 12 we will have Tom Hanson, Director of the Emergency Communication Center and our host for this year's upcoming Field Day event June 25-26. Tom can update us on events that led up to the fiber optic cable being cut along the construction now on Rt. 29 and Rio Road that led to communication outages in much of northwest Albemarle County. Thanks to our ARES members who volunteered to man fire stations for long hours to help protect our community. For these and other planned speakers in 2016, please check out the listing on the AARC website and mark your calendars. If any of you have a burning desire to share information with your club members on ham radio, let me know and we'll try to fit you in either this year or next.

The Field Day Committee met on March 12 to begin preliminary preparations for another great Field Day exercise the weekend of June 25-26 -- mark your calendars. This year we will again hold our exercise at the Emergency Communication Center 2306 Ivy Road, Charlottesville as we

did last year. Much of what we did last year can be repeated in 2016; thus helping us focus on getting more points if the weather and propagation are favorable. We will again be 3F with three stations for CW, Phone and/or one for Digital BUT if we don't have operators for one particular station, we'll strive to keep all transceivers in operation. Thus if nobody is available to operate Digital, we might use that rig to add another band for Phone operation etc. etc.

Please start thinking about what you would like to do to contribute to your club's success. The most important thing we want to achieve on Field Day is to make sure this is fun. Points alone do not make us successful BUT to do the various items on the check list means everybody has to contribute in some way, however minor, towards the overall success of the event. We will again have a sign up list that KQ9P will provide so we can more easily judge if and when we will need extra operators on hand. We also will have the usual pot luck supper Saturday evening June 25 starting around 6 p.m. in which AARC will provide the main entree, baked or fried chicken, with members bringing a side dish sufficient for 5-8 people as your contribution to the meal. The side dish can be a salad, vegetable dish or dessert. Non-alcoholic drinks will be provided. The ECC has agreed to permit us to grill some hot dogs and hamburgers in a designated area as part of this meal but please remember NO alcohol drinks whatsoever are permitted on ECC grounds.

It's not too late to join the Field Day committee team members. Please give me a call at 434 975-4231 or email me at [tuzlu@comcast.net](mailto:tuzlu@comcast.net) if you wish your name to be added to the list. All are welcome to make this an even more successful Field Day event in 2016.

## AARC Holds Volunteer Examiner Session

By Mark WA1A

On March 19, the Albemarle Amateur Radio Club held a Volunteer Examiner session at the National Radio Astronomy Observatory. Nine examinations were administered to eight applicants. Five received passing scores for two new Technicians, one upgrade to General Class, and two to Amateur Extra Class licenses. The session was attended by Volunteer Examiners Bob K4DU, Mark WA1A, Teri KT4UO, and Bill N4VUF.

## Charlottesville Maker Faire

By Rick Oliver W3KDR

Ham Radio and the AARC were well represented Sunday, March 26 at the Charlottesville Maker Faire held at Monticello High School. Seven club volunteers manned the AARC tables, demonstrating everything from Morse code and basic electronic construction to digital modes and surface mount technology construction techniques.

The 2016 Charlottesville Maker Faire, which invites anyone with a construction or physical product interest to participate or attend, supplied the AARC booth with a steady stream of persons interested in hearing more about today's

amateur radio. Leveraging some of the attending organizations to help get young people interested in ham radio might be possible, we concluded. We took several email addresses from potential new club members.



Jim K4BAV, dressed as a 1800's telegraph operator, put a key in the hands of a number of the younger visitors. They took to this right away. One girl about eight years old said it was interesting because she and her friends were interested in ciphers after learning about them in school.



Mark AK4OL did the heavy lifting on the more complicated displays, demonstrating PC to PC digital modes, digital delivery of a segment of the 20 meter band, with waterfall display, from a station in the Netherlands, and SMT construction under a illuminated magnifying glass.

Ed N3US showed an ARC5 transmitter pulled from a WWII aircraft; and a colorful collection of QSL cards which proved the global reach of ham radio.



Michael KA4JJD, a fairly new maker himself, connected with those who wanted to know more about how to get started in the hobby. He showed a simple flasher and an Arduino board programmed to flash his call in Morse, along with an MFJ superregenerative SWL receiver.

