

# ★ ABOVE THE FOG

• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

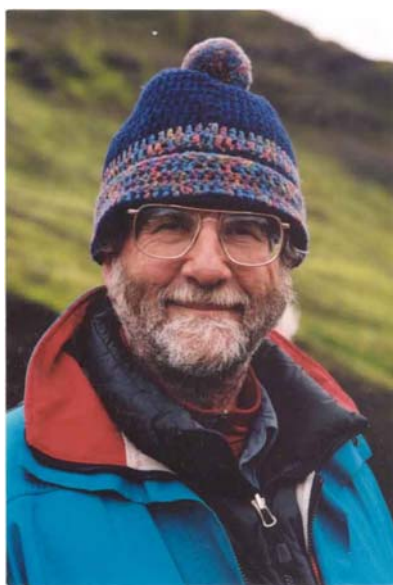
VOL. 52, No. 3 – MARCH 2004

**MARCH 17, 2004 – GENERAL MEETING**

7:00 PM DOORS OPEN  
7:30 PM ANNOUNCEMENTS  
8:00 PM SPEAKER

## **TEKTITES: WHAT ARE THEY? WHERE ARE THEY FOUND? A POSSIBLE TEKTITE STREWNFIELD IN THE BAY AREA**

### **DR. ROLFE ERICKSON**



*Tektites* are now recognized as splash debris from asteroid impacts. They are dominantly small (<5cm) black to pale green siliceous glass bodies with pitted exteriors. In impacts they form by the millions and are distributed in a sheet surface deposit extending for thousands of miles around the impact crater, called a *strewnfield*. In 1990 I was shown a collection of possible local tektites by a Healdsburg resident. There are only four accepted strewnfields in the world and none in western North America, so if they are tektites she collected the discovery will be important, and might lead to the discovery of an as yet unknown asteroid impact structure.

I will talk about the general nature of tektites and asteroid impacts, and then talk about the particular investigation several colleagues and I have been pursuing about the objects I received. The investigation's history is a good model of how scientific research goes, with ups and downs and zigs and zags. The glass objects have many characteristics of tektites, but there is an alternative hypothesis for the objects, which is that they are pebbles derived from a local obsidian flow. The argument over which mode of origin is the most likely to be correct continues. Very recent evidence I will discuss may resolve the issue.

*I was born in Superior, Wisconsin in 1936. I earned a BA in Geology at Michigan Technological University in 1959, an MS in Geology in 1962 and a PhD in Geochemistry in 1970, both at the University of Arizona in Tucson. I began teaching in the Geology Department at Sonoma State University (then Sonoma State College) in the Fall of 1966 and have now taught there for 38 years. My major fields of study are Igneous and Metamorphic Petrology and Computer Applications in Geology. I do research by myself and with students on metamorphic rock units in the Franciscan Complex, the old basement unit in the Coast Range. I also study metamorphic and igneous bodies in southeastern Arizona. Most recently I have become involved in the study of a possible tektite strewnfield in California. My hobbies are playing the stock market and the banjo and listening to prebluegrass acoustic music.*



Four tektites

## 2003 CLUB OFFICERS & CONTACTS

President	Michael Portuesi	(415) 550-9366
Vice President	Nancy Cox	(415) 269-8259
Secretary	James Mace	
Treasurer	Lorrie Boen	
Speaker Chair	Linda Mahan	
City Star Party	Randy Taylor	(415) 255-8670
Membership & Subscriptions Bulletin	Lorrie Boen	
Editor-in-Chief	Phil Estrin	(415) 703-4533
Associate Editor	Annette Gabrielli	(415) 703-4539
Telescope Loans	Pete Goldie	(415) 206-9867
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	Steve Bryson	
	Danny Christian	
	Cheryl Schudel	
	Ken Frank	
	Slava Evankoff	
	Randy Taylor	
Alt. Board Members	John Dillon	
	Phil Estrin	
Webmaster	Joe Amato	

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### MEMBERSHIP DUES

The mailing label on the back of this issue shows the month and year through which your membership was paid. If the date has passed, your membership has expired. Members may receive no more than one bulletin after the expiration of membership.

