

The Refractor

The Bulletin of the Eastbay Astronomical Society
 Founded in 1924 at Chabot Observatory, Oakland, California

Volume 86
 Number 08

May 2010

May EAS Lecture Meeting

Title: **IceCube and the Search for Neutrinos**

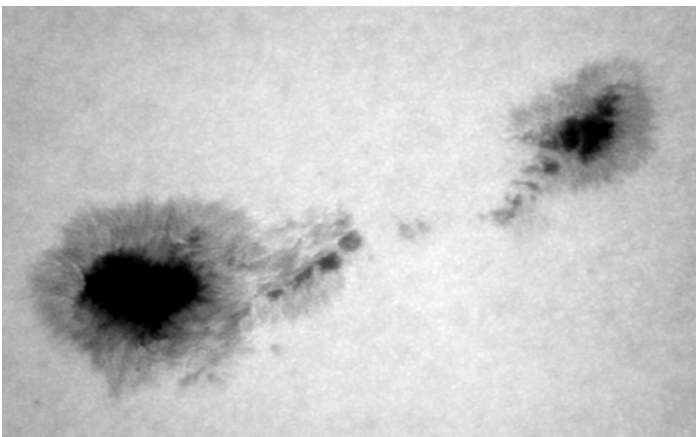
Speaker: **Sandy Miarecki, University of California, Berkeley**

When: Sunday, May 16, 7:30pm

Location: Physics Lab, 2nd Floor, Dellums Building, Chabot Space & Science Center

Everyone knows about visible light from space that lets us see stars, galaxies, etc. However, those objects also give off the tiniest of particles called neutrinos. About 500,000 times smaller than electrons, they fly through EVERYTHING in the galaxy about a billion-billion times per second, including the Sun, the Earth, and people. And we can't see them. Every once in a while, probability says that one will hit directly on a nucleus, and then we get a reaction that creates other particles that we can see.

That is why IceCube was built in the ice at the South Pole in Antarctica. It looks for neutrinos that come up through the Earth by watching for those particles. I will talk about this project and what we can determine about our universe.

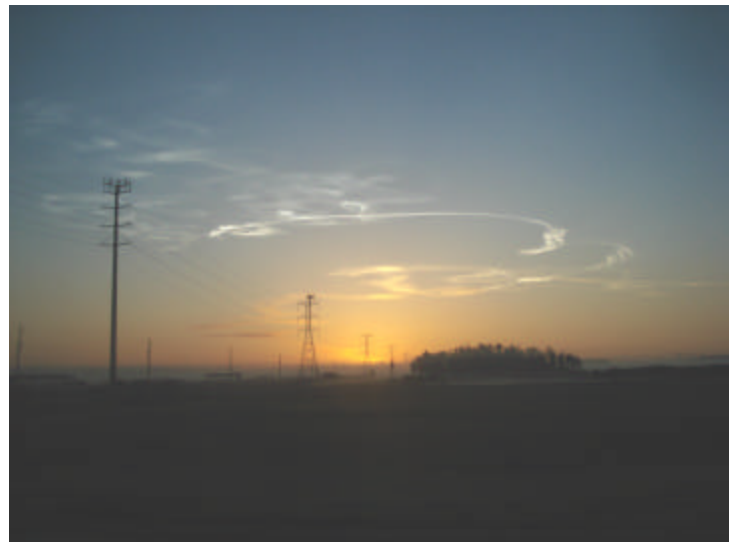


New Solar Cycle - Lots To See!

Spectacular live video of the sun in H-alpha on the giant plasma screen in Rachel's Dome, every sunny Sunday.

White light sunspot photo by Jim Ferreira

Speaker Bio: Sandy Miarecki was born in Chicago IL and grew up in Woodstock IL. She wanted to be an astronaut, so she joined the Air Force after attending the University of Illinois-Urbana (majoring in astrophysics). She became a pilot and eventually a test pilot, flying over 35 types of planes in her career. She completed her 20 year military career and retired in 2007 as a Lieutenant Colonel. Now, starting her second career, she is a PhD student in physics at the University of California-Berkeley. She has joined the IceCube group at Lawrence-Berkeley Lab for her thesis. After graduation, she will become a particle astrophysics experimentalist.



Bob Schalk missed the April 5th Discovery launch but he captured some amazing sun rise images of the Shuttle's smoke trails some 30 minutes later.

DINNER WITH THE SPEAKER
 5:30, Sun. May 16
RED BOY PIZZA
 4100 Redwood Rd.
 (next to Safeway)
 No need to confirm,
 Just show up!

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Wonder domes on Skyline Boulevard

Look
look up
look up to the hills
look up to the hills where the moon
rises to shine over the bay

Over the bay, over the city lights
over the fog and the redwood trees
there is a there, there
where great minds, young and old
congregate, night after night

Every time, at evening twilight
the domes come alive
throbbing cocoons of distant dreams
crackling shells, hatcheries of cosmic visions
of faraway lights, of yesterday

Come, come,
people of hope and dreams
come to the wonderland, it is yours
as promised, the wonder domes
on the hill, willed by a man
from the icy north, to give you
the future, future, future ...

Down below, by the water
in the slumbering city by the bay
behind a window, in a crib
a child wonders
gazing at the moon

John H Fang April 6, 2010 (for CSSC)



WANTED: PHOTOS OF OLD CHABOT

Do you have photographs of the Mountain Boulevard Chabot Observatory? If you do, pick out the best of the best and send a scanned image to the Newsletter editor. A new image will be posted in the newsletter each month.