Paul AK4OH erected a 20 meter Buddipole in an "L" configuration and an Elecraft KX3 and demonstrated a portable HF station. The metal roof and cinder block walls made things pretty tough, but a few signals were heard - enough for the demonstration.



Bill AD6JV showed the most elaborate construction project - a single band CW transceiver featuring a Direct Digital Synthesis VFO and interchangeable single band RF modules.

As for me, I ate a pie from the Pie Guy food truck, and saw a cool drone obstacle course race in a field behind the school which ended in the destruction of all three competing drones. I highly recommend both.

Our next opportunity in the Maker Faire arena will likely be a Barnes and Noble Maker Faire event in November. Let me know if you would like to join in.



Four of the team staffing the display.



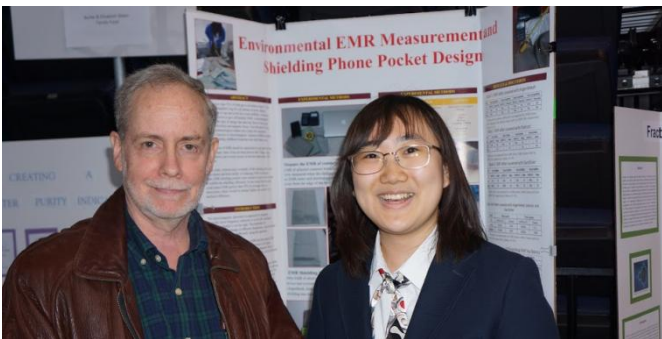
The AARC Maker Faire team included (L to R) Jim K4BAV, Ed N3US, Rick W3KDR, Mark AK4OL Paul AK4OH, and Bill AD6JV. Michael KA4JJD, the other member of the team took the picture.

## Virginia Piedmont Regional Science Fair

By Rick Oliver W3KDR

Bill AD6JV, Bill N0WP, and I provided the judging expertise for two special awards we sponsor annually at the Virginia Piedmont Regional Science Fair. Jim K4BAV served as an independent judge for the Fair and photographer for the AARC.

This year, in front of approximately 1000 participants and guests, we presented awards to one senior and one middle school recipient which we felt best represented the science of radio and electronics.



Our first award, a \$100 check and a book on ham radio, for the Senior division, went to Hyun Jee Lim, for her entry, Environmental EMR Measurement and Shielding Phone Pocket Design. This project investigated the shielding properties of cloth materials containing various amounts of silver and stainless steel.



The second award, also \$100 and a book, for the Junior division, went to Priya Singh for her entry, WiFi Enhancers. This project investigated the performance of add-on cardboard and aluminum foil reflectors of various shapes which could be installed onto existing WiFi antennas. Ms. Singh said she was inspired by poor WiFi coverage in her room at home.

The VPRSF covers a large portion of central Virginia, and is a good opportunity for the AARC to promote amateur radio in front of a large crowd. A number of companies, NGIC, and schools are represented.

Not receiving an award, but who would have had we given one for enthusiasm, was one very young man who was demonstrating the classic science fair "Potato Clock" (potatoes, nails of dissimilar metals, and a small LCD clock module).

Me: So what did you learn?

Him: Well, it turns out that red and yellow potatoes work, but white ones don't. The clock was slow with the white ones.

Me: What do you think is different about the white potatoes?

Him: I think they have different bio-chemicals.

Me: Were you able to measure the voltage of each potato?

Him: Yes! I have a voltmeter.

Me: Did you get the same voltage from the white potatoes?

Him: Yes. It was the same.

Me: Hmm... (I suspected a bad connection, but wasn't about to go there.)

Him: Did you know you can run a lamp with potatoes, too?

Me: Really? A regular desk lamp?

Him: Sure. Bigger stuff, too. They're a lot more efficient now.

Me: The lamp LEDs are more efficient?

Him: No, the potatoes!

I hope he's back next year.



Our Science Fair judging team plus Jim Wilson. (Photo by Jim Wilson K4BAV)

# AARC Meeting Minutes

## Minutes for March 8, 2016 Meeting

**General Membership Meeting** -- The meeting was called to order by President Ed Berkowitz at 7 p.m. with 32 members present. He called for introductions of those present.