Please renew soon if your membership is expiring.

### ONLINE SERVICES FOR SFAA MEMBERS



The SFAA's Secretary's Web Site helps keep SFAA information together and accessible to members. The site URL is <http://www.whiteoaks.com/sfaa/>. At this site you can find such information as minutes from meetings of the Board of Directors, the SFAA official by-laws, and other information. SFAA also offers email lists to supplement the bulletin board offered at the SFAA's official web site. At present there are two email lists – an unmoderated list for use primarily for business and discussion by the Board of Directors (but open to all members), and a moderated announcement list for all SFAA members. If you would like to be added to the SFAA-announce email list, please contact the secretary (<mailto:secretary@sfaa-astronomy.org>) and let him know. You can also sign up for the list yourself at this URL: <http://www.whiteoaks.com/mailman/listinfo/sfaa-announce>

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*Above the Fog* is the official bulletin of the San Francisco Amateur Astronomers. It is the forum in which club members may share their experiences, ideas, and observations. We encourage you to participate by submitting your articles, announcements, letters, photos and drawings. We would also like to hear from our new members. Tell us about yourself – what you have done in the past and what other clubs you have joined. The deadline for the next issue is the seventh day of the month. Send your articles to Phil Estrin at [pestrin@dir.ca.gov](mailto:pestrin@dir.ca.gov).

## CLUB TELESCOPES

The SFAA owns 4 club loaner telescopes, Dobsonian/Newtownian reflectors: 6" f/10, 8" f/7, and 10" f/8 and a Starblast. They are available for extended periods (30 days or more) to SFAA members. These are generally very fine scopes, easy to use and well-suited for deep sky, planets, and star parties. The loaner custodians are Pete Goldie & Sarah Szczechowicz, located in San Francisco. If you are interested in borrowing a scope, or if you have items you can donate for the loaner program (eyepieces, star maps/books, collimator, etc.) please contact them via email (<mailto:pg@lbin.com>) or phone (415-206-9867). Email communication is preferred and strongly recommended for a quick and accurate reply.



### CLUB ASTRONOMY VIDEOS

The SFAA owns a series of astronomy videotapes featuring Alex Filippenko, a world-renowned professor of astronomy at UC Berkeley. The videotapes provide an introduction to astronomy and cover topics such as the Solar System, the lifecycles of stars, the nature of galaxies, and the birth of the Universe. The SFAA loans the tapes free to all members. If you are interested in viewing these tapes, you may check them out at any of the SFAA General Meetings. These tapes were kindly donated to the SFAA by Bert Katzung. Our librarian is Dan Christian.



For information on the course tapes themselves:

<http://www.teach12.com/ttc/assets/coursedescriptions/180.asp>

## SFAA CLUB POLOS AND SWEATSHIRTS!



Show THE SFAA LOGO AT THE NEXT STAR PARTY! SFAA HAS MADE ARRANGEMENTS WITH FAIRVIEW EMBROIDERY TO OFFER YOU A CHOICE OF SHIRTS AND SWEATSHIRTS WITH THE SFAA LOGO IN SEVERAL COLORS. FOR YOUR CONVENIENCE, ORDERS CAN BE PLACED DIRECTLY ON THE FAIRVIEW EMBROIDERY WEB SITE THRU MARCH 17<sup>TH</sup>. GO TO [WWW.FAIRVIEWEMBROIDERY.COM](http://WWW.FAIRVIEWEMBROIDERY.COM) AND CLICK THE "SFAA" TAB. CHECKS SHOULD BE MADE PAYABLE TO THE SFAA AND SENT DIRECTLY TO THE FOLLOWING ADDRESS:

SFAA  
P.O. Box 15097  
SAN FRANCISCO, CA 94115

YOU CAN ALSO SEE THE SHIRTS IN PERSON, AND PLACE AN ORDER IN PERSON, AT THE MARCH 17 SFAA GENERAL MEETING. ALL ORDERS MUST BE PAID IN ADVANCE, BY MARCH 20<sup>TH</sup>. YOU CAN PICK UP YOUR ORDER AT THE APRIL 21 SFAA GENERAL MEETING. OR YOU CAN MAKE ARRANGEMENTS WITH MICHAEL PORTUESI, SFAA PRESIDENT, TO PICK UP YOUR ORDER AT YOUR CONVENIENCE. KEN FRANK WILL ALSO OFFER PICKUPS FOR CLUB MEMBERS WHO LIVE IN MARIN.

**SHORT SLEEVE POLO \$23.50 . PULLOVER HOODED SWEATSHIRT \$24.00 . LONG SLEEVE POLO \$23.50**  
AVAILABLE SIZES ARE FROM S TO XXXL WITH A \$1.00 ADDITIONAL CHARGE FOR XXL AND \$2.00 FOR XXXL

THE SHORT SLEEVE POLO AND HOODED SWEATSHIRTS ARE AVAILABLE IN GRAY, NAVY, ROYAL BLUE, OR WINE AND THE LONG SLEEVE POLO IS ONLY AVAILABLE IN GRAY, NAVY, OR WINE.

## FROM YOUR PRESIDENT

I have three items to bring to your attention this month.

The first is new **City Star Parties** during the spring and summer months (April through September). Club member Renita Mock and former SFAA member Toney Burkhart are sponsoring these additional star parties at Land's End, the same site as the SFAA winter events. These are not official SFAA events. Instead, they are presented by the Golden Gate National Recreation Area (GGNRA), the National Park service in charge of the Land's End site. Though these are not SFAA events, they are a welcome addition to astronomical activities in San Francisco, and are very worthy of your support. Details can be found in the flyer appearing on page 10 of this issue.

Secondly, you can now get your very own **SFAA club clothing**. We have short- and long- sleeve polos, as well as hooded sweatshirts embroidered with the SFAA logo and available in four colors. To see samples and place an order, you can visit the Fairview Embroidery website ([www.fairviewembroidery.com](http://www.fairviewembroidery.com)) or visit the March SFAA General Meeting to view the

samples and place an order in person. All orders must be paid in advance, and the finished items will be available in April. Again, more details appear elsewhere in this issue. *Special thanks to Fairview Embroidery for providing these clothing items for SFAA.*

Thirdly, SFAA will be offering a **Messier Marathon** this Saturday, March 20 at Lake Sonoma Recreation Area. This is an event where the goal is to observe all 110 objects in a single night. We will have special lists for folks who wish to wrap up at midnight, plus a special 24-object list, plus finder charts, for beginners to get acquainted with the Messier Objects. So whether you are a newcomer or a seasoned observer, there will be plenty of fun to be had with your telescope the night of the 20<sup>th</sup>. Details can also be found in this issue.

Finally, please keep an eye on this space! We have plans for SFAA meeting speakers you won't want to miss. And we have other observing events planned for 2004. Stay tuned.

**MICHAEL PORTUESI**  
[president@sfaa-astronomy.org](mailto:president@sfaa-astronomy.org),  
415-550-9366





# JANE HOUSTON JONES CHECKS IN WITH SFAA

Thought I disappeared? Nope, just writing, moving and missing all of you.

February was a busy month for space history. Galileo was born on February 15, 1564. Clyde Tombaugh discovered Pluto February 18th, 1930 and John Glenn orbited Earth February 20th, 1962. Where did I find all these facts? On the Space Place calendar, which you can download for free here: <http://spaceplace.jpl.nasa.gov/calendar.htm>

Want to know more?

About Galileo, his discoveries, his telescope, and student work projects to make a replica and recreating his observations: <http://es.rice.edu/ES/humsoc/Galileo/> A great student project!

