

# ABOVE THE FOG

• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

Vol. 56, No. 1 – January 2008

## San Francisco Amateur Astronomers

### Annual Awards Dinner

*Saturday, January 19, 2008*

6:00 p.m. - No-host Bar    7:00 p.m. – Dinner



### DELANCEY STREET RESTAURANT

600 Embarcadero, San Francisco CA 94107

(415) 512-5179

**\$30.00 per person**

Tax and gratuity included

### MENU

**Corn Chips and Salsa Cruda . Baskets of Onion Rings**

**Organic Field Greens with Balsamic Vinaigrette**

**Served with Baskets of Assorted Breads**

Please select from the following entree choices

Oak Fired Barbequed Chicken and Baby Back Ribs with collard and mustard greens

-or-

Mediterranean Vegetable Platter

Spinach and feta phylos, over minted cucumber yogurt sauce, apricot spiced Israeli couscous, baba ganoush, hummus, olives, and pita bread

**Dessert . Coffee or tea**

Please send a check or money order made out to SAN FRANCISCO AMATEUR ASTRONOMERS along with your choice of entrée, to SFAA at P.O. Box 15097, San Francisco CA 94115 by **Friday, January 11.**

**Any requests received after this date cannot be guaranteed.**

**From Highway 280:** Take Highway 280 North toward CIVIC CENTER/BAY BRIDGE. Take left ramp onto KING ST and proceed 1.0 mile. Continue on THE EMBARCADERO, go 0.4 mile. Make a U-turn at BRANNAN ST. onto THE EMBARCADERO, arrive at 600 THE EMBARCADERO, on the right.

**From Highway 101 (south of San Francisco):** Take US-101 NORTH to the I-280 exit toward PORT OF SAN FRANCISCO, go 3.2 miles. Take left ramp onto KING STREET, go 1.0 mile. Continue on THE EMBARCADERO, go 0.4 mile. Make a U-turn at BRANNAN ST. onto THE EMBARCADERO, arrive at 600 THE EMBARCADERO, on the right.

**From Marin County:** Take US-101 SOUTH over the Golden Gate Bridge. Continue on RICHARDSON AVENUE, go 0.2 miles. Continue on LOMBARD STREET, go 1.1 miles. Turn left on VAN NESS AVENUE, go 0.2 miles. Turn right on BAY STREET, go 1.1 miles. Turn right on THE EMBARCADERO, go 1.9 miles. Arrive at 600 THE EMBARCADERO, on the right.

## 2007 CI ub Officers & Contacts

<i>President</i>	<b>Kenneth Frank</b>	president@sfaa-astronomy.org
<i>Vice President</i>	Jorge Morales	vicepresident@sfaa-astronomy.org
<i>Secretary</i>	Stefanie Ulrey	secretary1@sfaa-astronomy.org
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<i>Telescope Loans</i>	Pete Goldie	(415) 206-9867
<i>Honorary Director and Board Member Emeritus</i>	John Dobson	(415) 665-4054
<i>Board Members</i>	John Dillon	(415) 332-8096
	Robert English	(415) 383-6475 CSP@sfaa-astronomy.org
	Annette Gabrielli	
	Dirk Lammerts	(415) 242-1464
	Elan Morpurgo	(415) 242-1464
	Michael Portuesi	(415) 550-9366
	Peter Schumacher	(415) 566-6864
<i>Alternate Board Members</i>	Joe Amato	Web-master@sfaa-astronomy.net
<i>Webmaster</i>	Lon Carter	
	Joe Amato	Web-master@sfaa-astronomy.net

## CI ub Tel escopes

The SFAA owns eight very fine, easy to use, loaner telescopes well-suited for deep sky, planets, and star parties. All scopes are available to any SFAA member. The loaner custodians for the majority of our fleet are Pete & Sarah Goldie. Please contact them at [pg@lbin.com](mailto:pg@lbin.com) for details if you are interested in borrowing a scope or if you have items you can donate for the loaner program (eyepieces, star maps/books, red flashlights, collimator, etc.). Please contact the appropriate member indicated below if you are interested in borrowing one of the telescopes.



