



The Refractor

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

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March 2011

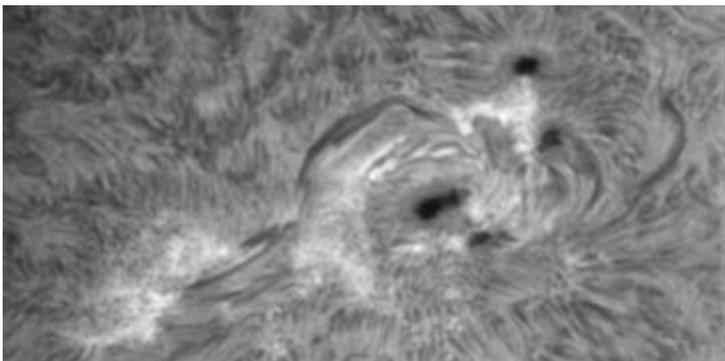
2011 EAS Annual Awards Dinner

Title: **Kepler's Vision - Exoplanets
 and Songs of the Stars**

Speakers: **Dr. Steve Bryson**
Kepler Target Scientist - NASA Ames

When: March 20th, 6:00pm
 Location: Kepler & Copernicus Rooms
 Chabot Space & Science Center

Since mid 2009, NASA's Kepler space telescope has been constantly watching about 160,000 stars, looking for signs of planets orbiting those stars. As of February 2, 2011, 1235 candidate planets have been identified, 15 of which have been confirmed as exoplanets. This talk will start with the design and operation of the Kepler mission. We'll see how Kepler attains the amazing sensitivity required to see the very small dimming caused by a planet transiting in front of its star. We'll talk about the ways that we can be fooled by binary star systems and how the Kepler team distinguishes these from planets. How a planet graduates from being a candidate to being confirmed is next, including the significant challenge of confirming Kepler's ultimate goal: Earth-size planets in Earth-like orbits around Sun-like stars. Along the way we'll hear about the revolution in our detailed understanding of the stars



See Sunspots and Filaments at Chabot!

Spectacular live video of the sun in H-alpha light on the giant plasma screen in Rachel's Dome, every sunny Weekend. Photo by Jim Ferreira

themselves: Kepler is so sensitive that we can detect stellar vibrations telling us what's happening inside the stars. We'll end with a survey of what Kepler is teaching us about planets around other stars, including multiple planet systems, Earth-size planets, and planets in the habitable zones of their stars.

Dr. Steve Bryson is Target Scientist for the Kepler Mission to find Earth-size planets around Sun-like stars. He also leads the false-positive identification effort and monitors Kepler performance at the pixel

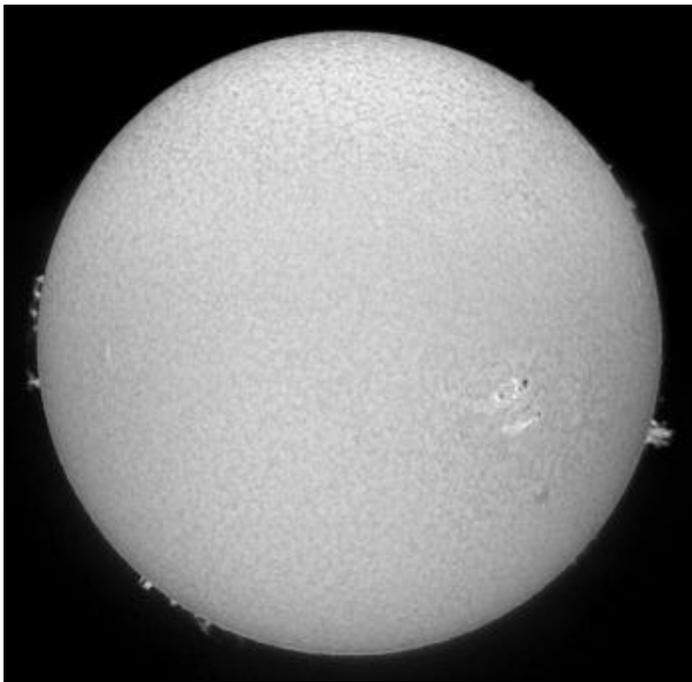


level. Prior to joining Kepler in 2005, Steve developed new, high-accuracy numerical methods for solving nonlinear differential equations and participated in the early development of virtual reality. Steve is an avid amateur astronomer, and worked at Chicago's Adler Planetarium in the late 70's. Steve has a PhD in computational

mathematics from Stanford University, and for more than 10 years taught modern physics in adult education classes at the San Francisco Academy of Sciences. An active amateur musician/composer, Steve plays piano, organ, guitar and lute. His compositions have been used in planetarium sky shows and in various web sites, including the Kepler Carl Sagan Essay Contest.