About Clyde Tombaugh : [http://starchild.gsfc.nasa.gov/docs/StarChild/whos\\_who\\_level2/tombaugh.html](http://starchild.gsfc.nasa.gov/docs/StarChild/whos_who_level2/tombaugh.html) and the planet Pluto: <http://seds.lpl.arizona.edu/nineplanets/nineplanets/pluto.html> and the New Horizons mission to Pluto: <http://pluto.jhuapl.edu/mission.htm>

Jim Kaler, a noted author, has a new feature on his website called *Astronomy Updates*. It is a summary of the highlights of Astronomical research during the year, and he has put about 10 years of highlights here. <http://www.astro.uiuc.edu/~kaler/glpa/glpa.html>

Next, I always enjoy reading the Astronomical Society of the Pacific's "Universe in the Classroom" teacher newsletter. Imagine my thrill when my boss at JPL asked me to write an article for the newsletter! Here it is, rather here they are, because I wrote two articles: <http://www.astrosociety.org/education/publications/tnl/63/saturn.html> The first article is called "It's Saturn Time" and the second article is called "Science@Saturn". The newsletter is free, but if you'd like to support the ASP in its mission of astronomy education, here is how to do it: <http://www.astrosociety.org/membership.html>

Cassini Mission. The JPL-produced planetarium show, *Ring World*, is showing at the Chabot Space and Science Center right now, and at dozens of planetariums around the country. It is also available in DVD format for teachers, students, museums, everybody. If you are interested in receiving a copy of it, and are willing to complete an event summary (or email) of when and how many times you show it, you can order one from me at <mailto:jane.h.jones@jpl.nasa.gov>. Be sure to provide mailing address, and be willing to let me know how you use the DVD.

Outreach material: You can order and/or download lots of information from our Cassini mission website;

Educational activities: <http://saturn.jpl.nasa.gov/education/index.cfm>

Products: <http://saturn.jpl.nasa.gov/multimedia/index.cfm> (order form under products link)

There is even a Cassini Mission Summary presentation you can print or download and use for your next talk!

Last but not least: Local events: <http://www.aanc-astronomy.org/AANCcldr.html>

More local events not on the calendar above:

Sonoma County Astronomical Society club events - brand new website, more info soon: <http://www.sonomaskies.org/>

San Mateo County Astronomical Society events: <http://home.covad.net/~alcoat/smcas/4-02feb/feb.htm>

San Jose Astronomical Society (these are on the calendar :-): <http://www.sjaa.net/>

Exploratorium Journey to Mars extended through February 29th: <http://www.exploratorium.edu/mars/>

Chabot Space and Science Center Mars exploration programs and much more!

<http://www.chabotspace.org/visit/programs/mars.asp>

Morrison Planetarium Dean Lectures move to new location, next one is March 1:

<http://www.calacademy.org/planetarium/special.html - dean>

Silicon Valley Lectures 3/3, and 4/14 (Cassini) <http://www.astrosociety.org/events/public.html>, and

<http://www.foothill.fhda.edu/cgi/newscenter.display.cgi?000215>

**JANE HOUSTON JONES**

34.2048N 118.1732W, 424.0 feet

jane@whiteoaks.com

<http://www.whiteoaks.com>



FILM PREMIER  
**THE COSMOLOGY QUEST**

RANDALL MUSEUM  
Saturday . March 6, 2004  
5:45 p.m. & 8:15 p.m.

The Sidewalk Astronomers will be hosting a showing of the film "UNIVERSE: THE COSMOLOGY QUEST." Two screenings held in San Francisco on Saturday, March 6th, at the Randall Museum ([www.randallmuseum.org](http://www.randallmuseum.org)), 199 Museum Way, San Francisco, CA 94114 at 5:45pm and 8:15pm. Seating is extremely limited; please RSVP to the contact information below. Parking in the Randall lot is also very limited; carpooling is encouraged.

