



Cathay October 2025

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, As of 8/21/2023 we are switching over from using Repeater: WB6TCS to **Nick Cassarino's Repeater: WA6GEL UHF 444.800 Mhz, Offset +5 Mhz, CTCSS/Tone PL 179.9 Hz on Monument Peak, Milpitas. If you are in the North Bay, one can use the WA6GEL repeater North Bay located on Mt. San Bruno - 444.8 MHz offset +5 Mhz, CTCSS/Tone PL173.3 Hz**

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

Message on Behalf of the President: Leonard Tom, *NX6E*

Hello CARC Members and Friends;

Many thanks to both Nick Cassarino for the use of repeater – WA6GEL for our CARC Monday Night Net.

Additional folks are needed to help out with conducting the CARC radio net on Monday nights. Please contact Ed Fong (edison_fong@hotmail.com) if you are interested.

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

Introduction to Tech Section:

This article is a reminder both Flu and COVID-19 shots are now available. I urge our older and those at-risk members to get the shots. COVID-19 infections again on the rise. CDC message about staying up to date with the COVID-19 Shot:
<https://www.cdc.gov/covid/vaccines/stay-up-to-date.html>

Check out an emerging breakthrough diagnostic test for a whole range of diseases such as COVID to Cancer. It offers enhanced sensitivity and rapid turn around results

For more details, see the Tech Section of this newsletter.

Urgent Request from Ed Fong that needs action from our HAM community.

See details at bottom of newsletter about removing restrictions on HAMs ability to install antennas.

CARC Final News Wrap Up

Chat sub s'em to all you CARC members! - Leonard Tom, NX6E

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) is a unit of trained professionals who supply communications support to the agencies of the City and County of San Francisco, particularly during major events/incidents. ACS goals are the support of gathering and distribution of information necessary to respond to and recover from a disaster.

The ACS Net begins at 1930 hours (7:30 p.m. PT) 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 perform Net Control duty on a regular basis. On the second Thursday of each month, the net is conducted in simplex mode on the output frequency of the WA6GG repeater, 442.050 MHz no offset, tone 127.3 Hz.

ACS holds its General Meetings on the third Tuesday of each month from 1900 hours to 2100 hours local time. Currently meetings are exclusively conducted over Zoom during the COVID-19 pandemic, ACS looks forward to meeting in person again as soon as possible.

Upcoming meeting dates in 2025 are:

- October 15, 2025
- November 19, 2025

Location of in person future ACS meetings are yet to be determined as the regular location is under reconstruction. All interested persons are welcome to attend. For further information contact Corey Siegel KJ6LDJ <kj6ldj@gmail.com>.

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

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

<https://sf-fire.org/nert/nert-calendar-meetings-trainings-events>

Training Classes: see above website. TBD

+ Recertifications

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 no longer need to complete the Fire Department's Neighborhood Emergency Response Team (NERT) (www.sfgov.org/sfnert) training and then graduate into two 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: TBD

*Class date indicated are only for new members

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, marina.chacon@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, via scheduled for on TBD

For more information on the San Francisco Police Department ALERT Program, email us at sfpdalert@sfgov.org, or call Lt. Marina Chacon (SFPD Ret.), SFPD ALERT Program Coordinator, at (415) 401-4615.

For additional information on the web please refer to:

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

Tech Article

UC Berkeley News

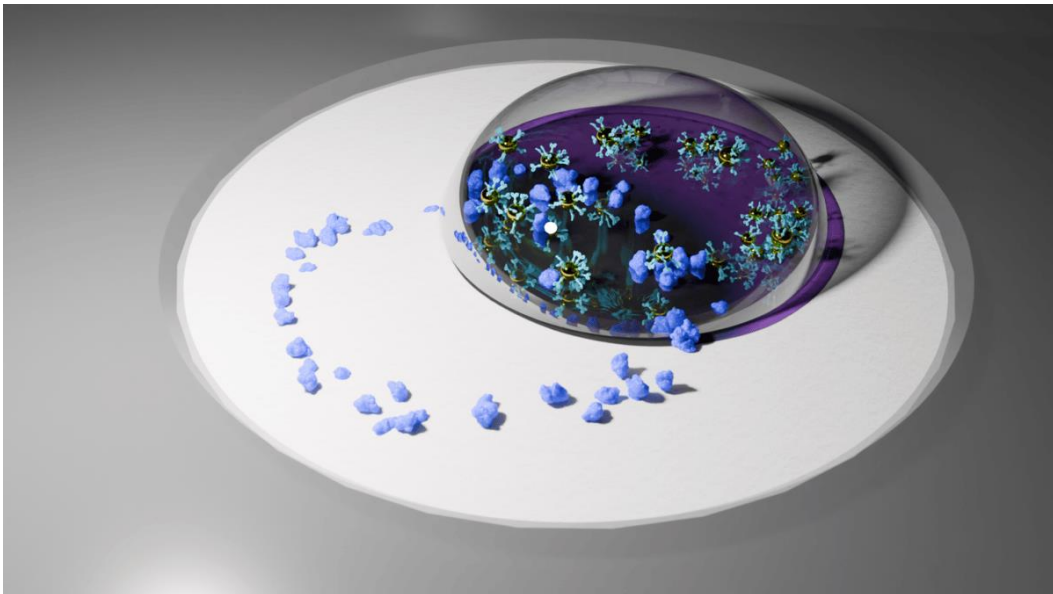
Technology & engineering

<https://news.berkeley.edu/2025/07/08/from-covid-to-cancer-new-at-home-test-spots-disease-with-startling-accuracy/>

From COVID to cancer, new at-home test spots disease with startling accuracy

A new technology created by UC Berkeley engineers uses the "coffee-ring effect," paired with plasmonics and AI, for rapid diagnostics.

By [Kara Manke](#)



As a droplet of liquid evaporates, any particles suspended in the liquid will naturally migrate to the edge of the droplet, leaving behind a “coffee-ring” pattern when the liquid fully dries. UC Berkeley engineers used this natural phenomena to boost the

sensitivity of diagnostic tests by pre-concentrating disease biomarkers into a ring pattern.

This illustration shows a ring of disease biomarkers, in purple, interacting with a droplet of liquid that contains plasmonic nanoparticles.

These plasmonic nanoparticles bind to the disease biomarkers and generate patterns of light that can be spotted by using an AI-powered smartphone app.

Megan Teng/UC Berkeley

Date: July 8, 2025

Got a sore throat and the sniffles? The recent rise of rapid at-home tests has made it easier to find out if you have a serious illness like COVID-19 or just a touch of spring allergies.

