



# The Refractor

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

Volume 79  
 Number 2  
 October 2002

## Astronomy is Women's Work

by *Tinka Ross*

Saturday, October 19, 2002

Physics Lab, 2nd Floor, Spees Bldg  
 Chabot Space & Science Center, Oakland

- Presentation – 7:30 pm
- Club Business afterwards



The stereotype of the male scientist is well ingrained in Western culture. So much so, in fact, that as recently as 1992 an article in Mercury Magazine stated "women astronomers must seem like an oxymoron to many". But despite unfavorable societal pressures and lack of opportunities, there have been some extraordinary women who have made remarkable discoveries and contributions in the field of astronomy.

markable discoveries and contributions in the field of astronomy.

Tinka Ross received her BA in astronomy at Wellesley College, Wellesley, Massachusetts in 1961. She has worked at several astronomical facilities, including the Maria Mitchell Observatory, Nantucket, MA; Harvard College Observatory, Cambridge, MA; the Adler Planetarium in Chicago, IL; and the University of Hawaii. More recently, she has instructed astronomy at the College of Marin, and was part of a teacher training program at the University of California, Berkeley. She regularly lectures in planetarium shows at Morrison Planetarium in the California Academy of Sciences, San Francisco, and is also the Mt. Tamalpais Astronomical Programs Director. Tinka has conducted 14 solar eclipse tours over the last 14 years (and will do her fifteenth this year in Australia!) She is also currently involved with two volunteer programs designed to promote astronomy; SPICA, and ProjectAstro. She is married and has two children (now adults), and likes theater and scuba diving. Wow! ☆

involved with two volunteer programs designed to promote astronomy; SPICA, and ProjectAstro. She is married and has two children (now adults), and likes theater and scuba diving. Wow! ☆

*Tinka with ProjectAstro kids*



## The end of an era:

### Lumicon closes its doors for good

On September 30, 2002, one of the premier suppliers of astronomical equipment and accessories for over two decades, Lumicon of Livermore, CA, closes shop forever, citing a weakening economy due to September 11.

Starting with a line of light pollution filters and an ad in Sky & Telescope back in 1979, Jack Marling grew his business over the years to include telescopes, astro-photography accessories, and even pre-hypered film for taking pictures of the faint fuzzies.

Lumicon is already being missed. Thanks, Jack. It was great while it lasted! ☆



It's membership renewal time!

Don't forget to sign up

(see form on Page 5)

#### DINNER WITH THE SPEAKER

5:30 pm

Saturday, Oct 19, 2002

**HUNAN YUAN**

4100 Redwood Rd., #11

(next to Safeway)

Oakland

(510) 531-1415

Please call Betty Neall at 510/533-2394 by Friday, October 18th to confirm your place.

#### Inside This Issue:

<b>Leonids Proposal</b>	<b>2</b>
<b>Editor's News/Views</b>	<b>3</b>
<b>Upcoming Events</b>	<b>4</b>
<b>Election Nominees</b>	<b>5</b>
<b>Membership Form</b>	<b>5</b>

# Viewing of the 2002 Leonid Meteor Storm

By David Seaborg

**M**y wife and I had a fabulous trip to Australia in November 2001. I am an evolutionary biologist and have always had a passion for animals, and had always wanted to see Australia and its wildlife. The Leonid meteor storm was predicted to be favorable in Australia, so this was a good time to fulfill my life-long dream of seeing the country. We saw Sydney, the Great Barrier Reef, Kakadu National Park, Ayers Rock, and the Blue Mountains. I climbed to the top of Harbor Bridge in Sydney, saw Duck-billed Platypuses, various marsupials, including the Grey Kangaroo at a distance of six feet, Dingos, spectacular reptiles and birds, and I climbed Ayers Rock.