"UNIVERSE" is a unique mixture of a human interest and science documentary film. It exhibits a profound understanding of the scientific and human struggles in astronomy and cosmology during past decades, and is the first comprehensive film to deal with major new approaches in non-Big Bang cosmologies. Told with unbiased candor and simplicity, "UNIVERSE - THE COSMOLOGY QUEST" is the story of the personal and scientific endeavor of a number of leading cosmologists to present different, if not more validated, explanations of the universe in which we all live, and to do so in a language both appealing and excitingly easy to understand.

Interviews with renown cosmologists Sir Fred Hoyle, Geoffrey Burbidge, Jayant Narlikar, Jean-Claude Pecker and Halton Arp as well as a palette of extraordinary astronomers and scientific personalities such as philosopher and telescope designer John Dobson, Jack Sulentic, Nobel Laureate Kary Mullis, and many, many others.

Divided into two chapters, 1: Quasars and the Discordant Redshift Problem, 2: The Theoretical Weaknesses in Big Bang Cosmology and Insights into the Plasma Universe; the film opens new doors for understanding the wealth of observational information and stimulating ideas which have arisen in recent years. The role media and professional prestige has played in forming and supporting this paradigm emerges, in what may be considered an exciting look into one of the most heated and interesting debates in science today.

"UNIVERSE - THE COSMOLOGY QUEST", makes use of high-end 3D animations and motion graphics accompanied by an originally composed symphonic score and a full 6-track Digital stereo sound mix, making this documentary presentation - a feast for both the mind and the eyes!

INFO & RSVP / San Francisco: **Phil Rice** (415) 497-8564 (Cell)  
<<http://prsfca@circlelimit.com>> & <<http://rsvp.universe.3.6.04@earthlink.net>>.

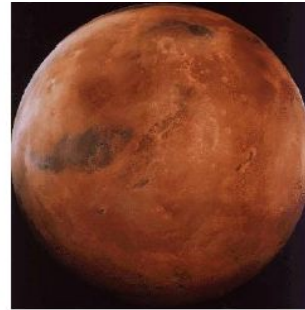
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**SPEAKERS NEEDED FOR CITY STAR PARTIES**

Do you have some knowledge you'd like to share with other SFAA members and the general public? Do you enjoy informal public speaking? If so, perhaps you'd like to be a speaker at one of our City Star Parties. You can speak about any topic that's astronomically related. Each talk is about 15-20 minutes in length. If interested, please contact **Randy Taylor**, our City Star Party coordinator, at (415) 255-8670 for scheduling.

**EASTBAY ASTRONOMICAL  
SOCIETY  
EIGHTIETH ANNIVERSARY  
DINNER**

**SUNDAY, MARCH 7, 2004**

**ASTRONOMY HALL OF CHABOT SPACE  
& SCIENCE CENTER  
10000 SKYLINE BOULEVARD  
OAKLAND**



**PLEASE SUBMIT YOUR RESERVATIONS ON OR BEFORE MARCH 1st SO WE  
CAN GET A GOOD ESTIMATE OF HOW MANY PEOPLE ARE COMING**

**DOORS OPEN -5:45 PM . DINNER AT 6:45 PM.  
AWARDS PRESENTATION, DOOR PRIZES AND LECTURE ABOUT 8:00 P.M.**

**SPEAKER: DR. PHIL PLAIT, "THE BAD ASTRONOMER"**

Dr. Phil Plait is an astronomer and educator at Sonoma State University, where he develops educational materials based on NASA space science. He is better known as "The Bad Astronomer", debunking myths, misconceptions, and misuses of astronomy. His Bad Astronomy website(<http://www.badastronomy.com>) is one of the most popular astronomy sites on the web. There he tackles cosmic silliness head-on, ripping apart claims that the Apollo Moon landings were faked, Planet X will kill us all, and that scientists have no sense of humor. Dr. Plait wrote a book titled (surprise!) "Bad Astronomy", and is currently working on a second book, as well as several magazine articles, TV shows, and a way to keep his washing machine from squeaking during the spin cycle.

