

Cathay June 2013

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, Frequencies: 146.67MHz -600KHz PL85.4 and 442.70 +5MHz PL 173.8. The repeaters are linked only during the CARC Monday night net. 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,

Yes, it is that time of the year again that you all been anxiously awaiting for: **Field Day!**

Field Day: I am hosting the Field Day and pot luck luncheon at my home in the Oakland Hills at 10am- 2pm Saturday June 22, 2013.

I will demonstrate the new BaoFeng UV-5R, 5 watt transceiver that has the HAM world all ablaze.

Come and bring some of your favorite food to share – perhaps enough for 8 to 10 servings. Soft drinks, cups, plates, napkins, and utensils will be provided.

Both of my VHF antenna and UHF antenna are high gain collinear types that provide between 5 to 6 dB of gain. The antennas will be available for connecting your portable radio or HT if you wish to make some contacts. The antenna feed lines are the standard 50 Ohm - RG8/U Coax with a UHF male connectors. For you folks that wish to connect their HT to my antenna feed line, please bring the appropriate adapter. Should you need a power output check on your HT's, my SWR Bird Model 43 with a 50 Ohm dummy load will be available

You are also welcome to use my HF transceiver that is dialed into the 40 meters band, frequency 7.223 MHZ, lower side band. The QTH site is at a 1,200 foot elevation – great for transmitting and receiving.

Don't forget to bring your latest HAM gear so we can show it off to each other and compare our gear.

Please contact George W6BUR (W6BUR@comcast.net) and/or Bill Chin (bill.kc6pof@comcast.net) no later than Saturday June 15th, 2013 if you are able to attend.

If you plan to come to the pot luck, please indicate how many guests, and what you might be bringing – whether a salad, appetizer, main dish, dessert, etc. A separate email invitation to CARC members will be sent out with the address and directions to our house.

We (Hetty - WB6SHU and George – W6BUR) will be monitoring CARC designated Channel 1 and Channel 2 to provide additional directions. Hetty would like very much to see your ladies; the event is not just for you HAM guys as she also wants company too. She has some lovely potted plants that she wishes to give away for you to brighten up your home.

After our Pot Luck lunch, please follow me to another HAM radio site in the Oakland Hills known as ORCA. You will see a real Field Day site in action; it is only ten minutes away.

Public Service Announcements

There are several upcoming events that may be of special interest to our CARC members.

- San Francisco Fire Safety and Earthquake Preparedness Event will be held on June 14, 2013 from 12-3 pm at Portsmouth Square in San Francisco. Your CARC editor (Rodney – KJ6DZI) will be wearing his yellow NERT hard hat while manning the NERT Information table. Come on by and say hello.
- Last Call for volunteers: June 29/30 Cancer Society Relay Fund Raiser - CARC member, Skip Weiss - KG6SCE is asking for communications support during an upcoming Cancer Society Relay Fund Raiser. This will be another chance to experience the barbecuing culinary skills of Skip Weiss. He will be cooking up a storm for the attendees and volunteers.
- Auxiliary Communications Service (ACS) has some very interesting informational events planned. SFPD Communications Van, Verizon Wireless contingency plans. These events will take place during ACS regularly scheduled meeting.
- The California Historical Radio Society is hosting their annual fund raising event on Saturday 10am, July 20th 2013.

Featured Tech Article

What to know all about MeRam (magnetolectric random access memory)? Then you have come to the right newsletter; check out the Featured Tech Section for more information.

CARC Final Wrap Up Message:

Chat sub s'em to all you CARC members!

- George W6BUR.