But the highlight of the trip was up on the York Peninsula of Australia, in the northeastern part of the country, at a remote place in the Outback called Jowalbinna. Our guide showed us the bower that the male Bower Bird builds to dance in to attract a mate, Aboriginal rock art, wonderful Eucalyptus forests, and interesting birds, kangaroos, and wallabies. But the most thrilling sight and reason for

going there was the Leonid meteor storm. I researched and thought long and hard before deciding Australia was the best place to view the meteors, and Jowalbinna was the best place in Australia. This was based on a combination of weather and height of the radiant. Points north, like Guam, had better radiant heights, but worse weather prospects, so the decision was not simple. Jowalbinna is inland from the Great Dividing Range, giving it good prospects for clear skies, and has very dark skies, being far from civilization.

My careful planning paid off. The skies were cloudless all night, and the show was spectacular. For the first time in my life, I saw the Magellanic Clouds, the Southern Cross, and the False Cross. At about 1:00 AM, the first meteors appeared, including tremendous fireballs, one leaving a glow that lasted over a minute. The show built to a climax, when I estimated one meteor occurred every two seconds. We watched until sunrise. It was by far the best meteor show I've ever seen in my life, and it lays to rest the attempt to watch the 1999 Leonid storm, when my wife and I got clouded out in Tunisia.

There, in spite of careful planning and taking likely weather prospects into account, we did not see even one meteor, and the skies were essentially totally covered in clouds most of the night, despite the fact that skies had been clear in the rural desert area of Tunisia that we were in on all other nights that year. I must add that I am glad we did not go to see the 2001 storm in Guam, which I had considered going to: it was clouded out.

Surprisingly, the experts are predicting that the Leonids will give their best show for this cycle of the comet producing them, in terms of numbers of meteors, with an estimated 30,000 meteors per hour, in November 2002! What is more, this is predicted to be best over the United States, so one need not travel far to see the Leonids this year. But there's a catch. In 1999 and 2001, there was no moon in the sky for the better part of the night, making the skies dark, and viewing condi-

tions excellent, if one was in a spot with good weather, far from city lights. However, in 2002, there will be a nearly full moon, which will light up the sky, and wash out most of the meteors.

I would like to propose an experiment that we can carry out collectively. We can then share the results of this experiment with each other. It is possible that being on the top of a mountain—as high in altitude as possible—will be the best way to counter the effects of moonlight, because there would be less atmosphere to scatter the moonlight. Yet it



“I would like to propose an experiment that we can carry out collectively.”

is also possible that being near sea level next to a mountain that is between you and the moon, standing in the mountain's shadow and benefiting from it, would be the most effective way to block out the moon's light. It is my understanding that the experiment that would determine which of these methods is better has never been done. There has never been a compelling reason to do it until now. The experiment would consist of standing on a mountain and then in the shadow of the same mountain, on nights when the moon is full, or close to it. It is a simple experiment, and should be done in a variety of locations. If we had a mechanism for comparing results, such as in this newsletter, or at meetings of the East Bay Astronomical Society, we could likely get enough data to reach a reasonable conclusion. We could also invite interested people who do not read this newsletter and are not members of EAS to join us. It is worth a try; the potential rewards are great, and the only cost is a few nights out looking at the sky, which is an activity amateur astronomers enjoy anyway. ☆

## Editor's News 'n Views

BOO! Did I scare ya? No? Well, consider this: it's almost Halloween. That means it's almost the start of the holiday season. That means you have to get ready for Halloween, Thanksgiving, Hanukkah, Christmas, and Kwanza. Don't get me wrong: I love the holiday season. I just wish it didn't involve quite so much *work*. (I especially love this year's holiday season, as the next *Lord of the Rings* movie comes out in December – yes!) But, I digress.

This is a *real* nice time of the year for stargazing; there's something about the equinoxes that gives us more of those warm nights with fog down below to cut off the Bay Area light pollution, with good to excellent seeing. Right now, we're looking at the Ring Nebula (M57), and the M15 globular cluster (which, by the way, has recently been proven to have "black hole syndrome," meaning it's got one). We've also been peeking at the Andromeda galaxy (M31) and its companion (M32); even the Pleiades have been poking above the Dellums Building at the end of the night, marking the arrival the Fall skies.