**TITLE: SEVEN WAYS A BLACK HOLE CAN KILL YOU**

Face it: black holes are cool. They are ferocious devourers of matter, energy, and even space itself, and they excite our imagination even as they fill us with dread. Certainly, falling into one would be the last thing you would ever do, but that's not the only way a black hole can kill you. It turns out there are at least seven ways, including ripping you to pieces, irradiating you with X- and gamma rays, alternately compressing and stretching you as they form, and even frying you if you happen to get too near one as it explodes (bet you didn't know they could do that, did you?).

Astronomer Phil Plait (webmaster of Bad Astronomy at [www.badastronomy.com](http://www.badastronomy.com)) will light-heartedly show you all the nasty and gruesome ways a black hole can ruin your day, and in the process show you what black holes are, how they form, how they can die, and how scientists have figured all this out.

This year's Helen Pillans Award goes to Mike Reynolds for his strong support of amateur astronomy and insistence on having a place for the Telescope Makers Workshop at the Chabot Space & Science Center. The dinner will be catered by Harry's Hofbrau featuring Roast Beef, Turkey, Ham and Spinach Lasagna. This dinner received rave reviews the past eight years.

Cost per person will be \$33.00. Mail your checks, payable to the EAS, as soon as possible with [this form](#), or bring it with you to the next meeting, or give it to Carter Roberts at CSSC some Friday evening. Get your reservation in soon to guarantee a seat. We must give the caterer a final count by March 1st.

Questions? Contact EAS Treasurer Don Stone at (707) 938-1667 or email him at [ddcstone@earthlink.net](mailto:ddcstone@earthlink.net)

## 2004 SFAA MESSIER MARATHON – SATURDAY, MARCH 20

*Get out your telescope and test your observing skills at the 2004 Messier Marathon!*



M31 – The Andromeda Galaxy

Credit: The Electronic Universe Project

Get out your telescope and test your observing skills at the 2004 SFAA Messier Marathon!

The Messier Marathon is based on a list of 110 objects “discovered” or compiled by Charles Messier in the 1700's. While Messier worked hard to discover comets, he compiled this list so that he could avoid mistaking the objects for new comets. Today, the Messier Objects form an introduction to deep-sky observing for countless amateur astronomers.

Due to a fluke in the distribution of the Messier Objects across the sky, it is possible to view all objects on the

list in a single night during early spring (usually March or April). Amateur astronomers challenge their abilities, or build their observing skills, by trying to locate all the objects on the list.

The Messier Marathon is based on a list of 110.

The SFAA Messier Marathon will be held the night of Saturday, March 20 at Lake Sonoma Recreation Area. Within the park, we will be at either Lone Rock Flat (first choice) or Grey Pine Flat (backup site). Contact Michael Portuesi ([president@sfaa-astronomy.org](mailto:president@sfaa-astronomy.org) or 415-550-9366) for more information.

Registration is not necessary, but it would be appreciated to contact us in advance so we have an idea who will be coming. Please arrive before sunset (drive time from San Francisco is about one hour, 45 minutes) and dress warmly with several layers – it is cold this time of year, and the Messier Marathon is an all-night experience!

Observing lists will be available at the site. Courtesy of the San Jose Astronomical Association, we will have a special short list of easier objects for beginning observers, as well as a half-list for people who would like to end their observing session at midnight.

**Take I01 N to Geyserville (about 20min north of Santa Rosa), take the Canyon Rd exit and turn left (go under the freeway). Take Canyon Rd until it ends at a T with Dry Creek Rd, and go right onto Dry Creek Rd. Follow this until it reaches the Lake Sonoma Recreation Area. This involves a sharp left turn, over the spillway bridge, at the entry to the park. Drive through the lower park area, and up the hill. Continue on this road, past the Skaggs Spring turn off, onto Rockpile Rd. Follow Rockpile Rd, over the bridge across the lake, and go up the hill after the bridge. Look for Grey Pine Flat turnout, on the right, if no one is there, continue on to Lone Rock Flat about 1mi further on (on the right also). Lone Rock is the preferred site, as it has better elevation and horizons, but is sometimes booked by equestrians.**

For more Messier Marathon information, including observing lists, hints and tips, see <http://seds.lpl.arizona.edu/messier/xtra/marathon/marathon.html>.