Public Service Announcements

From CARC Member Skip Weiss, KG6SCE

Event: Relay for Life / Daly City - A 24 Hour Cancer Society Relay Fund Raiser

Time: Starting at 10:00 am Sat June 29 and ending at 10:00 am Sun June 30, 2013

Location: Westmoor High School Sport Stadium
131 Westmoor Ave, Daly City, CA 94015
Entrance at corner of Del Prado Dr. & Mariposa Ave

To Sign Up: http://main.acsevents.org/site/TR?pg=informational&fr_id=48859&type=fr_informational&sid=128501

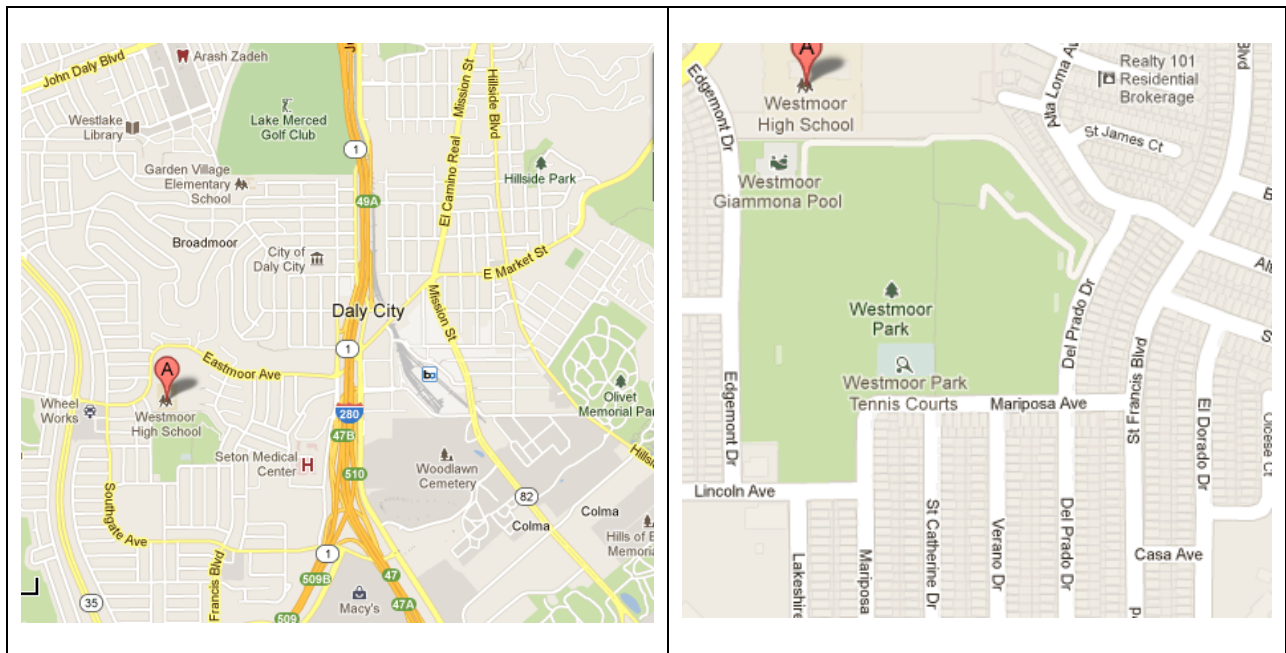
HAM volunteers are needed to help with directing cars, public safety and HAM radio communications support. Volunteers are only needed for a limited number of hours that will be worked out with Skip Weiss.

Please contact Skip Weiss, KG6SC via email for further details and shift assignments.

- Email address: "Skip Weiss" calgrizzly@earthlink.net
- Subject Line: Relay for Life/HELP

Skip (KG6SCE) and his VFW are supporting this worthwhile event.

Map of Westmoor High School Location is shown below:



The Relay Event is:

- Organized, overnight community fundraising walk
- Teams of people camp out around a track
- Food, games and activities provide entertainment and build camaraderie
- Family friendly environment for the entire community

The scheduled activities are:

Opening Ceremony: 10:00 am Saturday, June 29, 2013

The Opening Ceremony brings everyone together for a high-energy event kickoff to celebrate the lives of those who have battled cancer, to inspire hope by sharing recent accomplishments and progress, and to remind everyone that while we are winning this battle, fighting cancer is a year-round priority.