And in the news this last month: our beloved **Betty Neall**, born in 1907, turned 95(!) on September 23rd. To honor her membership and work in the EAS over the last 66 years, including a long stint as President, **Ellis Myers** proposed a new award to the EAS Board of Directors: the **Betty Neall Youth Award of Merit**; a cash award of \$95 to be given each year at our annual awards dinner

to the most promising young astronomer, as determined by a panel of judges. There is currently \$419 donated by the following people toward the fund that will provide the interest monies to pay the award: **Don Stone** \$19, **Don Saito** \$50, **Paul Zurakowski** \$50, **Bruce Skelly** \$250 and **Ellis Myers** \$50. Anyone else interested in contributing to this fund, please contact Don Stone at (707) 938-1667, email: [ddstone@earthlink.net](mailto:ddstone@earthlink.net), or 19047 Robinson Rd., Sonoma, CA 95476-5517. Way to go, guys (and me)!

We've got some Members Only view nights coming up. I have to apologize for the first one, on Sunday, October 6; I forgot to mention it at the club meeting, and this newsletter is probably going to be too late to adequately notify all the snail-mail recipients. I'll still mention it here, as *some* of you *may* get this in time. We'll start at 6:00pm. The next one after that is Sunday, November 3rd, starting at 5:00pm – both up at Chabot's Wightman Plaza, of course, where we'll be using both Leah and Rachel to see what-

ever is there to be seen. Both will go until around 9:30 or 10:00 pm. The Members Only view nights are one of the great reasons to become a member of the EAS; otherwise, you would only have access to the large telescopes during the public nights (Fri/Sat). On the public nights, when the viewing is semi-decent, the lines have a tendency to get *real* long – like 30 to 45 minutes! We members are a much smaller crowd, and so we can just bop around the sky, hopping from one object to another. It's great! If you've got your own scope, feel free to bring it up, too. If you have questions about how to use it, there will be plenty of experienced amateurs to help you.

**THIS JUST IN** (as provided by Jane Houston Jones of the AANC): Hello, I am responsible for gathering a team of visual meteor observers to watch the Leonids from Steward Observatory on Mt. Lemmon near Tucson, Arizona. This observing team will be a part of Peter Jenniskens Leonid MAC 2002 program (Multi-Instrument Airborne Campaign) and we will be operating a real-time reporting system that uses a modified computer mouse to allow each observer to "click" in their observations as they happen. This real-time data is then made available to the web, NASA, satellite operators, and other interested parties. More information can be found at the Leonid MAC web site: [leonid.arc.nasa.gov](http://leonid.arc.nasa.gov) <<http://leonid.arc.nasa.gov>>

We have been given use of the facilities on Mt. Lemmon, largely through the courtesy of Aerospace Corporation and one of their astronomers, Ray Russell, both Leonid MAC participants. Last year we observed on the lot outside a dome housing a 60 inch telescope. We had full use of the dome which contains a warm room, a bathroom, and an on-line computer station. The site is at the very summit of the 9157 ft. Mt. Lemmon, which will give some relief from the lunar glare present this year.

Accommodations are dormitory style with bedrooms, common bathrooms and showers, and a common kitchen/dining area. Observers must bring their own food, and there are dining and grocery opportunities at a small town near the summit.

This year's team will be led by Jim Richardson, who is currently working at the University of Arizona's Lunar and Planetary Lab in Tucson. With peak activity predicted to occur on the morning of the 19th, our tentative dates of operation are November 17-20.

We need to find experienced meteor observers who can provide us with accurate data, and I hope you can join us for this year's Leonid MAC mission. If you have any questions about the program, don't hesitate to contact me.