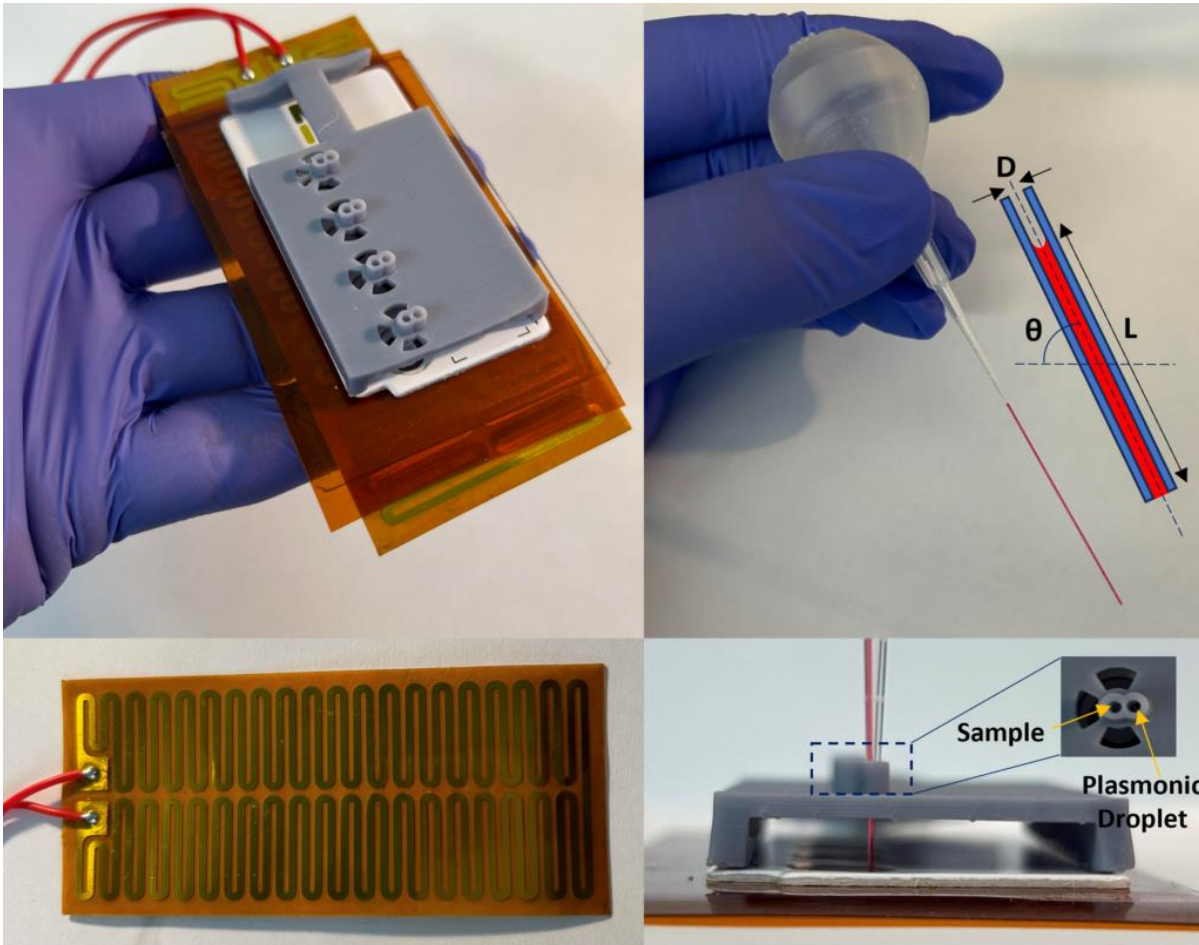
But while quick and convenient, these at-home tests are less sensitive than those available at the doctor's office, meaning that you may still test negative even if you are infected.

A solution may come in the form of a new, low-cost biosensing technology that could make rapid at-home tests up to 100 times more sensitive to viruses like COVID-19. The diagnostic could expand rapid screening to other life-threatening conditions like prostate cancer and sepsis, as well.

Created by researchers at the University of California, Berkeley, the test combines a natural evaporation process called the "coffee-ring effect" with plasmonics and AI to detect biomarkers of disease with remarkable precision in just minutes.

"This simple yet effective technique can offer highly accurate results in a fraction of the time compared to traditional diagnostic methods," said Kamyar Behrouzi, who recently completed a Ph.D. in [micro-electromechanical systems and nanoengineering](#) at UC Berkeley. "Our work paves the way for more affordable, accessible diagnostics, especially in low-resource settings."

The technology was developed with the support of seed funding from the CITRIS and Banatao Institute at the University of California and is described in [a recent study](#) published in the journal *Nature Communications*.



The researchers have create a prototype at-home test kit for the new diagnostic, which includes a 3D printed scaffold to help guide users on where to place the droplets (upper left), a syringe (upper right) and a small electric heater to speed evaporation (lower right).

Courtesy of Kamyar Behrouzi

Combining coffee rings and nanoparticles

Look closely at any coffee or wine stain, and you might observe that the outline of the stain is much darker than the interior. This is due to a physical phenomenon called the coffee-ring effect:

As a droplet of liquid evaporates, it generates a flow that pushes suspended particles towards the edge of the droplet. If the particles are pigmented, as they are in coffee and wine, the resulting stain will be darker around the rim than in the middle.

