

**Cathay November 2019**

[www.cathayradio.org](http://www.cathayradio.org)

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**Mission:** The Cathay Amateur Radio Club is basically an active social club of Ham Radio Operators and their spouses. We support local community requests for HAM emergency communications. Several of us are trained in CPR/ First Aid and are involved with community disaster preparedness.

**Monday Night Net Time:** 9 PM Local Time/PST, Repeater: WB6TCS - RX 147.210, TX 147.810, Offset +0.6 MHz, CTCSS/Tone PL100 Hz

Please note: Repeater: N6MNV UHF 442.700 Mhz, Offset +5MHz, CTCSS/Tone PL 173.8 Hz in South San Francisco is cross linked every Monday Night Net at 9 p.m. to WB6TCS 2-meter repeater.

The CARC Monday night net is the best way to find out the latest club news. All check-ins are welcome.

**Message from the President:** George Chong, W6BUR

Hello CARC Members and Friends;

Many thanks to Mr. Denis L. Moore – WB6TCS for the use of his repeater for our CARC Monday Night Net.

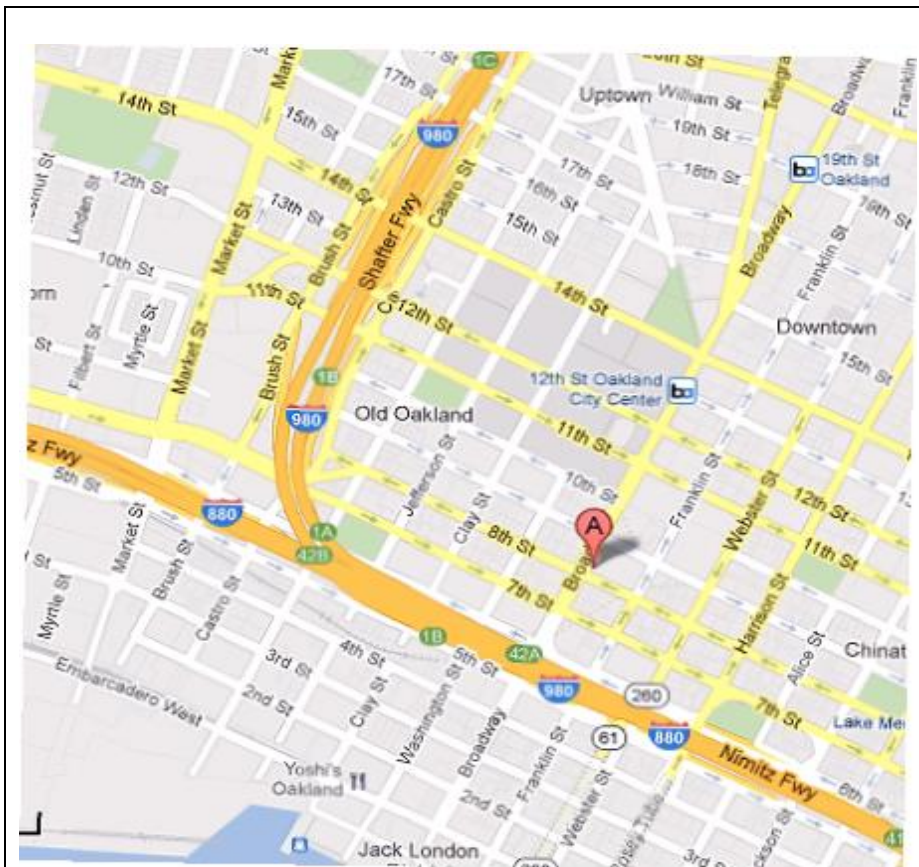
## **Save The Date: Monday, November 11, 2019 – Veteran Day Luncheon**

Please mark your event calendars and join us for the CARC annual luncheon celebration of Veteran's Day, 11am – 1pm on Monday November 11, 2019 at the restaurant below:

Buffet Fortuna  
800 Broadway Street  
Oakland, CA 94607  
(510) 839-1688 web address - <http://www.bufferfortuna.com/>

The restaurant is an all you can eat American, Japanese and Chinese seafood buffet style food. The cost is \$11.99 per person and for seniors (62+) it is \$10.99. All soft drinks, coffee and tea are included with the price plus tipping is optional. The dining time is limited to 2 hours, however have never seen it enforced for the luncheon period. Of course, it does help a lot that CARC member Gilbert Gin, (KJ6HKD) is planning on attending and he has considerable influence with the restaurant owners. I am usually stuffed to the gills within the first hour of eating the delicious food. It is truly a bargain value luncheon.

Map of the restaurant location is shown below:



## **Annual CARC Christmas Party Intro**

Distinguished CARC Member: Ed Fong is hosting the annual CARC Christmas Party at his home from 6-10pm Saturday December 14, 2019.

