



# The Refractor

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

Volume 86  
 Number 10

July 2010

## July EAS Lecture Meeting

**Title: Instrumentation and Methods for the Search for Extra-Terrestrial Life**

**Speaker: Andrew Siemion, University of California, Berkeley**

**When: Saturday, July 24, 7:30pm**

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

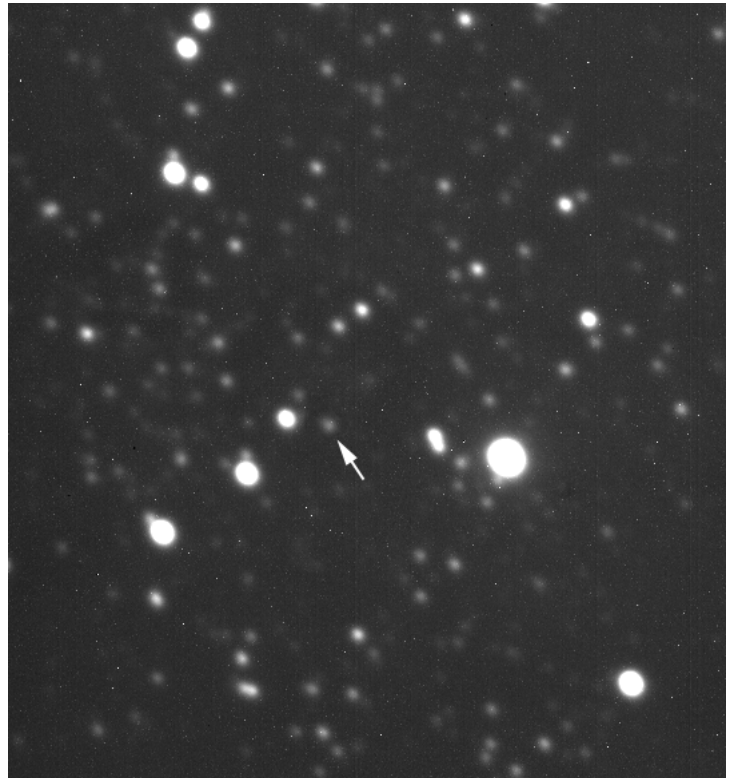
Our group is currently conducting seven separate searches for electromagnetic signatures of extraterrestrial intelligence, spanning wavelengths from radio to visible light, over ten orders of magnitude in characteristic time scale. SETI@home, the Search for Extraterrestrial Radio Emissions from Nearby Developed Intelligent Populations (SERENDIP) and Astropulse are commensal searches at Arecibo Radio Observatory, sensitive to a wide variety of both spectrally narrow signals and dispersed pulsed emissions. The Fly's Eye searches a very wide field (nearly 200 square degrees) for bright, dispersed radio pulses using the Allen Telescope Array. The Search for Extraterrestrial Visible Emission from Nearby Developed Intelligent Populations (SEVENDIP) and SPOCK projects search for pulsed and continuous signals from extraterrestrial visible-light lasers. The DYSON project analyzes stellar spectra for infrared excess that could indicate massive energy usage by an extremely advanced civilization (e.g. from a Dyson sphere).

We are also developing high-performance and sensitive instrumentation for use in the search for extra-terrestrial intelligence, all of which is completely open-source and available to the international SETI community. These efforts include our recently

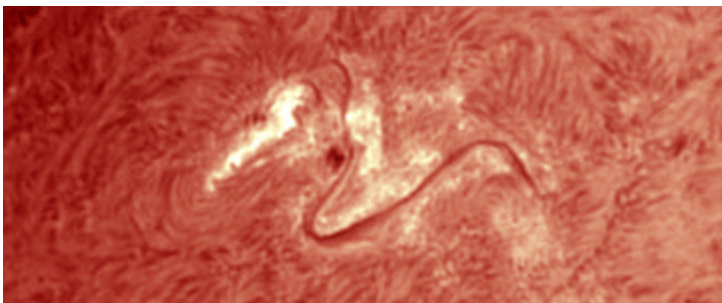
deployed SERENDIP V.v spectrometer system and two radio and near-IR instruments currently under development. These instruments may be built using low-cost, modular components and programmed and operated by students using common languages, e.g. ANSI C.

I shall describe our ongoing and nascent SETI searches, search methodology and instrumentation development efforts.

