

# HAM CHATTER



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## Spray-On Antennas Could Be the Wave of the Future, University Researchers Believe

Researchers at Drexel University's College of Engineering report a breakthrough in nanomaterials technology that promises to make installing an antenna as easy as applying sunblock or bug spray. The University reported the research in a DrexelNOW article, "Drexel's Spray-On Antennas Could Be the Tech Connector of the Future." The advance could mean wearable and invisible antennas that could find their place in the next generation of the Internet of things (IoT), and even have Amateur Radio applications.

"The ability to spray an antenna on a flexible substrate or make it optically transparent means that we could have a lot of new places to set up networks," said Drexel Wireless Systems Laboratory Director and engineering professor Kapil Dandekar, a co-author of the research published recently in Science Advances.

"This technology could enable the truly seamless integration of antennas with everyday objects which will be critical for the emerging Internet of things," Dandekar said.

In their paper, Dandekar and his colleagues laid out a method for spraying invisibly thin antennas made from a type of two-dimensional metallic material called MXene — a conductive, two-dimensional titanium carbide material — which can be dissolved in water to create an ink or paint. They said the exceptional conductivity of the material enables it to be employed as an RF

radiator even when applied in a very thin, nearly invisible coating. The MXene antennas perform as well as those now being used in mobile devices, wireless routers, and other devices, the Drexel researchers said. In addition, the MXene materials were shown to be 50 times better than graphene and 300 times better than silver ink antennas in terms of preserving the quality of RF transmission.

"Current fabrication methods of metals cannot make antennas thin enough and applicable to any surface, in spite of decades of research and development to improve the performance of metal antennas," said Yury Gogotsi, director of the A.J. Drexel Nanomaterials Institute, who initiated and led the project PhD. "We were looking for two-dimensional nanomaterials, which have sheet thickness about 100,000 times thinner than a human hair; just a few atoms across, and can self-assemble into conductive films upon deposition on any surface. Therefore, we selected MXene as a candidate for ultra-thin antennas."

Unlike existing nanomaterial fabrication methods that require several steps, the Drexel research team's spray-on antennas can be fabricated in a single step by airbrush spraying a water-based MXene ink, Anasori said

Read more @ <http://bit.ly/2y7ohYU>

## Next Meeting October 9, 2018

The Brightleaf Amateur Radio Club will have its next regular meeting at 7:00 PM Tuesday, October 9, at VFW Post 7032 on 1108 Mumford Road in Greenville. The program will be by Robert Young, NC4RY, founder, designer and technical support for the screwdriver Tarheel Antennas

**All members, families and guests are invited to attend.**

**BEGINNING WITH THE OCTOBER MEETING, THE START TIME WILL BE 7:00 PM**



NC4RY

## BARC Board Meeting New Start Time 7PM

The next board meeting will be Tuesday, October 30, at 7:00 PM at the Offices of Monday & Monday, (CPA), Suite D, East Victoria Court. All members invited.

**Ham Radio will be Represented at 9th Annual World Maker Faire in New York City**

The Garden School (K2GSG) and Hall of Science Amateur Radio clubs (ARC) in New York City will join forces this month to put Amateur Radio on display during the 9th annual [World Maker Faire NYC](#) at the New York Hall of Science in Corona, Queens, September 22 – 23. Last year’s World Maker Faire NYC drew some 90,000 attendees. The Garden School’s ham radio club advisor and science teacher John Hale, KD2LPM, said participating youngsters will introduce Amateur Radio and mentor attendees in constructing small, electronic “Maker Key” Morse code oscillators. The project helped Garden School win a blue ribbon at last year’s Maker Faire.

Something new this year: Visiting radio amateurs will be able to build a tape-measure Yagi for satellite or terrestrial use. In cooperation with the Hall of Science ARC, radio amateurs will attempt to make satellite contacts with the tape-measure Yagis as a demonstration, Hale said.

The Hall of Science will host a working HF radio demonstration called “When Disaster Strikes, Amateur Radio is Ready.” Radio amateurs will be on hand to operate the radios and encourage those attending the Faire to attempt to make some contacts.

Read more @ <http://bit.ly/2P9do3o>

**Next VE Session**

Exams will be held on Tuesday, October 16, 2018 at VFW Post 7032 on 1108 Mumford Road in Greenville, NC. Exams will start promptly at 6:30 PM. For more info email Gary, KK4GC at [ve@w4amc.com](mailto:ve@w4amc.com). (remove spaces) Study material at <http://www.arrl.org/coursestraining>. Walk-ins welcome.