Ed's Christmas parties are a south bay legend, nobody leaves hungry nor empty handed. Further details are contained in this newsletter.

## **Tech Article Introduction**

This month's Tech Article is about a topic near and dear to us HAM Radio folks, the creators of the ubiquitous lithium-ion battery that powers most of our portable electronic devices (i.e. smart phone, lap top computers, Ham radios, car openers, etc.)

The 2019 Nobel Chemistry prize for the development of the lithium-ion battery has been awarded to three scientists:

- Stanley Whittingham (age 78): He is currently a [professor](#) of chemistry and director of both the Institute for Materials Research and the [Materials Science and Engineering](#) program at [Binghamton University](#)
- John B. Goodenough (age 91)– At the age of 97 he is the oldest person to receive a Nobel Prize and today still remains actively working at the University of Texas at Austin. He is current working on a solid-state battery.
- Akira Yoshino (age 71) – He is a Fellow of [Asahi Kasei](#) Corporation and professor of [Meijo University](#)

One thing of special note is all three 2019 Chemistry Nobel laureates are still working well past the normal retirement age of 65 years old. Further information is in this newsletter.

## **Additional Thoughts**

I wish to thank our CARC members that set aside their valuable time to participate in our Monday night's nets.

Chat sub s'em to all you CARC members! - George W6BUR.

## Public Service Announcements

### **HAM CRAM / HAM Licensing**

For upcoming HAM Licensing locations please refer to:

<http://www.arrl.org/find-an-amateur-radio-license-exam-session>

### **Auxiliary Communications Service (ACS)**

The Auxiliary Communications Service (ACS) was organized by the San Francisco Office of Emergency Services (OES) following the 1989 Loma Prieta Earthquake to support the communications needs of the City and County of San Francisco when responding to emergencies and special events.

The Auxiliary Communications Service holds General Meetings on the third Tuesday of each month at the San Francisco Emergency Operations Center, 1011 Turk Street (between Gough Street and Laguna Street), from 1900 hours to 2100 hours local time. All interested persons are welcome to attend.

The ACS Net begins at 1930 hours (7:30 p.m.) local time each Thursday evening, on the WA6GG repeater at 442.050 MHz, positive offset, tone 127.3 Hz. The purpose of this net is to practice Net Control skills, practice checking in with deployment status in a formal net, and to share information regarding upcoming ACS events. Guests are welcome to check in. ACS Members should perform Net Control duty on a regular basis. On the second Thursday of each month, the net will be conducted on the output frequency of the WA6GG repeater, 442.050 MHz no offset, tone 127.3 Hz, simplex.

For more information, please attend an ACS meeting or check in on a net, or call 415-558-2717.

Upcoming meetings: Tuesday 7pm, November 19, 2019

### **Gilbert Gin (KJ6HKD)**

Free Disaster Preparedness Classes In Oakland:

<http://www.oaklandnet.com/fire/core/index2.html>

CORE is a free training program for individuals, neighborhood groups and community-based organizations in Oakland. The underlying premise is that a major disaster will overwhelm first responders, leaving many citizens on their own for the first 72 hours or longer after the emergency.

If you have questions about the recertification process, you may contact the CORE Coordinator at 510-238-6351 or [core@oaklandnet.com](mailto:core@oaklandnet.com).

**Free Disaster Preparedness Classes In San Francisco – NERT Taught by San Francisco Fire Department (SFFD).**

<http://sf-fire.org/calendar-special-events>

Upcoming events

**November 2019**

- 6 NERT Quarterly Meeting - all NERTs welcome
- 9 2MCM Ham Radio practice  
No RSVP needed. Meet at Spreckels Lake in Golden Gate Park at 10am
- 16 NERT Training Day - Third Saturday  
Featured Trainings:  
Coordinators Corner - for Neighborhood Coordinators and those interested  
TBD  
TBD

**December 2019**

- 14 2MCM Ham Radio practice  
No RSVP needed. Meet at Spreckels Lake in Golden Gate Park at 10am
- 21 NERT Training Day - Third Saturday  
Featured Trainings:  
Coordinators Corner - for Neighborhood Coordinators and those interested  
TBD  
TBD

\***SFFD DOT** is the Fire Department Division of Training. All participants walking, biking or driving **enter through the driveway gate on 19th St.** between Folsom and Shotwell. Parking is allowed along the back toward the cinderblock wall.

Visit [www.sfgov.org/sffdnert](http://www.sfgov.org/sffdnert) to learn more about the training, other locations, and register on line. Upcoming Special NERT Events.