Survivors & Caregivers Lap: 10:30am Saturday, June 29, 2013

During the Survivors & Caregivers Lap, upbeat music plays as all cancer survivors and caregivers at the event take the first lap around the track cheered on by the other participants who line the track, celebrating their victory over cancer and their fight to end cancer!

Luminaria Ceremony: 9:15pm Saturday, June 29, 2013

The Luminaria Ceremony is a time to remember people we have lost to cancer, to support people who currently have cancer, and to honor people who have fought cancer in the past. The power of this ceremony lies in providing an opportunity for people to work through grief and find hope.

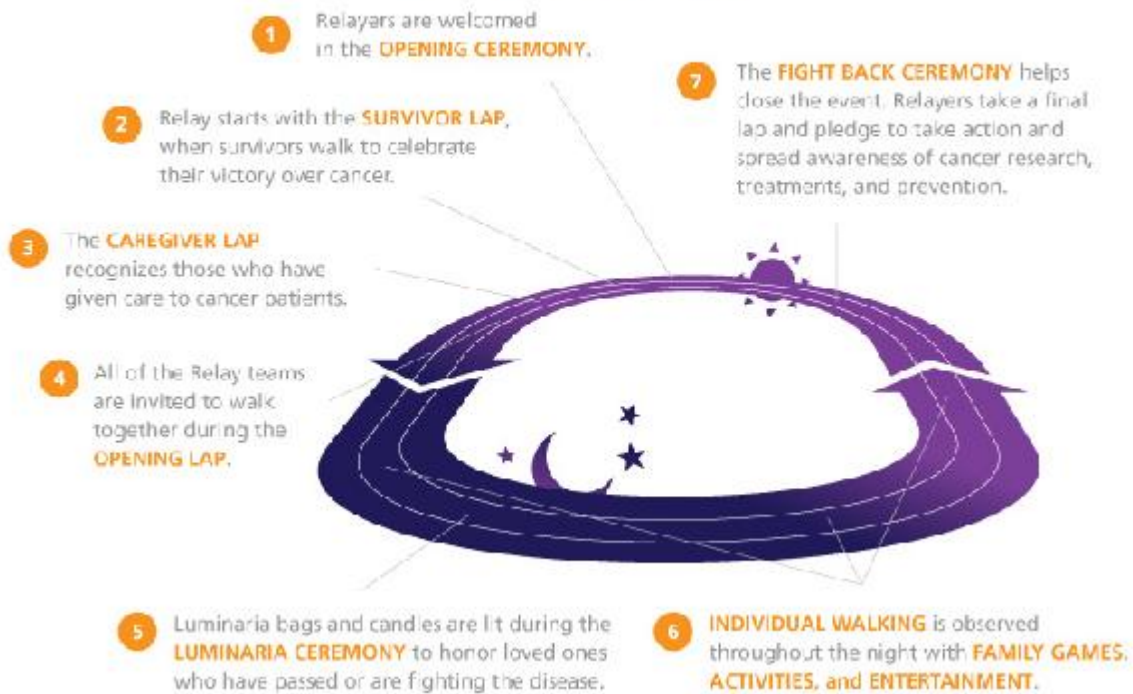
Fight Back: 9:30am (Sunday, June 30)

The Fight Back Ceremony symbolizes the emotional commitment we each make to the fight against cancer. The action we take represents what we are willing to do for ourselves, for our loved ones, and for our community to fight cancer year-round and to commit to saving lives.

Closing Ceremony: 10:00am (Sunday, June 30)

The Closing Ceremony is a time to remember the lives of those lost and to Celebrate that each of us has committed, through our participation in a Relay event, to fight back against this disease over the next year.

What is Relay for Life?