FUTURE CONJUNCTIONS—2010

May 16 EAS General Meeting, Chabot, Physics Lab, 7:30pm
13 Board Meeting, Chabot, Soda Board Rm, 7:30pm
16 EAS MOVN
Jun 26 EAS General Meeting, Chabot, Physics Lab, 7:30pm
10 Board Meeting, Chabot, Soda Board Rm, 7:30pm
13 EAS MOVN
Jul 24 EAS General Meeting, Chabot, Physics Lab, 7:30pm
8 Board Meeting, Chabot, Soda Board Rm, 7:30pm
18 EAS MOVN
Aug 28 EAS General Meeting, Chabot, Physics Lab, 7:30pm
12 Board Meeting, Chabot, Soda Board Rm, 7:30pm
15 EAS MOVN

*Please call Gerald McKeegan at (925) 926-0853 after 5pm on the date of the MOVN to verify that it has not

Chabot Space & Science Center Invites EAS Members to Volunteer with Us!

- Share your knowledge of and passion for astronomy with thousands of CSSC visitors
- Experience the unique opportunity to operate Chabot's historical telescopes
- Share your own telescope at Chabot*
- Inspire young astronomers and future scientists by assisting students in our astronomy education programs

Explore these opportunities at our next Volunteer Orientation!

For upcoming orientation dates, or for more information, please contact us at: volunteers@chabot.space.org
or, call our Volunteer Manager Megan Gray at (510) 336-7414

**EAS members who are only interested in sharing their own telescope at Chabot are required to attend a Chabot volunteer orientation and complete a self-guided training worksheet entitled "Getting to know Chabot." After completion, you may join us on deck and share your own telescope any Friday or Saturday night!*

***Full Chabot Volunteers must make the regular volunteer commitment and pursue official placement through the Volunteer Manager.*



Lunar Rainbow And Stars After Clearing Storm by Tony Rowell

Moonlit Yosemite Falls, Yosemite National Park, August 4th, 2009.

First place winner in the 'Beauty of Night Sky' Category in the **International Earth and Sky Photo Contest**.

International Earth and Sky Photo Contest was organized by **The World at Night** and **Dark Skies Awareness**. Submissions from over 30 countries were juried by a panel of 5 distinguished photographers and astrophotographers including David Malin.

Three additional images by Tony were chosen as notable photos, and include 'Camping Under Milky Way,' 'Meteor Over Bristlecone Cabin' and 'CARMA Array and Milky Way.'

Congratulations to EAS member Tony Rowell for taking top honors in so prestigious competition. See more of Tony's fantastic art photography at:

<http://www.tonyrowell.com>

EAS Loaner Scope Program has telescopes available for rental by EAS members. Scopes include 60mm and 80mm refractors, a C-90, two 10 inch Dobsonians, and ; 4 and 8 inch Schmidt-Cassegrains. Scope rental is \$15 a month, with a \$50 deposit. For information, contact Ray Wong at (510) 796-5748 or qm7@yahoo.com

EAS Library: Hours, 3:00pm - 7:00pm every Friday, and immediately after monthly EAS lecture meetings. The library is located on the second floor of the Dellums Building, down the hall next to the interactive lunar lander exhibit.

Volunteer librarians are needed to expand library hours, if you'd like to help contact Barry Leska at leska@alameda.net



Eastbay Astronomical Society

At Chabot Space & Science Center
10000 Skyline Boulevard • Oakland, CA 94619

May 2010
RETURN SERVICE REQUESTED

Eastbay Astronomical Society

President: Barry Leska leska@comcast.net

Treas: Richard Ozer (510) 532-5477 rozer@pacbell.net

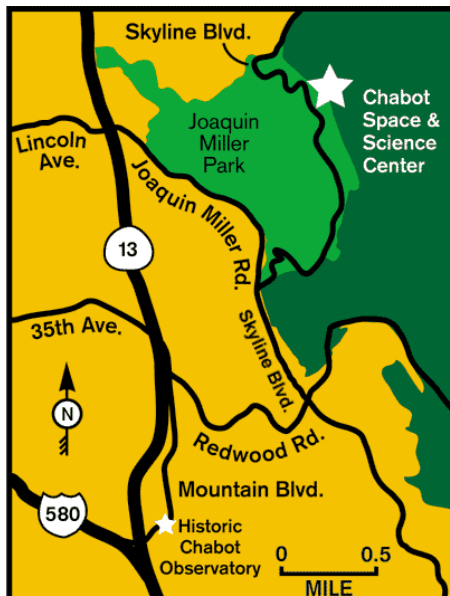
Secretary: Linda Lazzaretti (510) 633-2488

Articles and photos for *The Refractor* are encouraged. Deadline for the June 2010 issue is May 20, 2009. Items may be submitted by mail or E-mail to: Editor - Jim Ferreira, 753 Oriole Avenue, Livermore CA 94551 bakerst@comcast.net (925) 449-0107

Vice President: Ray Wong (510) 796-5748 qm7@yahoo.com

Membership Reg: Bruce Skelly EastbayAstro@gmail.com

Events Coord: Dave Rodrigues (510) 483-9191



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- May 16** General Meeting, Chabot, Physics Lab, 7:30pm
8 Board Meeting, Chabot, Soda Room, 7:30pm
16 EAS MOVN*, 7pm-10pm, Wightman Plaza
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*Always call to confirm

Join the Eastbay Astronomical Society

- Regular, \$24/year Family, \$36/year
- Contributing, \$40/year Student, \$15/year (digital news-letter, only)
- Sustaining, \$60/year or more

Contact: Gerald McKeegan, EAS Treasurer
 Tele: (925) 926-0853 Email: geraldspace@earthlink.net
 Mail: 1760 1st Ave, Walnut Creek, CA 94597-2561

Sign up online at <http://www.eastbayastro.org/>