**San Francisco Police Department: Auxiliary Law Enforcement Response Team (ALERT)**

The Auxiliary Law Enforcement Response Team (ALERT) is a citizen disaster preparedness program designed. The ALERT program is for volunteers 16 years of age or older, who live, work, or attend high school in San Francisco.

Graduates of the San Francisco Police Activities League (P.A.L) Law Enforcement Cadet Academy are also eligible to join.

ALERT volunteers will first complete the Fire Department's Neighborhood Emergency Response Team (NERT) ([www.sfgov.org/sfnert](http://www.sfgov.org/sfnert)) training and then graduate into an 8 hour Police Department course specifically designed for ALERT team members.

ALERT members will work closely with full-time and/or Reserve Police Officers in the event they are deployed after a disaster. The Basic ALERT volunteer will have no law enforcement powers other than those available to all citizens.

### **SFPD ALERT Training (New Members)**

The next SFPD ALERT training class has been scheduled for Saturday February 01, 2020 from 8 AM – 5 PM. The class will be held at the San Francisco Police Academy, in the parking lot bungalow, from 8am-5pm (one hour lunch break) on Saturday.

**\*\*** Class date indicated are only for new members who have not completed either SFFD NERT training or the SFPD Community Police Academy.

**IMPORTANT-** All participants must complete the background interview process in order to be eligible to attend the ALERT training class.

Eligible ALERT participants may register for a training class by contacting the ALERT Program Coordinator, Mark Hernandez, at [sfpdalert@sfgov.org](mailto:sfpdalert@sfgov.org), or by telephone at 415-401-4615.

### **SFPD ALERT Practice/Training Drill**

All active/trained ALERT members are asked to join us for our next training drill, scheduled for on Saturday February 8, 2020 from 9 AM – 1pm. Details will be emailed to active ALERT members, prior to the date of the exercise. Participation is not required, but strongly encouraged.

For more information on the San Francisco Police Department ALERT Program, email us at [sfpdalert@sfgov.org](mailto:sfpdalert@sfgov.org), or call Sergeant Mark Hernandez (SFPD, Ret.), SFPD ALERT Program Coordinator, at (415) 401-4615.

For additional information on the web please refer to:

<https://sfgov.org/policecommission/alert>



# Annual CARC Christmas Party

**Time/Date:** Saturday, December 14 6-10 PM

**Format:** Potluck – bring your favorite dish.

**Door Prize** - Lenovo Thinkpad PC, Radioddity Quad band 25 watt transceiver and more– **each attendees gets one raffle ticket for FREE.**

**Where:** 1163 Quince Ave. Sunnyvale, CA -

Best directions given on [www.googlemaps.com](http://www.googlemaps.com) Call if you get lost 408-245-8210

This year we will not only have unsurpassed prizes but a few new World Famous folks have promised to attend.

Do you folks know of Prof. Hiroki Kato's AH6CY (formerly of Harvard University) work on preserving the history of WWII spy radios? Meet him in person. He is an authority on WWII secret organizations such as SOE (special operations executives). These were the brave folks that snuck into enemy lines and provide vital information to win the War. He is a fascinating person and just a world of knowledge. He was only 3 years old when the Bomb dropped in Hiroshima and he survived.

Doug Hendricks KI6DS - says he will come by. Doug is founder of world famous QRP Kits. He is fascinating person having taught high school physics as a career and having a love for QRP and starting a very successful kit building company.

There is no excuse not to attend. Not only that, it is FREE to all attendees. Just bring a dish to share. If you have ever been to our Cathay Radio Christmas Party, you know this is the event to taste foods from all over the world. Does not matter whether you like – barbecue ribs, salads, seafood, Chinese, Mexican, Italian, Korean, it will be there. All kinds of desserts served at the dessert table. Get ready to eat your heart out and meet new friends as well.



Just some of the food at last year's event.

Get a chance to meet some really cool folks that are movers and shakers in the Silicon Valley. Dr. Steven Stearns, Keith Synder, Ron Quan, Nick Cassarino, Jim Walker.

**Rules for the raffle** - Every attendee will receive one raffle ticket - no charge at the door. This will make you eligible for the grand prize. This is our way of saying thank you for your support during the year at the events we have held.





**1st Prize Lenovo – Thinkpad X240** i5 processor with 8GB of memory and 500 GB of hard drive

Windows 10 operating system

CNET rates this laptop a 4.3/5

Up to 15 hours battery life.

PC benchmark 4,717 - very respectable.

Less than 3 pounds 0.8 inches thick

USB 3.0

12.5 inch screen - just perfect to carry around.

Intel HD4400 graphics processor

USB 3.0

Intel Cetrino Wifi.



**2<sup>nd</sup> prize Radioddity QB25** (same as the QYT 7900SD) new Quad Mobile 25 watt transceiver.

This radio boast 200 memories, full software programmability, great bullet proof front end with 0.25 uV sensitivity, full FM broadcast radio, direct microphone key pad entry, absolutely the best color display out there and more.