HAM CRAM / HAM Licensing

For upcoming HAM Licensing locations please refer to:

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

Bart Lee – K6VK

CHRS' annual fund raising event is **Saturday, July 20th 2013**. Gate opens at 9 AM. Program starts at 10. It's a full day of radio fun. **CHRS' annual fund raising event** is our biggest event of the year. This is the annual event that brings the Broadcast Legends together with the California Historical Radio Society and its' Bay Area Radio Museum and Bay Area Radio Hall Of Fame for a full day of radio fun.

We gather at the historic KRE radio station building at the foot of Ashby Avenue in Berkeley, home of the CHRS Radio Museum and Bay Area radio Hall of Fame. The gates open at 9 AM with vintage 78s played from our 1950s radio control room.

The show starts at 10 AM. Again this year, our Master of Ceremonies will be the very popular Morning News Man, KCBS' Stan Bunger. We begin with our live auction of vintage radios, ham gear, test equipment and other classic electronics. The auction will be divided into 3 sections. This year our Special Guest auctioneer will be former KFOG News Director and current KGO Evening News Man, Peter Finch. We have started building the auction catalog. We plan to have the usual 180 to 200 lots. [CLICK HERE TO VIEW THE AUCTION CATALOG](#). Check back often as new items are added.

Are you ready for a live radio show? Well, The Broadcast Legends Old Time Radio Players will present, "The Lone Ranger's Origin". This program originally aired on June 30th, 1948. Don't miss this presentation as we learn how the legend of the Lone Ranger began. And as always the Legends will present a newscast from past, which let's us see how good, or bad, we have it today.

If you enjoy vintage live jazz music, we have that too. We will proudly present the Joyful Noise Jazz Band. They specialize in jazz music of the 1920s, '30s, and 1940s jazz in the style of Lu Watters. Lu Watters was very a popular jazz musician who played and recorded at KRE in the '40s.

We will announce the inductees for the 2013 Class of the Bay Area Radio Hall Of Fame. Don't forget to vote for your favorites. Just go to www.BayAreaRadio.org to cast your vote.

If that's not enough, we will have a salute to the 40th anniversary of American Graffiti, featuring the cars used in the movie. In 1972 George Lucas used the KRE building to film the Richard Dreyfuss and Wolfman Jack scenes for the movie, which was released in 1973.

But wait... there's more! We offer a great barbeque lunch, beverages and the CHRS bake sale. Announcement of the CHRS Volunteer of the Year. A big hit is our Antique Electronics Flea Market. Discover Ham Radio with W6CF. We have celebrity interviews, tours of the CHRS Museum and Radio Hall of Fame, a raffle for some great prizes and some special surprises.

This whole day devoted to all things radio is just a \$5 donation at the gate. Please bring your friends and family. Children under 12, free. For more information and the auction catalog, please visit www.CaliforniaHistoricalRadio.com or call Steve Kushman at (415) 821-7671 or (415) 203-2747.

Attention all HAM, it is California Historical Radio Society Mayday!!

The California Historical Radio Society (CHRS) and its amateur radio station W6CF is caught up in its landlord's bankruptcy (Inner Cities Broadcasting). This forces CHRS to purchase the Berkeley KRE building and property now or lose it.

TODAY'S UPDATE – May 28th– We started with \$93,000 in our Museum Fund last June, and today we have 262 donations and pledges totaling \$688,790! THANK YOU! Our goal is \$750,000+. We only have \$61,210 to go! Holy Cow, we have already raised nearly three quarters of a million dollars! It's downhill from here. We have done so well, please dig deeper and make this happen! We should be able to raise the rest with your help and support.

All donations to the CHRS are tax deductible and will be for the good cause of preserving the KRE building.

KRE 2012 - after CHRS Restoration



For additional information see: <http://www.californiahistoricalradio.com/>

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, June 18,2013 SFPD Communications Van
Tuesday 7pm, July 16,2013 Verizon Presentation
Tuesday 7pm, Aug 20,2013 TBD

June 18, 2013 there a show and tell of a SF Police Department Communications Van and passing of messages.