Dave Holman  
[daveh@lmi.net](mailto:daveh@lmi.net)

So, if you're interested in going to a great site to see the last great meteor storm of your life, and participate in a real live astronomical science project, give Mr. Holman a call. ☆

## Upcoming Events

### 2003: A Spees Odyssey

Join us for an out-of-this-world event honoring Oakland City Councilmember and Chabot Board Member Dick Spees. On the evening of November 16, Chabot will be the site of "2003: A Spees Odyssey," a retirement party for Councilmember Spees, celebrating his 24-year career in public service.

Councilmember Spees played an instrumental role in the development of the new Chabot Space & Science Center – providing leadership and helping to secure the funding necessary to open the new facility. Proceeds from the retirement party will be used to establish the Chabot Space & Science Center Education Fund, an endowment with the East Bay Community Foundation, and will help provide long-term support for the Science Center's outstanding educational programs.

The event will feature tastings of food and beverages provided by the East Bay's finest restaurants, wineries and breweries, and special entertainment throughout the Science Center.

Reservations are \$75 per person and sponsorships are available at \$1,000 and up. Please call (510) 625-0576 or (510) 238-7041 for more details. ★

## EAS Events

- **Oct 5 & 19, Nov 9 & 23, and Dec 14 (all Saturdays):** EAS Library work parties from about 2 to 5 pm
- **October 12, 10 am to 5 pm** NCHALADA, (with a break for lunch), Soda Board Room, CSSC. Morning session: Grand amateurs (such as Lord Rosse); moderated by John Westfall. Afternoon session: Near Earth Asteroids; moderated by Bill Stepka.
- **Friday, October 18th between 6:30 and 8:30 pm.** We need a couple of people with telescopes for an event at the Junior Center for Arts and Science in Lakeside Park.
- **Sunday, October 20 from 7:30 to 9:30 pm** is the Moon Viewing Festival at the Garden Center in Lakeside Park. We need about 4 people, RSVP Don Saito at (510) 482-2913 to get yummy, free Japanese dinners. The indoor activities are expected to end about 7:30 pm although we might get a few people wandering out earlier.
- **Sunday, November 3, from 5 pm – 9:30 pm** EAS star party with the 'scopes at Chabot. Sunset is just after 5 pm and it will be fully dark about 6:30.
- **Wednesday, November 13th at 7 pm** we need several people to help with a school star party at the Grass Valley School on Golf Links Road up the hill from the Zoo.
- **Tuesday, November 19th between 2:13 and 2:44 am.** Last chance this generation for a possible Leonid storm. There will be a full Moon in the southwest which will hide the fainter meteors. For those who can't get away to a high-

altitude or more easterly site, CSSC will have another viewing session beginning at 9 pm on Monday evening the 18th and continuing until dawn. Tickets are \$10 and should be purchased early since last year more than 600 people attended.

- **EAS officer elections** are coming up. The deadline for nominations is normally the November lecture meeting with voting in December but we aren't having a lecture meeting as such in November so we'll take 'em by phone, email, or snailmail.

## CSSC's Distinguished Lecturer Series

Dr. Mike Carlowicz of Woods Hole Oceanographic Institution will be giving a talk at Chabot Space & Science Center on December 12, 2002, as a Distinguished Lecturer. His subject will be "Storms from the Sun: How Weather on the Sun Affects Life Down Here."

We live within the atmosphere of a variable star, and that atmosphere is home to some of the most bizarre and unpredictable cosmic weather. Space weather is a range of disturbances that are born on the Sun, rush across space, and disturb Earth's environment and the various technologies we have come to depend upon. If you like your electronic toys and tools - or if you work for or invest in the companies that make them - you ought to learn something more about our nearest star....the only one that will affect you in your lifetime.