If you have been looking to get on 220 MHz, this is the latest and greatest. You will be a proud owner of one of these radios.

Comes programming cable and programming software.

The Frequency coverage:

- 65-108 MHz – FM broadcast – receive only
- 136-174 MHz – VHF – TX/RX
- 210-230 MHz - TX/RX
- 350-400 MHz TX/RX (not an amateur band in the US)
- 400- 520 - MHz - TX/RX

Full CTSS and DCS coding

Power – 10/25 watt (user programmable)

I will have this radio pre-programmed to most of the Bay Area VHF 2 meter, 220 MHz and 70cm repeaters. I will gladly edit channel list free of charge to the winner.

Of course, we will have many other prizes such as state items: LED 3 watt flashlight, digital multi-meter, tools, etc.

So mark your calendars. You must be present to win.

- Ed Fong *WB6IQN*

# Tech Article



## The Nobel Prize in Chemistry 2019

The Royal Swedish Academy of Sciences has decided to award the Nobel Prize in Chemistry 2019 to

**John B. Goodenough**

The University of Texas at Austin, USA

**M. Stanley Whittingham**

Binghamton University, State University of  
New York, USA

**Akira Yoshino**

Asahi Kasei Corporation, Tokyo, Japan  
Meijo University, Nagoya, Japan

“for the development of lithium-ion batteries”

October 9, 2019

<https://www.nobelprize.org/prizes/chemistry/2019/press-release/>

The Nobel Prize in Chemistry 2019 rewards the development of the lithium-ion battery. This light-weight, rechargeable and powerful battery is now used in everything from mobile phones to laptops and electric vehicles. It can also store significant amounts of energy from solar and wind power, making possible a fossil fuel-free society.

Lithium-ion batteries are used globally to power the portable electronics that we use to communicate, work, study, listen to music and search for knowledge. Lithium-ion batteries have also enabled the development of long-range electric cars and the storage of energy from renewable sources, such as solar and wind power.

The foundation of the lithium-ion battery was laid during the oil crisis in the 1970s. Stanley Whittingham worked on developing methods that could lead to fossil fuel-free energy technologies. He started to research superconductors and discovered an extremely energy-rich material, which he used to create an innovative cathode in a lithium battery. This was made from titanium disulphide which, at a molecular level, has spaces that can house – intercalate – lithium ions.

The battery’s anode was partially made from metallic lithium, which has a strong drive to release electrons. This resulted in a battery that literally had great potential, just over two volts. However, metallic lithium is reactive and the battery was too explosive to be viable.

**John Goodenough** predicted that the cathode would have even greater potential if it was made using a metal oxide instead of a metal sulphide. After a systematic search, in

1980 he demonstrated that cobalt oxide with intercalated lithium ions can produce as much as four volts. This was an important breakthrough and would lead to much more powerful batteries.

With Goodenough's cathode as a basis, **Akira Yoshino** created the first commercially viable lithium-ion battery in 1985. Rather than using reactive lithium in the anode, he used petroleum coke, a carbon material that, like the cathode's cobalt oxide, can intercalate lithium ions.

The result was a lightweight, hardwearing battery that could be charged hundreds of times before its performance deteriorated. The advantage of lithium-ion batteries is that they are not based upon chemical reactions that break down the electrodes, but upon lithium ions flowing back and forth between the anode and cathode.

Lithium-ion batteries have revolutionised our lives since they first entered the market in 1991. They have laid the foundation of a wireless, fossil fuel-free society, and are the greatest benefit to humankind.

John B. Goodenough, born 1922 in Jena, Germany. Ph.D. 1952 from the University of Chicago, USA. Virginia H. Cockrell Chair in Engineering at The University of Texas at Austin, USA.M.

Stanley Whittingham, born 1941 in the UK. Ph.D. 1968 from Oxford University, UK. Distinguished Professor at Binghamton University, State University of New York, USA.

Akira Yoshino, born 1948 in Suita, Japan. Ph.D. 2005 from Osaka University, Japan. Honorary Fellow at Asahi Kasei Corporation, Tokyo, Japan and professor at Meijo University, Nagoya, Japan.

Prize amount: 9 million Swedish krona, to be shared equally between the Laureates.

Further information: [www.kva.se](http://www.kva.se) and [www.nobelprize.org](http://www.nobelprize.org)

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The Royal Swedish Academy of Sciences, founded in 1739, is an independent organisation whose overall objective is to promote the sciences and strengthen their influence in society. The Academy takes special responsibility for the natural sciences and mathematics, but endeavours to promote the exchange of ideas between various disciplines.