July 16, 2013 Verizon Wireless will discuss their plans to keep their system up during a major disaster such as earthquake and show off some equipment.

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

RSVP to sffdnert@sfgov.org or call 415-970-2024 to register.

Visit www.sfgov.org/sffdnert to learn more about the training, other locations, and register on line.

Upcoming Special NERT Events.

June

12th: ICS Forms workshop. All NERT grads welcome. 7:00p-8:30pm, SFFD DOT*
Review each NERT ICS Form. The forms are crucial for safety and accountability.
Preparation for the June 15 Staging Area drill.
register: <http://www.eventbrite.com/event/6349410257>

15th: Staging Area Drill date changed to June 29. See below

29th: **DATE CHANGE!** NERT Staging Area Drill. All NERT grads welcome.
Location TBD. This drill focuses on setting up and managing a neighborhood team staging area. Practice Incident Command System skills. Bring: NERT ID, helmet, vest, gloves, water, pencil and go-bag. Wear long pants, sturdy shoes and sunscreen. Dress for weather.
Register: <http://www.eventbrite.com/event/6349508551>

July

13th: NERT Leadership College. All NERT grads welcome. 8:30am-4:30pm, SFFD DOT*
Learn how NERT works and how to organize a neighborhood group.
Leadership is for new coordinators, current coordinators and any NERT graduates interested in being an integral part of their neighborhood team leadership. Register: <http://www.eventbrite.com/event/6349356095>

August

3rd: Intro to Ham Communications Team (HCT) 101, 8:30 a.m. - 3:30 p.m., SFFD DOT*
New or interested HAM operators beginner course (no license required)
HAM operators that want disaster communication instruction are welcome after lunch. Registration: not yet open

6th: Hands on Ham Radio Basics: HCT 300 & 301, 6:30pm-9:00pm, SFFD DOT*
Get to know your radio. Basic how to instruction: turning on, tuning in, changing batteries etc (Amateur Radio license required) Registration: not yet open

7th: Ham Emergency Messaging for the non-hobbyists (hobbyists allowed), HCT 303,

6:30pm-9:00pm, SFFD DOT* Learn and practice creating emergency messages (an important skill for ALL NERTS) and practice talking on the radio. Overcome your hesitation and just do it. Registration: not yet open

8th: Advanced Ham Radio for "dummies" Ham Communications Team (HCT) 400 Hands on training, 6:30pm-9:00pm, SFFD DOT* Bring your radio and practice, practice, practice: buttons, antennas and tones etc.
(Amateur Radio license required) Registration: not yet open

* SFFD DOT is the Division of Training @ [19th Street/Folsom](#). (enter through yard on 19th and park along back wall) Division of Training classroom is in the 1-story building directly next to the Fire Station on the corner

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.

Upcoming ALERT Training

The second ALERT training class has been scheduled for **Saturday, June 22nd, 2013**. The class will be held at the San Francisco Police Academy, in the parking lot bungalow, from 8am-5pm (one hour lunch break).

The third ALERT training class has been scheduled for **Saturday, September 28, 2013**. The class will be held at the San Francisco Police Academy, in the parking lot bungalow, from 8am-5pm (one hour lunch break).

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 the June 22nd training class by contacting the ALERT Program Coordinator, Mark Hernandez, at sfpdalert@sfgov.org, or by telephone at 415-401-4615. To register by email send your request to sfpdalert@sfgov.org with your NAME and PHONE NUMBER.

ALERT Information Meeting:

An informational meeting will be held at the San Francisco Police Academy, located at 350 Amber Drive, Parking lot bungalows, on **Thursday, August 22nd, 2013, at 7pm**. All members of the public are welcome. Interested individuals will have their questions about the program answered at the meeting.