**Secretary's report:** Requested approval of the March minutes as published in the March newsletter. Minutes were approved as printed? We have three new members to vote into membership tonight. They are:  
Robert Romanki KL4CO  
Allen Ebel No Call Yet  
Paul Fisher KM4ABB  
The membership for all three was approved by unanimous vote.

**Treasurer's Report:** The treasurer filed the following report with the club.  
Balance as of 6/31/2015: \$8496.44  
Debits: \$300.58  
Credits: \$1568.62  
Balance as of 7/31/2015: \$9764.48  
The treasurer's report was approved by a majority vote.

### Other Reports

Bill Pond reported the repeaters were all back in service, and the newly repaired .925 at Marshall Manor was now operational and linked to the .760 at Heard Mt. We planned to install the link radio soon at Bucks Elbow (.895) which would re-establish the links among our 3 2-meter repeaters. (That has now been accomplished). I also reported that the newest Fusion repeater should be received soon, and after testing, would be installed, likely at Martha Jefferson Hospital.

Dave Damon, for Public Service, offered a plug for upcoming events, especially The Jefferson Cup Bike Races on April 3 and passed the clip board around for sign-ups.

Larry Eicher offered an update on Field Day preparations and invited any member interested in being on the committee to contact him.

**Program:** President Ed introduced Col. Steve Sellers, chief of the Albemarle County Police Department. Colonel Sellers briefed the members on the police communications system and demonstrated how his cell phone can be connected to the entire public service radio net – a step up from just a two-way police radio with limited frequencies. His entire presentation can be viewed from a link on our club website at: [www.albemarleradio.org](http://www.albemarleradio.org)

**New Business:** Ed surveyed the attendees to see if there was interest in a club trip to the Greenbank Observatory. Members responded in favor of such a trip.

**Old Business:** None reported.

The meeting was adjourned at 8:45 p.m.  
Patsy Crosby,  
Secretary

## Buy + Sale + Swap

**For the latest list, be sure to check the listing on the club website:**  
[www.albemarleradio.org](http://www.albemarleradio.org)

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**Editors Note: While you are on the club website to read the newsletter, please go to the SWAP FEST listings to check on the latest posts. The listings on the website are instantly reflected and much more accurate than those previously published within the newsletter due to the delay inherent in this process.**



Photo by Jim Wilson, K4BAV

## Elected Leadership 2016

Ed Berkowitz – N3US	President	eberkowitz@sbcglobal.net
Larry Eicher – K4JZQ	Vice President	tuzlu@comcast.net
Pat Crosby – K4PMC	Secretary	patcrosby73@gmail.com
Don Eason, Jr. – N4UVA	Treasurer	deason@comcast.net
Dave Damon – K4DND	Dir Public Services 1-YR	dnd@virginia.edu
Jim Owen – K4CGY	Dir Estate Services 1-YR	k4cgy@yahoo.com
Bill Pond – N0WP	Director Technical 1-YR	n0wp@arrl.net
Rick Oliver – W3KDR	Dir. Ed 2-YR	rickoliver45@hotmail.com
A.J. Miller– KE4AJM	Director Fundraising 2-YR	aj@ke4ajm.us
Paul McKee – AK4OH	Dir Pub Rel 2-YR	graphjim@gmail.com

Bill Pond was absent from the above picture

## Appointed Leadership 2016

Larry Eicher – K4JZQ	Field Day Chairman	tuzlu@comcast.net
Mark Gorlinsky – WA1A	Vol Exam Liaison	mgch@mac.com
Michael McPherson – KQ9P	ARES/RACES	mcperson@acm.org
Jim Owen – K4CGY	Club Stations Trustee	k4cgy@yahoo.com
Ron Richey – K4RKA	Swap Fest Coordinator	k4rka@juno.com
Jim Crosby – K4JEC	Beacon Editor	jamescrosby073@gmail.com
Michael Rein – KA4JJD	Awards Committee	mfr6t@virginia.edu
Michael McPherson – KQ9P	Webmaster	mcperson@acm.org

*That's all for now!*