

Cathay September 2019

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.

Special Article Introduction:

Once in a while we need to take a step back from the HAM world and appreciate the scientists that develop everyday products to improve our daily lives.

One notable scientist is Ms. Margaret Wu, Ph,D, the developer of Mobil One motor oil used in our automobiles.

There are folks in the racing industry that swear by that product. It is not an urban legend in spite of what has been stated in other publications. Keep in mind it is not a product for everyone so you have to make your own informed decision.

Tech Session Introduction

CARC member Ed Fong – *WB6IQN* is hosting a Tech Session on the topic of the new and latest FT-8 Digital Radio Mode. The Tech Session will be held on Saturday September 14, 2019 – 12 noon – 3PM at Ed's home.

Please read on further in this newsletter for further details.

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, September 17, 2019
.....Tuesday 7pm, October 15, 2019
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.

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

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

Upcoming events

September 2019

- 14 2MCM Ham Radio practice 10am
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
- 28 SFPD ALERT (Aux. Law Enforcement Response Team)
Program is designed to train volunteers to assist officers of the
San Francisco Police Department in the execution of their duties primarily
after a disaster
Visit website to Sign Up. Background check required so sign up early

October 2019

- 11,12,13 Fleet Week Humanitarian Assistance Village NERT Info Booth
- 12 2MCM Ham Radio practice
No RSVP needed. Meet at Spreckels Lake in Golden Gate Park at 10am
- 19 NERT Citywide Drill, NERT graduates and victims needed
SAVE THE DATE

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 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) 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, September 28, 2019. 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, 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 November 2,2019 (Night Drill). 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, 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>

Special Article on Ms. Margaret Wu, PhD



Ms. Margaret Wu, in 2007 a senior scientific adviser at ExxonMobil Research & Engineering, in Annandale, N.J., has been recognized as a top industrial chemist for her “creative and outstanding research contributions leading to breakthrough synthetic lubricant products of considerable commercial and environmental importance.”

In addition to synthetic lubricants, Wu’s research has contributed significantly to technology in areas as diverse as polymer synthesis, homogeneous and heterogeneous catalysis, and zeolite chemistry. “

The knowledge and exposure to science in different areas early in my career has provided me a fertile ground for developing synergies and novel solutions that would not have been obvious if I had focused only in one area,” she says.

Margaret has essentially revolutionized how automobile and industrial lubricants are designed and synthesized,” notes colleague Hsueh-Chia Chang, a chemical engineering professor at the University of Notre Dame, in Indiana. “By using combinatorial high-throughput testing and molecular-level insight, she can judiciously select the plethora of additives and functional groups needed to tailor lubricants for different operating conditions. She designs lubricants like molecular biologists design new anticancer drugs.”

In the early 1980s, Wu did pioneering work to produce ethylene from methanol in high yields by using proprietary zeolite catalysts. But her major discovery came a few years later when she took advantage of her experience to develop a new class of synthetic oil hydrocarbon base stocks. These antiwear fluids are used in the Mobil1 with SuperSyn brand of synthetic automotive engine oil and other products. They help improve engine oil life, reduce engine wear, and improve fuel economy.

Wu, 56 (2007) was born and raised in Taiwan. She received a B.S. degree in chemical engineering from Taipei Institute of Technology in 1970. She then traveled to the U.S. for graduate studies and received a Ph.D. in physical organic chemistry from the University of Rochester in 1976.

After a short stint as a process chemist with American Cyanamid, Wu joined Mobil’s Petrochemicals Division in Edison, N.J., in 1978. In 2002, she became the first woman to be named to the prestigious rank of senior scientific adviser at ExxonMobil. In addition to many internal company awards, she received the Thomas Alva Edison Award in 2005 from the New Jersey R&D Council for her accomplishments.

In her own words:

Margaret Wu: Breaking barriers

Date: April 5, 2019

For me, overcoming professional barriers is all in a day's – or life's – work.

I began my career in 1976 as the first woman with advanced degrees to work at ExxonMobil's renowned research lab in Edison, New Jersey. Fast-forward to today, a few years after my retirement, and I am the first woman from ExxonMobil to be inducted into the National Academy of Engineering, a top honor for any scientist.

I'm very proud to have those bookends to my career.

Over my 40 years at the company, I pioneered and collaborated with many talented scientists on several innovations that led to my authorship of more than 100 U.S. patents. Among these breakthroughs was the creation of a new class of synthetic lubricant that offered greater energy efficiency and protection. That product, which took my team and me decades to develop, is still used in Mobil 1 formulations.