1) 6" f/10.3 Dobsonian/Ken Frank [president@sfaa-astronomy.org](mailto:president@sfaa-astronomy.org)

2) 8" f/7 Dobsonian/Pete Goldie

3) 8.5" f/6 Dobsonian/Pete Goldie

4) 10" f/8 Dobsonian/Pete Goldie

5) 114mm f/4 Newtonian StarBlast/Pete Goldie

6) 8" f/10 Celestron SCT/Annette Gabrielli/[agabrielli-sfaa@sbcglobal.net](mailto:agabrielli-sfaa@sbcglobal.net)

7) 8" f/10 Meade SCT/Stefanie Ulrey/[vicepresident@sfaa-astronomy.org](mailto:vicepresident@sfaa-astronomy.org)

8) 9.5" f/5.6 Celestron Newtonian/Ken Frank/[kennethfrank@planitarium.net](mailto:kennethfrank@planitarium.net)

## CI ub 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. For information on the course tapes themselves:



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

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## Membership Dues

Membership is billed for each upcoming year on June 30. Members may receive no more than one bulletin after the expiration of membership.

### SFAA Website and Online Services



The SFAA web site at [sfaa-astronomy.org](http://sfaa-astronomy.org) is provided to our members and the general public for the sharing of club information and services. The web site contains links for club [star parties](#), [events](#), [newsletters](#), [lectures](#) and [meetings](#). If you wish to interact with other people who are

interested in astronomy, the SFAA web site offers public and members only [bulletin board forums](#). If you wish to remain up-to-date on club activities, then we encourage you to subscribe to one or both of our public [mailing lists](#), which will allow you to receive our newsletter and/or club announcements via email. Other useful and interesting information and services are available on the site such as [observing location reviews](#), member [astronomy photos](#), and [members only telescope loans](#). Information about SFAA's membership, organization and by-laws are available at the club's online public document [archive](#). If you need to contact a representative of the SFAA, then please visit our [contacts](#) page to help in finding the right person to answer your questions.

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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 20th day of the month.** Send your articles to [Editor@sfaa-astronomy.org](mailto:Editor@sfaa-astronomy.org).

# IMPORTANT DATES

## SFAA GENERAL MEETINGS & LECTURES

### SATURDAY, JANUARY 19 – ANNUAL DINNER

Wednesdays

February 20

March 19

7:00 p.m. Doors open. 7:30 p.m. Announcements. 8:00 p.m. Speaker  
Randall Museum, 199 Museum Way (Near 14<sup>th</sup> Street and Roosevelt)

## BOARD MEETINGS

Tuesdays

January 8

February 12

March 11

7:00-8:30 p.m.

Randall Museum, 199 Museum Way  
(Near 14<sup>th</sup> Street and Roosevelt)

## MT TAM STAR PARTIES – SPECIAL USE PERMIT – MEMBERS ONLY

Special Use Permit observing nights on Mount Tamalpais are private and open *only* to SFAA members. Please arrive by sunset (times listed below). A permit is required for each car. We must vacate the mountain by 2 am except on specially approved nights (such as Messier Marathon).

### VOLUNTEERS ARE ALWAYS NEEDED

#### SATURDAYS

January 5 – 5:05 p.m. (CANCELLED)

February 9 – 5:42 p.m.

March 8 (Messier Marathon) - 6:11 pm

## CITY STAR PARTIES - Telescope Clinic one hour before sunset

### VOLUNTEERS ARE ALWAYS NEEDED

Saturday, January 12, 5:11 p.m. at Land's End (Point Lobos)

Saturday, February 16, 5:49 p.m. at Land's End (Point Lobos)

Saturday, March 15, 7:17 p.m. at Randall Museum

Weather may cancel the City Star Party. Call the SFAA Hotline at (415) 289-6636 AFTER 4 PM to learn the status of the event and the location. If the hotline announces the Star Party is cancelled, the Telescope Clinic and Lecture are cancelled as well. However, if the Hotline does not cancel the Star Party, be assured that the Lecture will proceed as scheduled even given less-than-perfect telescope conditions.

Please note that while City Star Parties WILL ALWAYS be held on Saturdays, some will be closer to the last quarter phase of the moon, while others will be close to first quarter. This is so we can work around dates for Mt. Tam public star parties as well as our members-only events on Mt. Tam.

Map and directions – Land's End (Pt. Lobos) <http://www.sfaa-astronomy.org/clubarchive/directions-pointlobos.php>



#### NEW SFAA MEMBERS

Scope City is offering to new members a \$25 credit toward the purchase of telescopes and binoculars.