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:

<http://sf-police.org/index.aspx?page=4019>

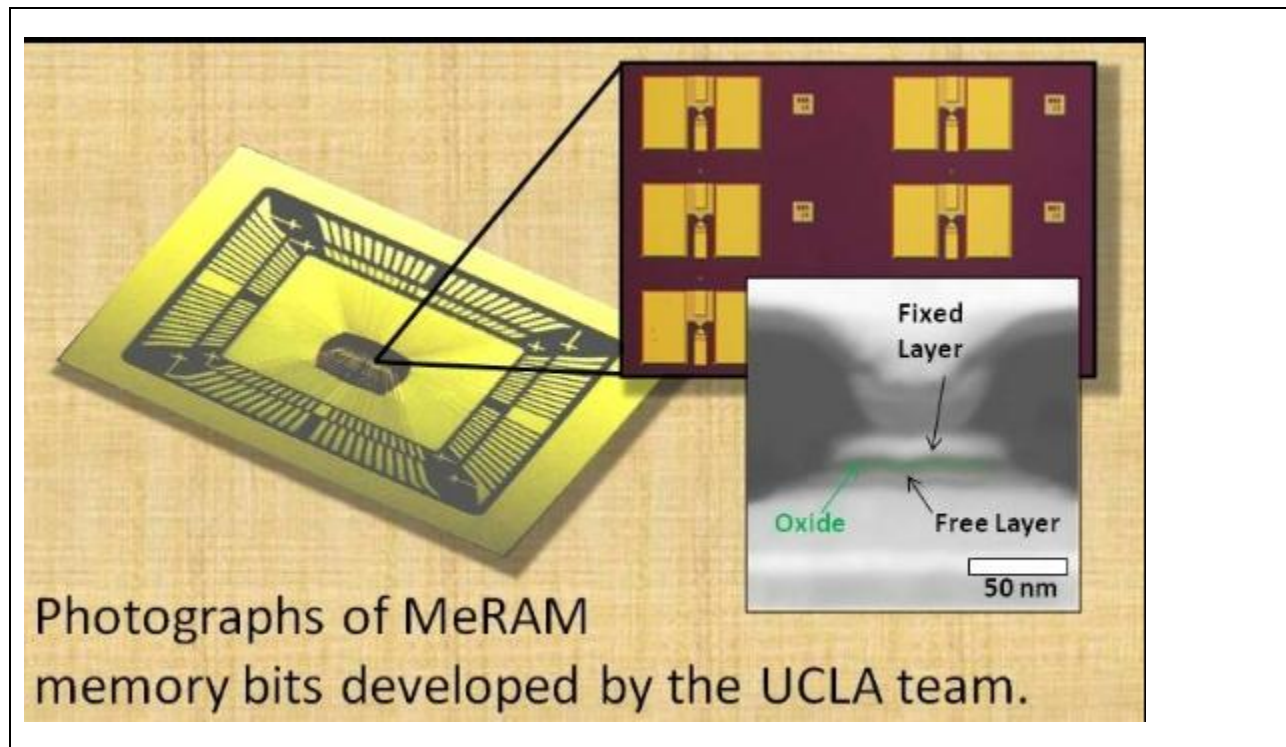
Featured Tech Article

UCLA engineers develop new energy-efficient computer memory using magnetic materials

<http://newsroom.ucla.edu/portal/ucla/ucla-engineers-have-developed-241538.aspx>

MeRAM is up to 1,000 times more energy-efficient than current technologies

By **Matthew Chin** December 14, 2012



By using electric voltage instead of a flowing electric current, researchers from **UCLA's Henry Samueli School of Engineering and Applied Science** have made major improvements to an ultra-fast, high-capacity class of computer memory known as magnetoresistive random access memory, or MRAM.

The UCLA team's improved memory, which they call MeRAM for magnetoelectric random access memory, has great potential to be used in future memory chips for almost all electronic applications, including smart-phones, tablets, computers and

microprocessors, as well as for data storage, like the solid-state disks used in computers and large data centers.