Please bring the following required:

- Photo ID (drivers license)
- Original Amateur Radio License
- Copy of Amateur Radio License
- Original CSCE’s
- Copy of CSCE
- Test fee is \$15.00 .
- Proof of Tech Plus if before 3/21/87 and doing paper upgrade to General.
- SS Number will be needed if you don’t have an FRN number. \*

\* More info at <http://bit.ly/1FOhE1S>.

**NC ARES Internet**

<http://www.ncarrl.org/ares/>

**Pitt County ARES EC needed!**



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*Happy Birthdays*

Brightleaf Amateur Radio Club members birthdays in October.

- 19 KO4COL Donald Bradshaw
- 28 K4BMH Byron Highland
- 31 K4ZYD Terry Monday

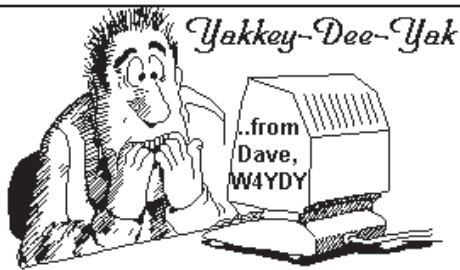
*Well Wishes*

Thoughts and Prayers go out to the following:

Please inform Joe Jeansonne, KB4JOE, of any changes.

Additions or corrections to KB4JOE

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### WNCT - Hazel experience

Another hurricane has come and gone, but much hardship is still around for those that were affected by the floods that resulted. Except for the South part of Pitt County that had a lot of flood damage and other damage, Pitt County was lucky that there was not too much damage as some of the past storms. There was a lot of talk on the TV about Hurricane Hazel damage to the Wilmington area in 1954. The center of the eye came in about 1 1/2 miles south of the NC/SC line and went straight up over Zebulon. I was at my parent's home in Aurora and there were trees down and other damage down there. Of course back then, any thunderstorm caused a loss of electricity there also. Two or three times a week was common. There was a Channel 4 antenna on the top of our 2 story house strapped to the chimney that came up through the middle of the house. Hazel broke the chimney at the roof line and sent the antenna and bricks to the ground. The antenna was used to pick up WTAR-TV in Norfolk, 110 miles to the North. There was no TV in Eastern NC when the antenna was installed 2 or 3 years earlier. The hurricane passed through October 15, 1954.

I went back to Greenville the day after Hazel passed through North Carolina. The area around Morehead City was in bad shape and there was no phone service down there. WNCT-TV was trying to get reports by any means possible but there was not much coming from the coast on the damage. After talking with Hank Tribbley, W4JVP,

Chief Engineer, and Heber Adams, W4GDF, Assistant Chief Engineer, we decided to set up an Amateur Radio station in the studio. Bill Covington, W4TES, and I were renting a house together in Greenville and we had a station set up that was his receiver, a National NC-125 and transmitter, a Johnson Viking II. I set them up on a table in the studio and with the help of others at the station, a 75 meter dipole antenna was installed out back on the tower. Don't remember exactly how high but I think the center was about 40 feet. We had a lot of 75 ohm RG59 cable at the station. We used about 200 feet from the radio in the studio through to props storage room out to the antenna. Don't know what the SWR was, but it worked. It wasn't the best setup but we were able to get on the air.

I was able to get on the air on the Tarheel Net on 3865 kHz. There was a station in Morehead City on frequency passing traffic. I called him and made contact. I don't remember his call sign. We told him we were going on live TV in the studio and wanted a report from him. When we went live, the announcer asked questions and I was the control operator for the radio. The announcer held a microphone up to the receiver speaker for the report from Morehead City. I don't remember much of the details of the conversation but everyone considered it a success. If I remember correctly, I think we did more than one live show with contacts to the coast. It's too bad it could not be recorded. The first practical TV video tape machine was invented a year later in 1956. It was built by Ampex and it used a 2 inch wide tape on a reel that cost \$200. It would only hold one hour of video.

### 147.09 Repeater

As far as I know, the next Amateur Radio Station at WNCT was and

still is the 146.09 repeater. In the summer of 1974, Hank, then the General Manager of the station, asked me to come down to talk to him about a repeater. At that time, I was living in Raleigh and our club, the Raleigh Amateur Radio Society (RARS), had a repeater on 146.64. When I went to see Hank, he asked me questions about getting help. He had the equipment except for an ID board. He also wanted to know about licensing and what frequency he could ask for from the group that is now SERA. I suggested 147.09 since it was vacant and it was at the Channel 9 studio. He jumped right on it! Hank applied for a repeater license with the FCC for a WR4 call sign. It was quite a complicated process back then and it took the FCC a few months to process.