Obtain a receipt for dues payment from

Vivian White, Treasurer,

[treasurer@sfaa-astronomy.org](mailto:treasurer@sfaa-astronomy.org).

Contact Sam Sweiss at Scope City to arrange for your discount.

## FOCAL POINT

Hello members of the SFAA.

Resolve and revolve...that's what we do each year.

In review over the past circumnavigation of our Sun I feel as though we've made many accomplishments for the benefit of our organization and membership. The Institute for Learning Innovation through the Astronomical Society of the Pacific presented us with a questionnaire to help better improve our Club; through the generous contribution of the Edwina Cherrington Memorial Fund, we donated a Coronado Personal Solar Telescope to the Friends of the Randall; conducting telescope clinics conjointly with the San Francisco Sidewalk Astronomers; finally embracing the digital age our newsletter is online; the website is constantly being spiffed up and tweaked for less mouse clicks and more content; the ebb and flow of new membership is infusing enthusiasm and verve in our club including new junior members of the Dailey's, Goldie's and Thomas'; we've standardized our renewing membership for simplicity; we have the renewed prospect of possibly gaining access to the West Peak of Mount Tamalpais; the club continues to have great relations with the Randall Museum; renewed respect and interactions with other Northern California astronomy organizations due to our commitment to the Astronomical Association of Northern California and many contributions by our membership to the Reach for the Stars conference; our association with the students of San Francisco City College and newly formed College of Marin Astro Club; wonderful speaker lineup and annual activities such as our Special Use Permit New Moon Saturdays at Rock Springs on Mt. Tam with great relations from the State Park Service; the continued use of Lands End hosted by the National Park Service; Stanford Linear Accelerator tours; free reserved camping in Yosemite National Park and use of incredible dark sky vistas at Glacier Point; our annual Fremont Peak night use of the 30 inch telescope; Star-b-q at Bootjack; Messier Marathon; and challenging art, literary and blooming astrophotography contests followed by our awards dinner.

None of this happens without your involvement. You make the club what it is. Volunteering for a City Star Party or setting up snacks for a general meeting is what is needed for the year. Volunteers are needed for VIP training for Mt. Tam for our SUP (Special Use Permit) of star parties at Rock Springs. We could always use more people to sign up for training. Contact Samantha Toffoli <[stoffs@parks.ca.gov](mailto:stoffs@parks.ca.gov)> Won't you help?

Receive your updated 2008 SUP placards at the Delancey Street Dinner January 19th. Get your order (and your check) in to Vivian by January 11th.

We have one more formal vote to ring in the new year. Your Board recommends the election of Dirk Lammerts to the office of president. This will be accomplished at the awards dinner.

Finally we need to acknowledge our local talent and give a tip of the eyepiece to: former president Michael Portuesi for his years of service in all capacities, John Dillon also past president and for his continuing great relations with the Randall Museum and sage advice, all our board members, but especially Stephanie Ulrey for her dual roll as treasurer and secretary and now incoming vice president, for Vivian White who has taken over as treasurer and given us fresh ideas, to Linda Mahan who continues to find great speakers for our monthly meetings, to Annette Gabrielli the cohesiveness or I like to say glue of our newsletter, to Michael Kran for his forward thinking and energizing the College of Marin Astronomy Club, to outgoing board member Peter Schumacher who has great insight into our club operations and will no doubt be an asset to an East Bay Astro club in the near future, to incoming secretary Barbara Arrighi, who is already revving up our membership volunteerism and to Dirk Lammerts who may accept the roll of president, should we elect him.

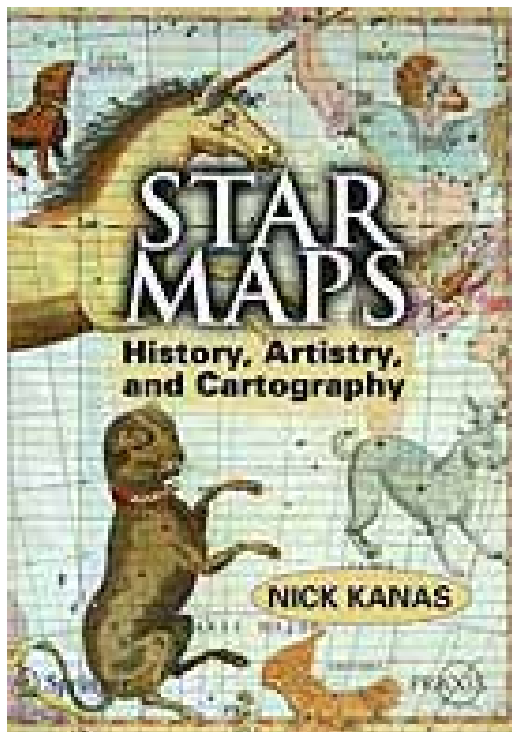
See you at our dinner on the waterfront.

