

The Refractor

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

Volume 87
Number 03-04

Jan. / Feb. 2011



February EAS Lecture Meeting

Title: **Tiny Moons around
Small Asteroids**

Speakers: **Dr. Franck Marchis**
SETI Institute & UC-Berkeley

When: February 19, 7:30pm

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

Talk abstract and speaker bio on page 3.

Spectacular 2010 Winter Solstice Total Lunar Eclipse

Masterfully photographed by Conrad Jung using a Canon 20D DSLR with a 1.4x Barlow at the focus of a 90mm f/6.9 refractor. Exposures ranged from 1/30 second to 25 seconds. Shot from the observing deck at Chabot Space & Science Center.

**DINNER WITH
THE SPEAKER**
5:30, Sat, Feb. 19
Hunan Yuan
4100 Redwood Rd.
(next to Safeway)
No need to confirm,
Just show up!

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Total lunar eclipse and constellation Orion (north to right), shot by EAS member Bob Schalck, North Bend, Or., with a Samsung Pro 815 @ 400 ISO, 26mm lens, and several second exposure. Bob indicated he lucked out with the weather as it had been raining just an hour earlier. *Good Stuff!!*

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—2011

Feb 19 General Meeting, Chabot, Physics Lab, 7:30pm
10 Board Meeting, Chabot, Soda Room, 7:30pm
06 EAS MOVN*, 7pm-10pm, Wightman Plaza
Mar 19 General Meeting, Chabot, Physics Lab, 7:30pm
10 Board Meeting, Chabot, Soda Room, 7:30pm
13 EAS MOVN*, 7pm-10pm, Wightman Plaza

For questions or if you are uncertain about the weather, call (925)926-0853 before 6pm, or check Chabot's weather page at <http://www.chabotspace.org/forms/weather.aspx>

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 by E-mail at 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 Del-lums Building, down the hall next to the interactive lunar lander exhibit.

Volunteer librarians are needed to expand library hours. **We are particularly interested in any member having experience with book cataloging software.** If you'd like to help contact EAS president Barry Leska at b.leska@comcast.net

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 And find out about our next Volunteer Orientation!

<http://www.chabotspace.org/adult-volunteers.htm>

*EAS members who are only interested in sharing their own telescope at Chabot (not a full volunteer commitment) are required to attend a volunteer orientation. After completion, you may join us on deck and share your own telescope any Friday or Saturday night! Chabot Volunteers must make the regular volunteer commitment and pursue official placement through the Volunteer Manager.

February EAS Lecture Meeting Speaker:

Dr. Franck Marchis

Title: Tiny Moons and Small Asteroids

Abstract: After decades of speculation, the existence of multiple asteroids--asteroids with one or several companions around them--has been observationally confirmed thanks to the advanced imaging capabilities of large telescopes. Asteroid multiplicity is an astronomical prize for observers and theorists alike, since it helps constrain theories on the origin of our solar system. I will briefly describe the adaptive optics technology which is used today on the very Large Telescope (UT4-8m) at ESO-Paranal (Chile) and the Keck-II 10m telescope and the 8m-Gemini North telescope at Mauna Kea (Hawaii). These powerful instruments provide capabilities to image several multiple asteroid systems. Today more than 200 companions of asteroids are known, and half of them were discovered by large worldwide network of professional and amateur astronomers equipped with small and medium size telescopes. By detection of small dip in brightness due to mutual eclipse events, these surveys give us the opportunity to better understand these fascinating mini-planetary systems. NASA and ESA space agencies are seriously thinking of developing missions to explore in-situ these New Worlds.



Bio: Dr. Franck Marchis is a Principal Investigator at the Carl Sagan Center of the SETI Institute, and also Assistant Research Astronomer at the University of California at Berkeley.

In 1996, while working at the UNAM Astronomy Department in Mexico City, Dr. Marchis made the first ground-based observations of the volcanoes on the Jovian moon Io, using the first Adaptive Optics (AO) systems available on the European Southern Observatory (ESO) 3.6 m telescope at Chile's La Silla Observatory. In 2000 he completed his PhD in France - his doctoral research described the application of adaptive optics to the study of the solar system.

While at U. C. Berkeley, in collaborations with astronomers of the Observatoire de Paris, he searched for, and studied moons around asteroids. In 2005, the first triple asteroidal system was discovered.

2011 EAS Officer Candidates

During the February 19th EAS lecture meeting, EAS members in attendance will be asked to approve this year's officer candidates. Each are long time EAS Board of Director members.

President:	Barry Leska
Vice President:	Paul Hoy
Secretary:	Linda Lazzaretto
Treasurer:	Richard Ozer

HELP WANTED, TELESCOPES NEEDED

Your help is needed, along with your telescopes, to assist Eastin Elementary School (Eastin ES) in Union City conduct a star party – outreach for 150 kids on Wednesdays February 9 and April 13. Eastin ES will provide pizza and drinks for telescope operators. Contact point-man Ray Wong via E-mail to let him know when you can help and type and size telescope you intend to bring. Ray's email: qm7@yahoo.com.

February 9 – equipment setup arrival time, 6:00 p.m., star party starts at 7:00 p.m. and ends around 9:00 pm.

April 13 – equipment setup arrival time, 6:30 p.m., star party starts at 7:30 p.m. and ends around 9:00 pm.

Eastin Elementary School - 34901 Eastin Drive, Union City, CA.