I told him that the RARS would help with an ID board. One of the members designed the circuit and gave me the parts and a printed circuit board that had to be laid out and etched. He said it was easy. I had never done it before but somehow it worked out. It's the only printed circuit project that I ever did from scratch. Hank wanted to get on the air as soon as possible so I told him he could use my repeater call sign, WR4ACH, since I didn't have one on the air. I sent a letter of permission to the FCC and a copy to Hank that I saw later framed on the wall in their engineering room. I programmed the ID board using diodes for WR4ACH/4. It turns out that it was the only time my repeater call sign was used on the air. When the call was granted for the repeater 2 or 3 months later, Hank had it reprogrammed with their new WR4 call sign. The ID board was used for several years until they got a new repeater. When the FCC eliminated repeater call signs, Heber's call sign, W4GDF, was used on the repeater. – W4YDY

**BARC on Facebook**

At the last BARC meeting, it was suggested for BARC members to try and use Facebook to coordinate and communicate about BARC issues and activities.

To that end, I have started a W4AMC Facebook page that you can find with #W4AMC hashtag in the search function in Facebook. Members of the group can post comments, observation, suggestions and see the activities calendar.

There are polls that help the board get answers to what we should be doing. Please be nice, if what you are going to post on the page would hurt someone, then don't do it. No political rants, no commercial interests or promotions either. Let's be civil to each other and keep the language clean.

I have it such that you can post right now without a review board but can put that in if I have to. Remember folks, this is just a hobby! Let's keep it fun and start doing more interesting things with each other. I look forward to the fun we can all have in this hobby.

The W4AMC Page is here:

<https://www.facebook.com/w4amc/>

I also created two Facebook groups: one for internal communications of the club, comments, answers and suggestions trying to help run the club:

<https://www.facebook.com/groups/BrightleafARC/>

and one for general amateur radio interest for all local area hams that does not need to be a member of BARC.

<https://www.facebook.com/groups/W4AMC/>

When you go there, ask to join the two groups. If you join the Brightleaf group first, I think I set it up so that you are automatically part of the W4AMC-Friends group as well.

It should ask for your call sign as a check that you are a ham. Let's give this a shot and see if this makes communicating and having fun better and easier.

73, Peter, **N4PVH**

Peter Van Houten  
kg4wez (at) me.com

**August 2018 BARC VE Session Results**

On the August 21, 2018 BARC VE session, there was one candidate taking the FCC exams.

Alvan J. LaRocque, Greenville, passed all three elements to earn the Amateur Extra license.

The FCC assigned the Amateur Extra call sign, **KX4ND**, to Alvan on August 29, 2018.

Congratulation Alvan for your accomplishment and welcome to Amateur Radio. .

The VEs present were VE Liaison Gary Coriell, **KK4GC**, Al Mullis, **K4GOE**, Dan Wallace, **K4HMW**, Gary Faust, **N4PIR**, Gerald Sighman, **KN4CKL**, and Dave Langley, **W4YDY**.

The next regular BARC VE session is scheduled for October 16, 2018. - **W4YDY**



VEs grading Alan's exam. In the picture above, L-R, Alan, **KK4GC**, **N4PIR**, **K4HMW**, **K4GOE**, **KN4CKL**, **W4YDY** behind the camera!

# Ham Ads

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**Ham Ads will be run, free of charge in Ham Chatter for three months for each renewal. Ads must be received by the last week of the month to be included in the following issue.**

**Send ads to:  
Ham Chatter, PO Box 8387,  
Greenville, NC 27835, ATTN: Joe Jeansonne  
or email to: [hamchatter@w4amc.com](mailto:hamchatter@w4amc.com)(no spaces)**

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## Emergency Preparedness Takes Center Stage for 2018 Simulated Emergency Test

The 2018 ARRL Simulated Emergency Test (SET) is just ahead. The primary ARRL-sponsored national emergency exercise is designed to assess the skills and preparedness of Amateur Radio Emergency Service® (ARES®) volunteers, as well as those affiliated with other organizations involved with emergency and disaster response. Although the main SET weekend this year is October 6 – 7, local and Section-wide exercises may take place throughout the fall. Those who already take part in public service and emergency activities are getting ready for the annual SET, a dress rehearsal, next month. But, the 2018 ARRL SET is an open casting call for all radio amateurs interested in expanding their emergency preparedness knowledge and skill.