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Sun in H-alpha light shot by EAS Director of Instruments, Gert Gottschalk with a Lunt LS60 H-alpha telescope and Canon 450D, February 21, 2011.

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

Mar 20 General Meeting, Chabot, Kepler Room, 6:00pm
10 Board Meeting, Chabot, Soda Room, 7:30pm
13 EAS MOVN*, 7pm-10pm, Wightman Plaza
Apr 16 General Meeting, Chabot, Physics Lab, 7:30pm
14 Board Meeting, Chabot, Soda Room, 7:30pm
10 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>

2011 EAS Annual Awards Dinner

March 20th, 6:00pm in the Kepler & Copernicus Rooms, Chabot Space & Science Center

Don't miss this year's annual dinner festivities featuring the ever popular buffet dinner by Harry's Hoffbrau, a special tour of Chabot's Bill Nye Climate Lab, service awards and prizes, and, a very timely lecture on the Kepler mission by the mission target scientist, Dr. Steve Bryson.

This year's festivities include:

5:30-6:00pm - tour of the Bill Nye's Climate Lab

6:00-7:00pm - Harry's Hoffbrau buffet dinner

7:00-7:30pm - service awards and prizes

7:30-8:45pm - lecture by Dr Steve Bryson

Make your dinner reservations ASAP by going to the EAS website and using the PayPal link provided.

Dinner is \$35 per person.

<http://www.eastbayastro.org/>

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.*

NEOs and Chabot

NEOs, or, **Near Earth Objects** are solar system objects, asteroids or comets, with orbits that periodically bring them into close proximity with the Earth. Known NEOs number in the thousands and are tracked by a network of observatories world wide, coordinated by the Minor Planet Center (MPC) at the Smithsonian Astrophysical Observatory in Massachusetts. Chabot Space and Science Center is part of that network thanks to the ongoing efforts of EAS member Gerald McKeegan, periodically assisted by Conrad Jung, and, Rod Simmons and Barry Leska..



Gerald recently provided an update on the NEO work being done with Chabot's 36 inch Cassegrain telescope Nellie:

- Since January 1st, we have submitted to the IAU Minor Planet Center 53 observations of NEO's, including confirmation observations of three newly discovered NEOs.
- Our observations were confirmations, not discoveries. All three of these objects were "discovered" by the Mt. Lemmon survey telescope near Tucson, AZ. Within a few minutes of Mt. Lemmon's initial observations of these objects, the Minor Planet Center posted these for follow-up confirmation. In all three cases, Chabot was the only other observatory in the world that was able to make the confirmation. That's a bit unusual; normally when the MPC asks for confirmation, two or three other observatories are able to respond within a day or so.
- The three confirmations received the following IAU designations:
 - 2011 CK50
 - 2011 CM50
 - 2011 CC66
- Since January 1st, we've also submitted 12 observations of Main Belt Asteroids.
- Observing was hampered in the first half of January because of inclement weather, and has been somewhat limited for the entire period due to the

- problems with Nellie's collimation and repositioned focal plane. Collimation is now much improved, but we still need to get firm measurements of the focal plane position so we can cut the two interchangeable tailstock tubes. Once again, weather is restricting our ability to do that.

For more information on NEOs visit the International Astronomical Union **Near Earth Objects** web site at: <http://www.iau.org/public/neo/>

To learn how you can participate in Chabot's NEO observing program contact Gerald McKeegan by E-mail at geraldspace@earthlink.net

SAYS JANE...

A recent communication with our favorite NASA/JPL ambassador to the public brings us up to date on "what's up" with Jane Houston Jones:

Here's what's up ;) with me. I'm in my 8th year at NASA JPL, still leading Cassini's informal/public education and public outreach (EPO). I manage a 400 member volunteer network called the Cassini Saturn Observation campaign, with members in 52 countries, who take telescopes out and show Saturn in their towns.