In 2020, Behrouzi was developing a biosensor for detecting COVID-19 when he noticed that droplets of his experimental solution were leaving ring-shaped stains as they dried. He realized that this coffee-ring effect could be used to easily concentrate particles of the COVID-19 virus, potentially making them easier to detect.

“We figured out that we could use this coffee-ring effect to build something even better than what we initially set out to create,” Behrouzi said.

The rapid test technology uses tiny particles called plasmonic nanoparticles that interact with light in unique ways. To conduct the test, a user first adds a droplet of liquid containing disease-relevant proteins — such as from a cheek or nasal swab — to a membrane. As the droplet dries, it concentrates any disease biomarkers at the coffee ring.

The user then adds a second droplet containing plasmonic nanoparticles that have been engineered to stick to the disease biomarkers. If the biomarkers are present, the nanoparticles will aggregate in certain patterns that change how light interacts with the membrane. This change can be detected by eye or using an AI-powered smartphone app.

The technology gives results in less than 12 minutes and is 100 times more sensitive at detecting COVID-19 than equivalent tests.

“One of the key proteins that we are able to detect with this method is a biomarker of sepsis, a life-threatening inflammatory response to a bacterial infection that can develop rapidly in people over 50,” said study senior author Liwei Lin, a Distinguished Professor of Mechanical Engineering at UC Berkeley. “Every hour is critical, but culturing bacteria to determine the source of the infection can take a few days. Our technique could help doctors detect sepsis in 10 to 15 minutes.”

The researchers have created a prototype of a home testing kit, similar to at-home COVID testing kits, that includes 3D-printed components to help guide the placement of the sample and plasmonic droplets.

“During the COVID-19 pandemic, we relied on at-home tests to know if we were infected or not,” Lin said. “I hope that our technology makes it easier and more accessible for people to regularly screen for conditions like prostate cancer without leaving the home.”

Additional co-authors of the study include Zahra Khodabakhshi Fard, Chun-Ming Chen, Peisheng He and Megan Teng of UC Berkeley.

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Urgent Message from Edison Fong

Date: September 18, 2025

ARRL has launched a nationwide grassroots campaign aimed at securing the passage of federal legislation that would grant Amateur Radio Operators the same rights to install antennas on their property as those enjoyed by users of TV antennas, wireless internet, and flagpoles.

The campaign, announced in an [ARRL Member Bulletin](#) on September 17, 2025, follows the reintroduction of the *Amateur Radio Emergency Preparedness Act* in February 2025 (see [ARRL News 02/07/2025](#)). The bipartisan bills -- [H.R.1094](#) in the House and [S.459](#) in the Senate -- are designed to prevent restrictive homeowners' association (HOA) rules that currently prohibit or severely limit the installation of amateur radio antennas, even when such antennas are hidden in trees, placed in attics, mounted on vehicles, or look like flagpoles.

“This legislation is about restoring equal rights to licensed Amateur Radio operators,” said ARRL President Rick Roderick. **“These restrictions hinder not only the enjoyment of Amateur Radio, but also its vital role in emergency communication during disasters.”**

Public Support Needed for Passage

To advance the legislation, ARRL is calling on its members and all licensees of the US Amateur Radio Service to take action by sending letters to their congressional representatives. Through a dedicated online tool at <https://send-a-letter.org/hoa/>, hams can easily generate and submit pre-drafted letters with a few clicks.

Go to — <https://send-a-letter.org/hoa/>

— and help us by sending your letters to your Representative and Senators.

ARRL has emphasized that every letter matters. Your Representative and Senators need to know that the passage of this legislation is important to you.

[Send Your Letters Now](#)

Go to — <https://send-a-letter.org/hoa/>

— and help us by sending your letters to your Representative and Senators.

This is really important and really easy to use. I did it in less than 2 minutes. Just go to the website, enter you call sign and it does the rest.