The lecture takes place in the Tien MegaDome Theater at 7:30 pm with a dessert reception to follow. Tickets are \$5 and can be purchased at the door, or by calling the Front Desk (510) 336-7373. Tickets are also available on ticketweb.com

### More Distinguished Lecturer Events

- Oct. 17-** Dr. Phil Plait will talk on "Bad Astronomy"
- Nov 21-** Robert Garfinkle will talk on "The Mimbres Plate: the Moon and the Supernova of 1054" in honor of Native American Heritage Month
- Jan 16 -** Dr. Steven Stahler, UC Berkeley, "How Stars Are Made."
- Feb 20 -** Dr. Geoff Marcy "Planets and Prospects for Life in the Universe."
- March 20 -** Dr. Sten Odenwald (The Astronomy Cafe) will talk on "Patterns in the Void - Why Nothing is Important."
- April 17 -** "A Space Child's Mother Goose", a night of rollicking space verse and song for all ages. (Recognizing Nat'l Poetry Month).
- May 15 -** Dr. Mike Reynolds "The History and Lore of Lunar Eclipses" and view the total Lunar eclipse that evening.
- June 17 - "Mars Mania!"

For a brochure of the Fall, 2002 or Spring, 2003 Distinguished Lecturer Series, please contact Denni Medlock at [dmedlock@chabot.space.org](mailto:dmedlock@chabot.space.org) or by calling (510) 336-7368. ★

# EAS 2003 Election

December 2002

Shall the following be elected to serve the EAS for 2003?

**President:** Carter Roberts  
**Vice President:** Phil Crabbe II  
**Secretary:** Linda Lazzereti  
**Treasurer:** Don Stone

## Board of Directors:

Anne Creese (Librarian)  
 Franklyn Creese (Librarian)  
 Alan R. Fisher  
 Terry R. Galloway (Groups Coordinator)  
 Conrad Jung (Director of Instrument Training)  
 Linda Lazzeretti (Board Secretary)  
 Bill Levinson  
 Betty Neall\*  
 Louise Predovic  
 Alan Roche  
 Dave Rodrigues (Meeting Events Coordinator)  
 George Roush  
 Don Saito (Newsletter Editor)  
 Bruce Skelly  
 Ken Swagerty (Director of Instruments)  
 Paul Zurakowski (Director, Telescope Makers' Workshop)

\*Betty Neall is automatically a member of the Board as the "Immediate" Past President - well: at least in geologic time!

Phone, email, or snailmail any other nominations to the Editor, Don Saito, at the following contacts:

Don Saito  
 3514 Randolph Ave.  
 Oakland, CA 94602  
 donsaito@pacbell.net  
 (510) 482-2913 (please leave your name and who you're nominating for which position on the machine) ★



◀A classic shot of Venus and the Moon in the fading dusk. Taken by Conrad Jung on Sept 9th at approx 7:30 pm from Wightman Plaza, Chabot Space and Science Center.



## MEMBERSHIP APPLICATION FORM

(Please print clearly)

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State/Zip: \_\_\_\_\_

Email: \_\_\_\_\_

Day Phone: \_\_\_\_\_

Eve Phone: \_\_\_\_\_

Do not print address in Membership Directory listing

### MEMBERSHIP CATEGORIES:

- Regular..... \$24
- Family ..... \$36
- Contributing..... \$40
- Sustaining..... \$60 or more
- Student (digital newsletter only)... \$10

### Optional discounted magazine subscription:

- Sky & Telescope ..... \$29.95
- Astronomy ..... \$29.00

### Optional tax deductible donations:

- Burns Library..... \$ \_\_\_\_\_
- General Fund..... \$ \_\_\_\_\_

Total Enclosed: ..... \$ \_\_\_\_\_

To help save the club money, I prefer to receive the newsletter in digital format.

Please cut out and mail this form and your check or money order payable to:

Eastbay Astronomical Society  
 19047 Robinson Road  
 Sonoma, CA 95476-5517

For more information, contact Treasurer Don Stone at: (707) 938-1667, or ddcstone@earthlink.net, or the address above.