MeRAM's key advantage over existing technologies is that it combines extraordinary low energy with very high density, high-speed reading and writing times, and non-volatility — the ability to retain data when no power is applied, similar to hard disk drives and flash memory sticks, but MeRAM is much faster.

Currently, magnetic memory is based on a technology called spin-transfer torque (STT), which uses the magnetic property of electrons — referred to as spin — in addition to their charge. STT utilizes an electric current to move electrons to write data into the memory.

Yet while STT is superior in many respects to competing memory technologies, its electric current-based write mechanism still requires a certain amount of power, which means that it generates heat when data is written into it. In addition, its memory capacity is limited by how close to each other bits of data can be physically placed, a process which itself is limited by the currents required to write information. The low bit capacity, in turn, translates into a relatively large cost per bit, limiting STT's range of applications.

With MeRAM, the UCLA team has replaced STT's electric current with voltage to write data into the memory. This eliminates the need to move large numbers of electrons through wires and instead uses voltage — the difference in electrical potential — to switch the magnetic bits and write information into the memory. This has resulted in computer memory that generates much less heat, making it 10 to 1,000 times more energy-efficient. And the memory can be more than five-times as dense, with more bits of information stored in the same physical area, which also brings down the cost per bit.

The research team was led by principal investigator Kang L. Wang, UCLA's Raytheon Professor of Electrical Engineering, and included lead author Juan G. Alzate, an electrical engineering graduate student, and Pedram Khalili, a research associate in electrical engineering and project manager for the UCLA–DARPA research programs in non-volatile logic.

"The ability to switch nanoscale magnets using voltages is an exciting and fast-growing area of research in magnetism," Khalili said. "This work presents new insights into questions such as how to control the switching direction using voltage pulses, how to ensure that devices will work without needing external magnetic fields, and how to integrate them into high-density memory arrays.

"Once developed into a product," he added, "MeRAM's advantage over competing technologies will not be limited to its lower power dissipation, but equally importantly, it may allow for extremely dense MRAM. This can open up new application areas where low cost and high capacity are the main constraints."

Said Alzate: "The recent announcement of the first commercial chips for STT-RAM also opens the door for MeRAM, since our devices share a very similar set of materials and fabrication processes, maintaining compatibility with the current logic circuit technology of STT-RAM while alleviating the constraints on power and density."

The research was presented Dec. 12 in a paper called "Voltage-Induced Switching of Nanoscale Magnetic Tunnel Junctions" at the 2012 IEEE International Electron Devices Meeting in San Francisco, the semiconductor industry's "pre-eminent forum for reporting technological breakthroughs in the areas of semiconductor and electronic device technology."

MeRAM uses nanoscale structures called voltage-controlled magnet-insulator junctions, which have several layers stacked on top of each other, including two composed of magnetic materials. However, while one layer's magnetic direction is fixed, the other can be manipulated via an electric field. The devices are specially designed to be sensitive to electric fields. When the electric field is applied, it results in voltage — a difference in electric potential between the two magnetic layers. This voltage accumulates or depletes the electrons at the surface of these layers, writing bits of information into the memory.

"Ultra-low-power spintronic devices such as this one have potential implications beyond the memory industry," Wang said. They can enable new instant-on electronic systems, where memory is integrated with logic and computing, thereby completely eliminating standby power and greatly enhancing their functionality."

The work was supported by the Defense Advanced Research Projects Agency (DARPA) NV Logic Program. Other authors included researchers from the UCLA Department of Electrical Engineering; UC Irvine's Department of Physics and Astronomy; Hitachi Global Storage Technologies (a Western Digital Company); and Singulus Technologies, of Germany.

Wang is also director of the Western Institute of Nanoelectronics (WIN), director of the Center on Functional Engineered Nano Architectonics (FENA) and a member of the **California NanoSystems Institute**.