The annual SET encourages maximum participation by all Amateur Radio operators, partner organizations, and national, state, and local officials who typically engage in emergency or disaster response.

In addition to ARES volunteers, radio amateurs active in the National Traffic System, Radio Amateur Civil Emergency Service (RACES), SKYWARN™, Community Emergency Response Team (CERT), Salvation Army Team Emergency Radio Network (SATERN), and a variety of other allied groups and public service-oriented radio amateurs are needed to fulfill important roles in this nationwide exercise.

The SET allows volunteers to test equipment, modes, and skills under simulated emergency conditions and scenarios. Individuals can use the time to update a “go-kit” for use during deployments and to ensure their home station’s operational capability in an emergency or disaster.

At the national level, ARRL has established formal working relationships with partner organizations and agencies, such as the Federal Emergency Management Agency (FEMA), the American National Red Cross, the Salvation Army, the National Weather Service, the National Communications System, the Association of Public-Safety Communications Officials- International (APCO-International), Citizen Corps, National Voluntary Organizations Active in Disaster (NVOAD), REACT International, Society of Broadcast Engineers (SBE), United States Power Squadron, and Boy Scouts of America. [Details](#) on these organizations and how they work with ARRL and Amateur Radio operators are on the ARRL website.

To get involved, contact your local ARRL Emergency Coordinator or Net Manager. Check on upcoming planned activities through local, state, or Section-wide nets. If you don’t know already, find out who the Emergency Coordinator is and where the nearest [ARES group](#) meets. Your ARRL Section Manager should be able to assist.

Additional background on the annual SET is presented in the article, “2017 Simulated Emergency Test Results,” in the July 2018 issue of QST. Guidelines and specific [SET reporting forms](#) for ARRL Section and Field Organization leaders are posted on the ARRL website for use by Emergency Coordinators and Net Managers, or by Section leaders in charge of reporting this year’s SET activity. — Thanks to Steve Ewald, WV1X

via ARRL @ <http://bit.ly/2P9LqVc>



**Peggy Sue Gerron, ex-K5PSG, SK**

Peggy Sue Gerron, ex-K5PSG, of Lubbock, Texas, who inspired singer Buddy Holly's 1957 rockabilly hit "Peggy Sue," died on October 1. She was 78. First licensed in 2004 as KE5AKW, she later obtained the vanity call K5PSG. Her license expired in 2014, and K5PSG has since been reissued.

Her son-in-law, Tom Stathos, on Monday reminisced and told KCBD-TV in Lubbock that the song "Peggy Sue" initially had a different name. "It was originally going to be Cindy Lou (Holly's niece) and that he (Allison) wanted to impress Peggy Sue so he got Buddy to change the name."

Holly wrote several other popular songs, including "That'll Be The Day" and "Maybe Baby." He also penned the song-sequel "Peggy Sue Got Married."

Holly died in a Feb. 3, 1959, plane crash in Iowa that also killed Ritchie Valens and J.P. "The Big Bopper" Richardson.

After Holly's death in 1959, Gerron toured with The Crickets after the band got back together. Over the years, Gerron made public and media appearances all over the country.

She said her participation in the 2004 W5B special event in Lubbock commemorating Holly helped inspire her Amateur Radio aspirations. "You can do TV specials, and you can be interviewed by the very best DJs," she said, "but there is nothing like the feeling of putting your finger down, and transmitting your call sign, and having somebody answer back." - via ARRL @ <http://bit.ly/2Nluuct>