## 2003 SFAA PHOTOGRAPHY AND ART CONTEST WINNERS

Thanks to everyone who entered the 2003 Art and Photography competitions.  
The awards were presented January 24, 2004 at the SFAA Annual Dinner.

### PHOTOGRAPHY

1. **Geoffrey Collins** ~ Rosette Nebula
2. Norm Mahan ~ Pacman Nebula
3. Jim Mace ~ Moon webcam photographs

### ART

1. Nancy Cox ~ Painting of M81
2. Michael Portuesi ~ Nebula, Mars and Moon sketches
3. Jim Webster ~ Our Little Visitors (mixed media)

## TIPS ON ASTRONOMY BOOK BARGAINS

**BOB PARVIN**

Like many amateur astronomers I have accumulated a mish-mash of books over the years, but I didn't have a real college-level astronomy textbook for non-majors. I searched Amazon.com and found "Astronomy Today" by Chaisson and McMillan, which is exactly what I was looking for. It is easy to read cover to cover, skipping over what you already know, and it makes a good reference book. It is comprehensive and authoritative, has loads of great full color graphics, and has relatively little math. A somewhat shorter and "lighter" version of this work is called "Astronomy: A Beginner's Guide to the Universe." (Avoid the two-volume version of "Astronomy Today," which is a "split" for two-semester courses.) "Astronomy Today" is the best seller of over a dozen books in this genre.

Textbook publishers like to update their books every two or three years to stay competitive and, I suspect, to kill the market for used books. So I have found that a good countermove is to buy a good used book of the next to last edition. The difference between successive editions is far less than the difference in price of the used books.

If you like a bargain as much as I do, go to Amazon.com and search for "Astronomy Today, 2000 Media Update Edition." (This is the third edition (1999) hardback book, and it has 680 pages including the glossary. It comes with a CD including the entire book.) Then click on "used and new" and check out the listings for the book. I like to choose one that is purported to be "like new" or "very good" with some

additional reassuring words such as "very little highlighting or marking, w/CD." You should be able to get a good one w/CD for \$5 or \$6 (plus \$3.49 S & H) especially by shopping over a period of a few days. What a bargain! My copy sold for \$70.40 new. A new 4<sup>th</sup> Edition (2001) is \$90 new on Amazon.com and \$55-60 used.

If you don't have a planetarium program, a minimal but very useful version of Starry Night is included with "Discovering the Universe" by Comins and Kaufmann, which is quite similar to "Astronomy Today." Search for the fifth edition (1999). The used copies in very good condition sell for about \$4. Make sure it is w/CD.

You can also get some really good buys on some other books. For example, "The Observer's Year" by Patrick Moore, which has lots of good little sky charts and interesting descriptions of things to see throughout the year, is sold by Amazon.com for \$34.95 new, but you can get a good used copy for \$5-6 (plus \$3.49 S & H).

I have bought many used and out-of-print books through Amazon.com's network of used book dealers, and the books have usually been reasonably accurately represented. Sometimes there is a bit more highlighting than I expected, and sometimes they really are like new. The corners often show that they have been carried in college students' backpacks.



# City Star Party San Francisco 2004

Join the San Francisco Amateur Astronomers (SFAA) and the National Park Service in sharing the wonders of the night sky in San Francisco.

Ask about your favorite constellation or astronomical phenomenon.  
Telescopes will be provided, or you may bring your own.

The San Francisco Amateur Astronomers will co-sponsor the City Star Party in the winter and fall months, January, February, March, October, November and December.