Directions:

- from Hwy 880 take the Fremont Blvd/Alvarado Blvd Exit
- at the stoplight, turn right onto ALVARADO BLVD
- first stop light, turn left onto LOWRY
- proceed westward for about a mile
- at the stoplight, turn right onto UNION CITY BLVD
- at the next stoplight, turn left onto ROCKLIN DRIVE
- immediately after left turn, there is a turn out on the right and a driveway - pass through gates and drive north towards grass field.
- scope setup on asphalt or grass (your preference)

Come one, come all! Pizza, kids and the Stars!

News & Views



Happy New Year, Astro Fans!

I hope you had a fun, loving, happy, and safe Holiday Season. Our club's holiday party was a smash success with delicious food, drink, live music ala the fabulous USGS group, Duckweed, games, prizes, and a nice showing of Maya

Skies, for those who hadn't seen it yet (and a few who did). However, I totally blew it! I forgot to take any pictures 8^P I guess I was too hyped-up for my "guest musician" stint (I played my penny whistle on three of their songs, and got totally lost most of the time. Most embarrassing!) I still had fun playing, though.

Last month, we miraculously experienced the best parts of the total lunar eclipse on 2010 Winter Solstice, December 21st - the last time that happened was in 1638, 372 years ago! Chabot had an event for it, keeping their facility open from start to finish (9:27pm - 3:00am PST). The weather that day was mostly overcast and even a bit rainy, but that didn't keep the people away - they had well over 700 attendees that night! At its start, the Moon was visible through a high, thin layer, but the start of any lunar eclipse is hardly-if-at-all noticeable. By the time it became obvious that it was starting, the cloud layer thickened up, and obscured it totally. But, and here's the miraculous part, every now and then, the clouds would thin or open up completely at various times, allowing nice views of pretty much all its phases. During totality, the clouds parted completely, offering spectacular views of the total eclipse, glittery winter stars, all framed by puffy white clouds. It was downright magical, and a good thing, too: it's downright embarrassing having over 700 paying customers come up and see nothing. Believe you me - it's not nice when you spend \$\$ to see something, and then not see it (like mine and Carter's trip to the Canary Islands in 1999 to see the Leonid meteor storm - it rained). For those of you who missed it, Conrad Jung worked his

astrophoto magic to capture its main phases for your entertainment and edification. He used a Canon 20D DSLR (the standard model) with a 1.4x Barlow attached to a 90mm f/6.9 refractor. The exposures ranged from about 1/30s all the way up to 25s. Of course, all of the images were taken from Chabot.

Don't forget! We may be past the holiday season, but our Annual Awards Dinner is coming up within the next two or three months, and those are always great events with fabulous speakers, delicious catered food,

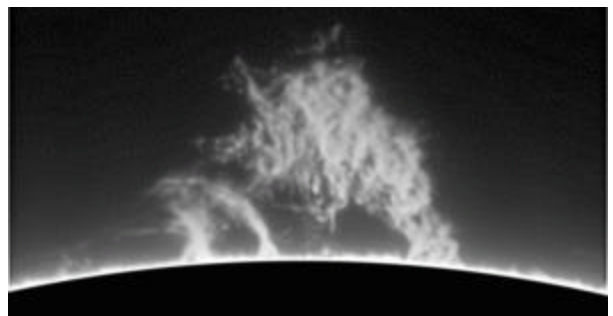



Winter Solstice Lunar Eclipse by Conrad Jung

and honor-worthy award recipients. If you can think of a likely candidate for the Helen Pillans award, The Carter Roberts Astronomy Service award, the Betty Nealle Youth Award of Merit, let us know. More details coming soon to a newsletter near you!

Cheerios! <crunch, crunch!>

;~Don





Eastbay Astronomical Society

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

January - February 2011
RETURN SERVICE REQUESTED

Eastbay Astronomical Society

President: Barry Leska b.leska@comcast.net

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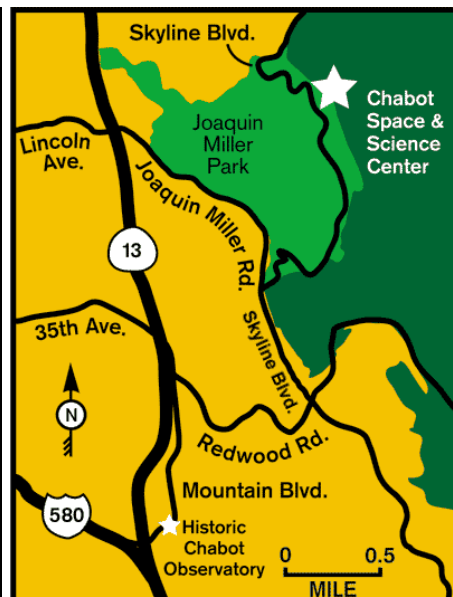
Secretary: Linda Lazzaretti (510) 633-2488

Articles and photos for *The Refractor* are encouraged. Deadline for the Mar. 2011 issue is Mar. 1, 2011. Items may be submitted by snail-mail or E-mail to: Editor - Jim Ferreira, 753 Oriole Avenue, Livermore CA 94551 bakerst@comcast.net (925) 449-0107

Vice President: Ray Wong qm7@yahoo.com

Membership Reg: Bruce Skelly EastbayAstro@gmail.com

Events Coord: Gene Weber (925) 963-1165 gene.weber@gmail.com



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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: geraldsp@earthlink.net
 Mail: 1760 1st Ave, Walnut Creek, CA 94597-2561

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