## Elusive Pluto



Pluto imaged by EAS ExoPlanet group members David Birnbaum, Derek Lenzi and Terry Galloway using the Apogee 16 megapixel CCD camera on CSSC's Nellie. The 60 second exposure was through a V-filter (yellow) with the camera binned 4x.



## Sunspots & Flares - Lots To See!

Spectacular live video of the sun in H-alpha on the giant plasma screen in Rachel's Dome, every sunny Weekend. Flaring active region 11087 in H-alpha. Photo by Jim Ferreira

**DINNER WITH THE SPEAKER**  
 5:30, Sat, July 24  
**Hunan Yuan**  
 4100 Redwood Rd.  
 (next to Safeway)  
 No need to confirm,  
 Just show up!

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**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 EAS president Barry Leska at leska@comcast.net



**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**

- 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
- Sep 25 EAS General Meeting, Chabot, Physics Lab, 7:30pm
- 9 Board Meeting, Chabot, Soda Board Rm, 7:30pm
- 12 EAS MOVN

\*Please call Gerald McKeegan at (925) 926-0853 after 5pm on the date of the MOVN to verify that it has not been cancelled due to weather or other considerations.

**3rd Annual NASA Lunar Science Forum**

To be held July 20-22, 2010, at the NASA Ames Conference Center, Moffett Field, California. This year's forum will feature sessions on scientific results from the Lunar Reconnaissance Orbiter, Lunar Crater Observation Sensing Satellite, as well as the presentation of the annual Shoemaker Medal and associated keynote lecture. As in past years, science sessions are structured to report on both recent results and future opportunities for lunar science, education and outreach.

More information is available on the web at:  
<http://lunarscience2010.arc.nasa.gov/print/welcome>

**Project lets users explore the cosmos from a PC**

NASA has joined with Microsoft to create a seamless, digitized map of the night sky -- including a 3-D map of Mars that users can navigate on a computer. The mapping project, called Terapixel, can be viewed using Microsoft's free Internet-based WorldWide Telescope program, and was developed to help interest more students in studying science and related fields. "What we're trying to do at NASA is make our data more accessible," NASA's chief technology officer said, "and we're doing that by connecting students in the classroom and at home to a user-friendly platform."

<http://www.worldwidetelescope.org/Home.aspx>

**Make Contact at SETIcon**

The Search for Life in the Universe in Science Fact & Science Fiction. Science and the imagination meet **Friday through Sunday, Aug. 13–15**, at the Hyatt Regency Hotel in Santa Clara. The convention is presented by Mountain View-based SETI, the Search for Extraterrestrial Intelligence. SETI is an exploratory science that seeks evidence of life in the universe by looking for some signature of its technology. The mission of the SETI Institute is to explore, understand and explain the origin, nature and prevalence of life in the universe.

<http://www.seticon.com>

**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@chabotspace.org](mailto:volunteers@chabotspace.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.



# Eastbay Astronomical Society

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

**July 2010**

*RETURN SERVICE REQUESTED*

## Eastbay Astronomical Society

President: Barry Leska leska@comcast.net

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

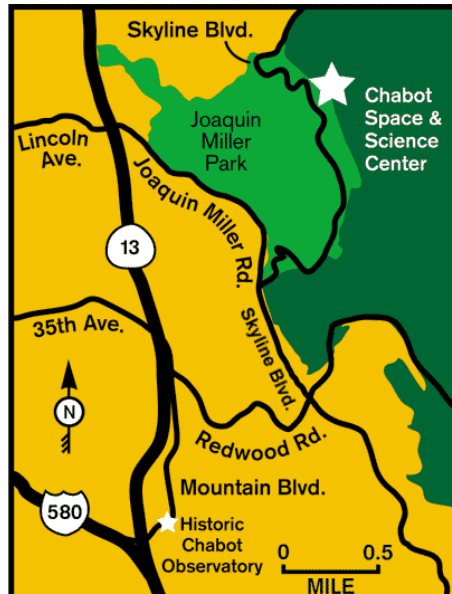
Secretary: Linda Lazzaretti (510) 633-2488

Articles and photos for *The Refractor* are encouraged. Deadline for the August 2010 issue is August 10, 2010. 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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8 Board Meeting, Chabot, Soda Room, 7:30pm  
18 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/>