As I pushed forward synthetic lubricant research throughout the years, I also witnessed firsthand a shift in the makeup of my workplace. Frankly, in the 1970s, there were few woman scientists or engineers in the lab. But that has changed. Over the years, I have been heartened to see the growing number of women joining and taking leadership roles in research at ExxonMobil.

In 2016, I fully retired after working for several years as emeritus senior science advisor, the highest-ranking technical position in the company. I am proud of what I was able to accomplish with my team and am excited to pass the baton on to other women scientists.

If my work taught me anything, it's that there's always something new to discover.

I look forward to watching the next generation of scientists and engineers create an even more energy-efficient future.

Source material:

- <https://www.njacs.org/news-and-views/2007-industrial-chemistry-award>
- <https://energyfactor.exxonmobil.com/behind-the-energy/margaret-wu/>

Tech Session in Sunnyvale Saturday Sept 14th. (includes free lunch)

Time: Saturday September 14, 2019 – 12 noon – 3PM

Topic: FT-8 Explained with Live Demo – Leonard Tom NX6E

Place: 1163 Quince Ave. Sunnyvale, 408-245-8210

Menu - lasagna, pizza, salad, drinks, and chips. Chocolate Mouse cake for dessert.

Optional – bring a desert to share

Cost: FREE - Raffle Tickets: \$5 each

Grand Prize - Lenovo i5 ThinkPad - 8GB of RAM 500GB harddrive

Directions:

If you need precise directions from where you are coming from, go to www.googlemaps.com. They seem to give the best directions or give me (Ed Fong) a call on the phone.

This Tech Session event is after the Fry's Swapmeet. Before going home, come on by and have a great lunch and meet new friends. Why pay for lunch after the swap? Drop by, save your money and have lunch and learn all about FT-8.

This year CARC member, Leonard NX6E will give a live demonstration of FT-8 (Franke and Taylor), the amazing mode that Nobel Prize winner Princeton Professor John Taylor K1JT created with his colleague Steve Franke K9AN. If you have not seen this mode operate, your jaws will drop.

I have used FT-8 where all one heard was noise - way beyond that of even a CW signal but FT-8 message was error free. One would think that being able to detect signals -20 dB below the noise would be impossible – not so. If you work out the math with stochastic processing and multi transmission of signals at different times and phases, it can indeed work. FT-8 only occupies 50 Hz of bandwidth. These techniques were first developed for long distance satellite communications. This is why we can still communicate with Voyager which was launched 20 years ago is way beyond the solar system.

20 dB is like 100x. So your 1 watt transmitter on SSB is like 100 watts on FT8. Even a better comparison is your 100 watts (typical for today's HF radios) is like 10,000 watts using FT8. During these sun spot minimums, FT-8 is a great way to go. Using FT-8 moon bounce is practical out of an apartment balcony.

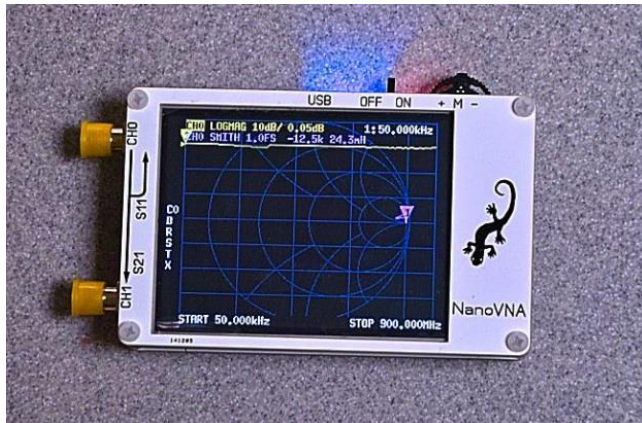
This promises to be great live presentation.

Raffle prizes – tickets are \$5 each – below are the top 4 prizes.



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.



2nd Prize Nano VNA - 50KHz - 900 MHz full featured 2 – port VNA (network analyzer) - Test S11, S22, S21 and S12. Complete touch screen.

Tuned filters, duplexers, antennas. etc, just like the professionals. Complete with calibration kit and cables.



3rd Prize Radioddity QB25 - Quad Band 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 with programming cable and programming software.

4th Prize UV5R Baofeng dual band handie talkie



4th Prize UV5R Baofeng dual band handie talkie

- VHF/UHF handie talkie 136-174 MHz 400-520 MHz
- 128 fully programmable channels
- Lion 1800 mAh battery with smart charger
- Built in LED flashlight
- 4 watts output
- FM broadcast radio (65-108 MHz)

Ed Fong - WB6IQN