The National Park Service will sponsor the City Star Party in the spring and summer-April, May, June, July, August and September.

Saturday	March 27	6:30 p.m.
Saturday	April 24	6:30 p.m.
Saturday	May 22	7:00 p.m.
Saturday	June 12	7:30 p.m.
Saturday	July 10	7:30 p.m.
Saturday	August 7	7:00 p.m.
Saturday	September 18	6:00 p.m.
Saturday	October 23	6:15 p.m.
Saturday	November 20	5:00 p.m.
Saturday	December 18	5:00 p.m.

The star parties will be held in the parking lot next to the *USS San Francisco* Memorial at Lands End on El Camino del Mar, just north of 48<sup>th</sup> and Pt. Lobos avenues, off of Geary Blvd.

For more information about the program and weather conditions for the winter and fall events, please call the SFAA hotline at (415) 289-6636

Or visit the SFAA website at [www.sfaa-astronomy.org](http://www.sfaa-astronomy.org).

For more information about the spring and summer programs, call the National Park Service at (415) 239-2366 or visit their website at [www.nps.gov/goga/parknews/events](http://www.nps.gov/goga/parknews/events).

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**SAN JOSE ASTRONOMICAL ASSOCIATION**  
**AUCTION**  
**APRIL 4, 2004 - 12:00 NOON**  
**HOAGIE PARK**  
**NO ENTRY FEE**

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**2004 SHINGLETOWN  
STAR PARTY  
NIGHTS OF JUNE 16 - 20, 2004  
PARTY CLOSES JUNE 21, 2004**

**SSP 2004 REGISTRATION NOW OPEN**

This is the SSP's third year. It offers some of California's darkest skies and convenient easy-highway access. The star party is held on the runway of a closed airport, so there's no dirt or tumbleweeds on the setup field. This year's SSP is adding a shower truck and ice truck to its list of amenities. Just a few miles away is the resort community of Shingletown which provides full services. Beautiful Mount Lassen National Volcanic Park is 17 miles up the mountain.



Registration this year is limited to 300 attendees. Find SSP 2004 at <http://www.shingletownstarparty.org/>

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## Attend A Conjunction!

### AstroCon 2004

July 20-24, 2004  
San Francisco Bay Area

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ere's a conjunction you can actually attend—not just observe a truly once-in-a-lifetime conjunction of the Astronomical League, the American Association of Variable Star Observers, the Association of Lunar and Planetary Observers, and the Astronomical Society of the Pacific.

**Highlights :**

- AAVSO and ALPO member sessions open to all attendees
- Top professional astronomers
- Great new public outreach tips and techniques
- Field trip to the world-famous Lick Observatory

AstroCon 2004—the Astronomical League's annual convention—is co-hosted by the Astronomical Association of Northern California, the Eastbay Astronomical Society, and the San Jose Astronomical Association.

[www.astrocon2004.org](http://www.astrocon2004.org)  
visit the website for complete details, including secure on-line registration and payment

1-415-337-1100 x 109  
leave us a message to request a printed registration form, or to ask a question




Founded in September 1952, the San Francisco Amateur Astronomers (SFAA) is an association of people who share a common interest in astronomy and other related sciences. Our membership consists of people from all walks of life, educational backgrounds and ages. Many SFAA members own their own telescopes; some have been made by hand in local telescope-making classes and vary in size from 6 to 25 inches.

make checks payable to **San Francisco Amateur Astronomers** and mail to:  
**Treasurer, SFAA, 765 Geary St., #302, San Francisco CA 94109**

- \$10 enclosed, youth/student membership
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## San Francisco Amateur Astronomers Membership Application

**San Francisco Amateur Astronomers**  
P.O. Box 15097  
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Web Page: [www.sfaa-astronomy.org](http://www.sfaa-astronomy.org)

*Sharing the Wonders of the Universe*

**Has your membership expired?** Your mailing label includes the month and year through which your membership is paid. If it is past, your membership has expired and this may be your last issue.