**KEN FRANK**  
President

# STAR MAPS: A BOOK REVIEW

by Ken Frank

Dr. Nick Kanas lecturer, author and San Francisco Amateur Astronomer member has a new book out entitled Star Maps History, Artistry and Cartography. The deceptively simple title hides a plethora of knowledge and beauty of celestial atlases and prints, many in Nick's personal collection.



You can find the book at <http://www.praxis-publishing.co.uk/view.asp?id=273&search=home>

Star Maps is a dangerous combination in book form for me. I have a penchant for rare book collecting and charts. Nick has gone to great lengths to compile these collections and conveniently rolled them all into one concise edition.

From references of Muggles via Isaac Frost to Nicolas Camille Flammarion assisting Urbain Jean Joseph Le Verrier discovering Neptune at the Paris Observatory, I learned far more than cartography or chart collecting ideas.

In the preface Nick reminds us nostalgically of when he joined the SFAA, bought an 8 inch Newtonian and was in need of a good star atlas and a warm jacket while up on Mt. Tam observing. Nick also thanks the SFAA in his acknowledgments section for support and encouragement. He started out with Norton's Star Atlas and was intrigued by the imagery found in antiquarian prints, hand illumination and collecting. What he felt missing though was a book

that combined the appreciation and love of these images and charts and a practical guide to the evolution and understanding of these beautiful depictions of the night sky.

Nick and his wife Carolynn have been passionately collecting celestial prints and star atlases since 1977.

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## SFAA GENERAL MEETING – APRIL 16, 2008

### FEATURED GUEST SPEAKER

### DR. NICK KANAS, PROFESSOR OF PSYCHIATRY, UCSF, AND SFAA MEMBER CELESTIAL MAPPING FROM ANTIQUITY TO TODAY

Save the date for SFAA's general meeting on April 16, when Dr. Nick Kanas will trace the history of celestial cartography from the time of the classical Greeks through the Golden Age of pictorial celestial maps to modern day star atlases. He will illustrate his talk with photographs from antiquarian celestial books and prints taken from his recent book: Star Maps: History, Artistry, and Cartography (Springer, 2007).

**Saturday, February 2, 2008, 7:00 p.m.**

Dr. Kanas will also be giving a PowerPoint presentation relating to his new book Star Maps: History, Artistry, and Cartography, in the Gallery of the Book Passage Book Store on Saturday, February 2, at 7:00 p.m. The talk will trace the history of celestial cartography and relate it to the changing ideas of our place in the universe. Book Passage is located at 51 Tamal Vista Blvd. Corte Madera, in Marin. Its website is [http://bookpassage.com/.](http://bookpassage.com/)

# THE INTERNATIONAL DARK SKY ASSOCIATION



As an individual SFAA member, you can help The International Dark-Sky Association (IDA). The IDA seeks to preserve dark skies worldwide for the benefit of society by promoting good outdoor lighting practices and educating the public on the rewards of preserving the night sky.

<http://www.darksky.org/mc/page.do?sitePageId=55055&orgId=idsa>

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**MONDAY . JANUARY 14 . 7:30 pm**

## **BENJAMIN DEAN LECTURE SERIES IN ASTRONOMY**

**Jewish Community Center of San Francisco, Kanbar Hall, 3200 California Street (at Presidio Avenue)**

**[deanseries@calacademy.org](mailto:deanseries@calacademy.org) . <http://www.calacademy.org/planetarium/dean.php>  
<http://www.calacademy.org/lectures/tickets/>**

### **DR. SUN KWOK**

Please join us next Monday, January 14 for the next talk in the Benjamin Dean Lecture Series. Dr. Sun Kwok from the University of Hong Kong (and author of the book, Cosmic Butterflies) will speak about "Star Dust: The Cosmic Seeds of Life." For the last fifty years, scientists believed that life on Earth began with simple inorganic molecules that, under proper conditions, gradually evolved into complex organic compounds and eventually life. Recently, through observations with space-based infrared telescopes, astronomers have discovered that old stars can synthesize organic compounds over relatively short time scales. Stellar winds then spread these organic materials throughout the Galaxy, including our primordial solar system.