I just produced my 45th monthly video podcast for NASA. It's geared for members of the public (also museums, etc.) to share a view of the sky, a teachable moment sometimes and ties the skyview to a NASA mission - all in little more than 2 minutes each month. It's Called What's Up. Here is the main page with all 45 of them archived, along with my occasional NASA blogs. <http://solarsystem.nasa.gov/news/whatsup-archive.cfm>

I have been sort of adopted by the Manitoba Cree education community and have been blogging about their star legends for a year now, and traveling to Manitoba to give talks. I gave 14 talks in 7 days from Winnipeg to Nelson House to Churchill last November! This one is fun to read - star tales woven into a dreamcatcher that was given to me.

<http://jane.whiteoaks.com/2011/01/30/a-dreamcatcher-and-a-blanket-of-stars/>

(continue SAYS JANE, page 4)



(cont. SAYS JANE)

I go back next month to Winnipeg to keynote at their Manitoba First Nation Education Resource Center Science fair. 57 indigenous First Nation schools 400+ student entries, very very inspiring. There are a couple other Cree/Manitoba blogs on my janeblog if you like reading this sort of thing. :-)

I am also twittering the Cassini Spacecraft on Twitter for those who do such things. <http://twitter.com/CassiniSaturn> So still living the dream in LA, getting paid to be an amateur astronomer. :-) Miss you! Jane

Yuri Gagarin Education Day

The Eastbay Astronomical Society is invited to volunteer in our upcoming Yuri's Education Day event at NASA's Ames Research Center in Mountain View this April 8, 2011, from

9am-3pm, as we honor the 50th anniversary of the first astronaut who entered into space, Yuri Gagarin. This upcoming year, we are expecting more than 6,000 attendees from the greater San Francisco Bay Area to join together in a one-of-a-kind experience, and we are excited to create an innovative and interactive learning environment with your help!



See a YouTube video of last years event: http://www.youtube.com/watch?v=PXJTFKixc_k

We would love to have you guys participate and anyone who you can thin of that would enjoy getting involved!

Please visit the volunteer information site at <http://sites.google.com/a/ynba.org/volunteerwiki/> and feel free to email or call me at (415) 652-3094 if you have any questions. The deadline to apply is March 10th.

Thanks!
Michelle Doughty
Volunteer Coordinator
Yuri's Night 2011

San Francisco Bay Area Project ASTRO

The Astronomical Society of the Pacific is recruiting new astronomers and educators for Bay Area Project ASTRO - a partnering of astronomers and teachers. Related ASP joint activities include: GLOBE at Night and NASA's Year of the Solar System, and Sun. This years Bay Area Project ASTRO partners workshop is scheduled for Friday and Saturday, August 12-13, 2011.

Workshops for this year's Project ASTRO partners are in the planning stages with the following themes: Using the Galileoscope to teach about Light and Optics; SOFIA and Infrared Astronomy in the Classroom; and Dark Skies Awareness and GLOBE at Night. Check the Project ASTRO web site for details and enrollment information.

<http://www.astrosociety.org/education/astro/bayarea/bay.html>

GLOBE at Night: Join the Worldwide Hunt for Stars! February 21 – March 6, 2011 -and- March 22 – April 4, 2011 www.globeatnight.org

NASA Year of the Solar System:

<http://solarsystem.nasa.gov/yss>. Check out the download page for a printable calendar showing monthly themes and mission events (<http://solarsystem.nasa.gov/yss/downloads.cfm>).

Sun – Earth Day: Ancient Mysteries - Future Discoveries: March 19, 2011 For more information and links to resources including a live webcast on Sun-Earth Day go to: <http://sunearthday.nasa.gov/2011/>

SOFIA: The Next Generation Airborne Observatory <http://www.sofia.usra.edu/>

Solar Adventures!