**Peggy Sue Gerron**

**NETS  
VHF/UHF**

- ◆ BARC Net, Mondays, 2000 on 147.09 MHz, W4GDF Repeater.
- ◆ Newport SkyWarn Tues. nights 2100E Grifton-146.685-88.5 tone
- ◆ Newport-145.450..... IRLP 8561 links to Columbia
- ◆ Jacksonville-147.000- 88.5 tone
- ◆ Oriental-147.210-151.4 tone
- ◆ 444 Newport-444.825- 88.5 tone
- ◆ Swansboro-146.760- 88.5 tone
- ◆ Grantsboro-145 230 - 85.4 tone.
- ◆ Kinston Amateur Radio Society Net, 1,3,4 Tuesdays, 2000 hrs. on 145.47 MHz., W4OIX repeater in Kinston.
- ◆ Eastern North Carolina Traffic Net, Every night, 2030 on 146.685 MHz.
- ◆ Wilson Amateur Radio Club Net, Thursdays @ 2000 on 146.76 MHz.
- ◆ Piedmont Coastal Traffic Net, Nightly 2030 on 146.88 MHz.
- ◆ Carteret County ARS (CCARS) Emergency Net, Tuesdays, 1930 on the Newport 145.45 (-) MHz.
- ◆ Coastal Emergency Linking Net, Wednesday, 2100 ET on Ahoskie 145.13, Buxton 145.15, Columbia 146.835 & 443.30, Elizabeth City 146.655, Greenville, 145.35, Hertford 147.33, Williamston 145.41 & 444.25

**HF**

- ◆ Tar Heel Emergency Communications Net on 3923 kHz Nightly 1930.

**NTS CW Nets**

- ◆ 3.571 2000 hours, slow speed (5-8 wpm) Carolinas Slow Net
- ◆ 3.573 1900 hours, high speed (20wpm)
- ◆ 3.573 2200 hours, slow speed (12-14 wpm), South Carolina/ North Carolina

**Greenville repeaters**

147.09/69 - 145.35/144.75

444.8/449.8

All use 131.8 tone

## BARC - 2018 CALENDAR OF EVENTS

SARL 80M QSOP ..... Apr 05  
 SP DX ..... Apr 07  
 Club Meeting ..... Apr 10  
 JIDX CW ..... Apr 14  
 Oakwood Topics ..... Apr 14  
 VE ..... Apr 17  
 Holyland DX ..... Apr 20  
 ES OPEN HF ..... Apr 21  
 CQMM DX ..... Apr 21  
 YU DX ..... Apr 21  
 Board Meeting ..... Apr 24  
 ARI Intl DX ..... May 05  
 CQ-M Intl DX ..... May 12  
 Club Meeting ..... May 08  
 Oakwood Topics ..... May 12  
 Board Meeting ..... May 22  
 CQ WW WPX CW ..... May 26

Asia Pacific Sprint SSB ..... Jun 09  
 GACW WWSA DX CW ... Jun 09  
 Club Meeting ..... Jun 12  
 Oakwood Topics ..... Jun 16  
 All Asian DX CW ..... Jun 16  
 VE ..... Jun 19  
 ARRL Field Day ..... Jun 23  
 Board Meeting ..... Jun 26  
 RAC Canada ..... Jul 01  
 Marconi HF ..... Jul 07  
 Club Meeting ..... Jul 10  
 Oakwood Topics ..... Jul 14  
 IARU HF ..... Jul 14  
 Jakarta DX 40M ..... Jul 21  
 Board Meeting ..... Jul 24  
 RSGB IOTA ..... Jul 28  
 European HF ..... Aug 04

Southern Africa HF SSB .. Aug 05  
 WAE DX CW ..... Aug 11  
 Club Meeting ..... Aug 14  
 Oakwood Topics ..... Aug 16  
 NA QSOP SSB ..... Aug 18  
 VE ..... Aug 21  
 YO DX HF ..... Aug 25  
 SARL HF CW ..... Aug 26  
 Board Meeting ..... Aug 28  
 All Asian DX SSB ..... Sept 01  
 WAE DX SSB ..... Sept 08  
 Club Meeting ..... Sept 11  
 Oakwood Topics ..... Sept 15  
 Scandinavian CW ..... Sept 15  
 UK/EI SSB ..... Sept 22  
 Board Meeting ..... Sept 25  
 SARL 80M ..... Oct 04

Oceania SX SSB ..... Oct 06  
 Club Meeting ..... Oct 09  
 Oakwood Topics ..... Oct 13  
 Oceania DX CW ..... Oct 13  
 VE ..... Oct 16  
 Asia Pacific CW ..... Oct 21  
 CQWW SSB ..... Oct 27  
 Board Meeting ..... Oct 23  
 Club Meeting ..... Nov 13  
 Oakwood Topics ..... Nov 17  
 Board Meeting ..... Nov 27  
 Club Meeting ..... Dec 11  
 Oakwood Topics ..... Dec 15  
 VE ..... Dec 18  
 Board Meeting ..... Dec 25

To:



**October 2018  
 Next Meeting  
 October 9, 2018**



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 Brightleaf Amateur Radio Club  
 PO Box 8387  
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