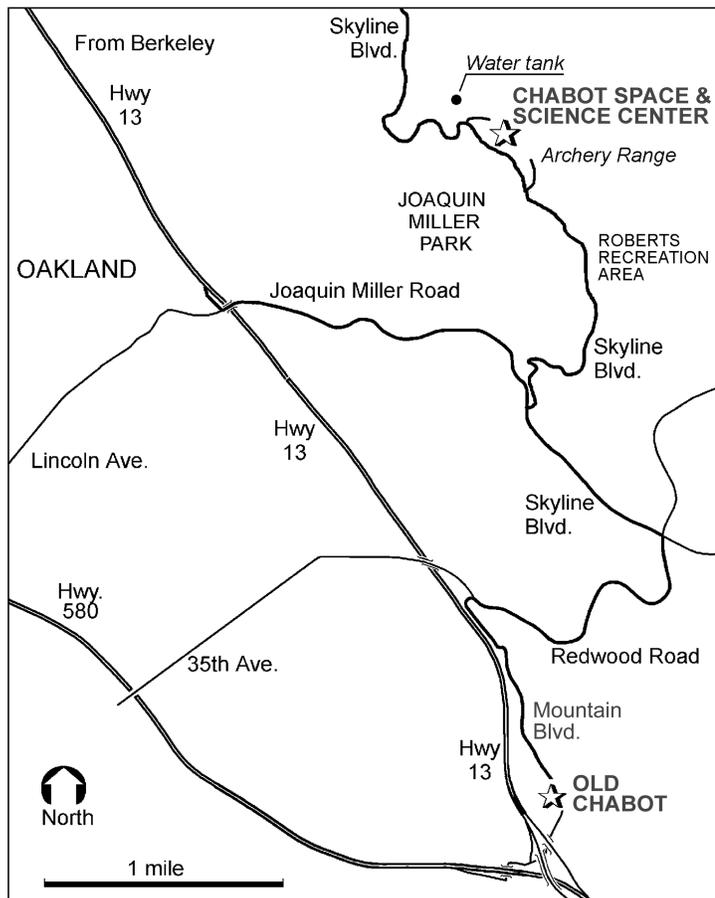


# Eastbay Astronomical Society

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

October 2002

RETURN SERVICE REQUESTED



#### FUTURE CONJUNCTIONS

- |     |    |   |
|-----|----|---|
| Oct | 5  | 2-5pm EAS Library work party, Chabot              |
|     | 6  | 7:00 EAS Members Only viewing night at Chabot     |
|     | 10 | 7:30pm EAS Board Meeting, Chabot                  |
|     | 19 | 2-5pm EAS Library work party, Chabot              |
|     | 19 | 7:30pm EAS General Meeting, Chabot                |
| Nov | 3  | 7:00pm EAS Members Only viewing night at Chabot   |
|     | 9  | 2-5pm EAS Library work party, Chabot              |
|     | 9  | 7:30pm EAS General Meeting, Chabot (Meade Night!) |
|     | 14 | 7:30pm EAS Board Meeting, Chabot                  |
|     | 23 | 2-5pm EAS Library work party, Chabot              |

#### Eastbay Astronomical Society

President:	Carter Roberts	(510) 524-2146
		cwroberts@earthlink.net
Vice President:	Phil Crabbe II	(510) 655-4772
Treasurer, Membership:	Don Stone	(707) 938-1667
		ddcstone@earthlink.net

Articles and photos for *The Refractor* are encouraged. Deadline for the November issue is October 12, 2002. Items may be submitted by mail to the editor, Don Saito, 3514 Randolph Avenue, Oakland, CA 94602-1228. Internet email address: donsaito@pacbell.net Hm: (510) 482-2913.

#### Join the Eastbay Astronomical Society

- |  |  |
|--|--|
| <input type="checkbox"/> Regular, \$24/year            | <input type="checkbox"/> Family, \$36/year                             |
| <input type="checkbox"/> Contributing, \$40/year       | <input type="checkbox"/> Student, \$15/year (digital newsletter, only) |
| <input type="checkbox"/> Sustaining, \$60/year or more |  |
- Contact: Don Stone, EAS Membership Registrar  
Telephone: (707) 938-1667 Email: ddcstone@earthlink.net  
Mail: 19047 Robinson Road, Sonoma, CA 95476-5517