April 2nd 4-8 PM

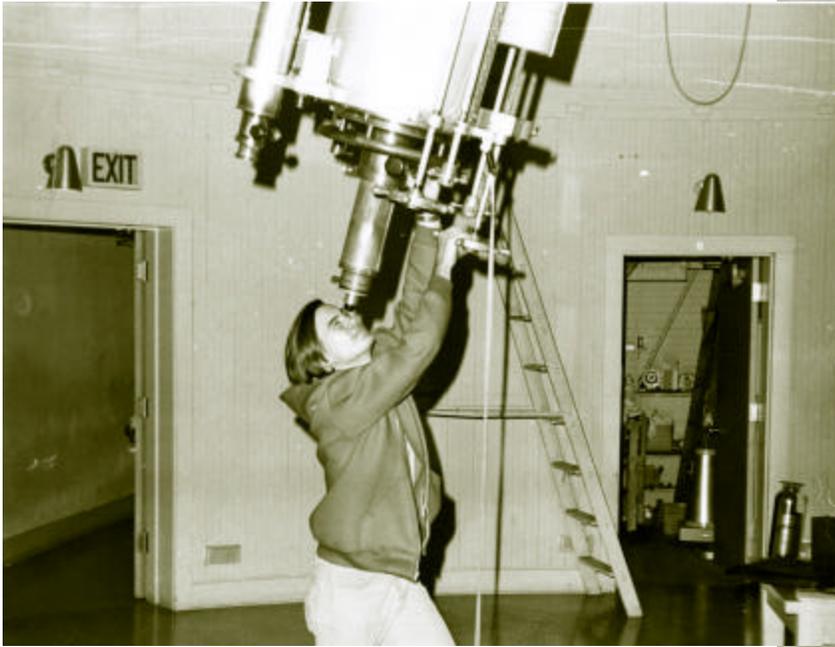
Chabot Space and Science Center, Oakland, CA

The Girl Scouts of Northern California have a growing astronomy program, and are looking for volunteers to help with their upcoming event at Chabot. Dinner will be provided. For more information and sign up, contact Alice Lemieux, Girls Go Tech Program Manager @ 510-562-8470 x157 or E-mail to:

alemieux@girlscoutsnorcal.org

Chabot Observatory, Mountain Boulevard, circa early 1970s

And folks wonder why Kingsley Wightman's hair was white....



"Nothing here....did someone take the dust cover off?"

David R. Shaw at Rachel's eyepiece [above]



"Guys, watch your heads, coming hard to starboard!"

David R. Shaw at the dome control on Rachel's pier with Rob Vorderbugen stepping into view in the background.



"Are you sure Venus doesn't have landing lights?"

Rick Sarrica at Leah's eyepiece [above]

"You don't suppose that security camera up there is working, do you?"

[at right] Rob Vorderbugen at the dome control, Fred Schumacher at Rachel's drive control cabinet and long time EAS Director of Instruments, Bob Schalck obviously torn between either ducking or running.....



These splendid photos were shot and kindly submitted by very long time EAS member Rick Sarrica. Thanks, Rick!



Eastbay Astronomical Society

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

March 2011

RETURN SERVICE REQUESTED

Eastbay Astronomical Society

President: Barry Leska b.leska@comcast.net

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

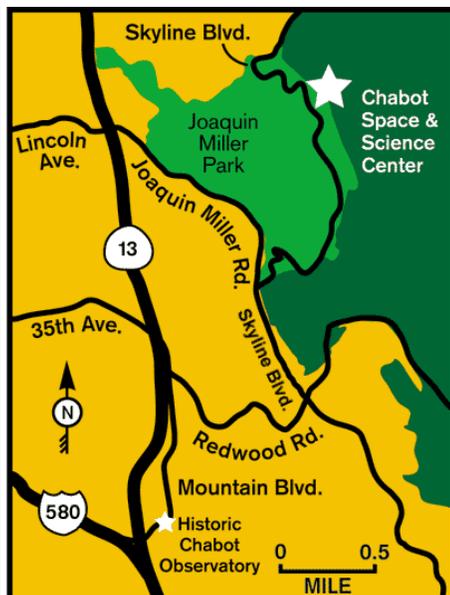
Secretary: Linda Lazzaretti (510) 633-2488

Articles and photos for *The Refractor* are encouraged. Deadline for the Apr. 2011 issue is Apr. 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



FUTURE CONJUNCTIONS

- Mar 19** General Meeting, Chabot, Physics Lab, 7:30pm
10 Board Meeting, Chabot, Soda Room, 7:30pm
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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
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Sign up online at <http://www.eastbayastro.org/>