Tickets are \$4 in advance by mail or online at <http://www.calacademy.org/lectures/tickets/> or at the door. Please e-mail any questions to [deanseries@calacademy.org](mailto:deanseries@calacademy.org) or call 415-321-8000.

Parking is available across the street in the UCSF Laurel Heights campus parking lot for \$1.25 per night. Parking in the JCC garage is \$1.50 per half-hour. The #1 California, #3 Jackson, #4 Sutter, and #43 Masonic MUNI lines stop directly in front of the building. The #38 Geary and #24 Divisadero buses stop only a few blocks away.

Tickets for the spring series will be available shortly. The series announcement will be sent out via e-mail as soon as the tickets are available on the web site.

For your planning purposes, the dates of the spring series lectures are: February 25, March 31, April 28, May 19 & June 23.

**SILICON VALLEY ASTRONOMY LECTURES**

**Smithwick Theater, Foothill College, El Monte Road and Freeway 280, Los Altos Hills**

Non-technical Astronomy Program . Free and open to the public

No background in science required for this program

**Wednesday, Jan. 23, 2008, 7:00 pm**

**Multimedia Presentation**

**ASTRONOMER JOEL PRIMACK, UNIVERSITY OF CALIFORNIA, SANTA CRUZ**

and

**NANCY ABRAMS, PHILOSOPHER AND ATTORNEY**

**THE VIEW FROM THE CENTER OF THE UNIVERSE:  
DISCOVERING OUR EXTRAORDINARY PLACE IN THE COSMOS**

Remarkable discoveries in the last decade are transforming "cosmology," the study of the universe as a whole. Our cosmos appears to be made mostly of "dark matter" and "dark energy," with the stars and galaxies we can see making up only a tiny fraction of it. We are beginning to understand the first few minutes after the Big Bang and the way in which the structure of the universe arose.

Joel Primack and Nancy Abrams' program is both a progress report and philosophical reflection on our modern view of ourselves and our place in the cosmos. Using the latest science, cosmic images and visualizations, plus music, themes from myth, and even cartoons, they will illustrate how the new ideas about the universe have widespread cultural implications.

Joel Primack is an award-winning physicist and cosmologist, who writes for both his colleagues and the public. Nancy Abrams is a former Fulbright Scholar and student of mythology. While working for the Congressional Office of Technology Assessment, she invented a method called "scientific mediation" that lets government agencies make intelligent decisions despite scientific uncertainty. Together they teach a course on "Cosmology and Culture" at the University of California, Santa Cruz. This led to their popular book, published in 2006, with the same title as this lecture.

This interdisciplinary program is something of a departure from our usual series of lectures, but should intrigue and challenge everyone interested in the meaning of science for our times.

Parking on campus costs \$2.

Call the series hot-line at 650-949-7888 for more information and driving directions.

The program is co-sponsored by:

- \* NASA Ames Research Center
- \* The Foothill College Astronomy Program
- \* The SETI Institute
- \* The Astronomical Society of the Pacific

# SFAA 2008 Calendar of Events

## Mount Tam Public Events

Public nights on Mount Tamalpais start with a lecture in the Mountain Theatre, followed by public viewing in the Rock Springs parking lot. SFAA members may observe privately from 11 pm-2 am. SFAA's access to SUP private events (below) is contingent on our support of the Mt. Tam public events.

- May 10, sunset 8:09 pm
- June 7, 8:30 pm
- July 12, 8:32 pm
- August 9, 8:09 pm
- September 6, 7:31 pm
- October 4, 6:47 pm

## Mount Tam SUP Events

Special Use Permit observing nights on Mount Tamalpais are private and open *only* to SFAA members. Please arrive by sunset (times listed below). A permit is required for each car. We must vacate the mountain by 2 am except on specially approved nights (such as Messier Marathon).

- January 5, 5:05 pm
- February 9, 5:42 pm
- March 8 (Messier Marathon), 6:11 pm
- April 5, 7:37 pm
- May 3, 8:02 pm
- May 31, 8:26 pm
- July 5, 8:35 pm
- August 2, 8:17 pm
- August 30, 7:41pm
- September 27 (Annual Picnic), 6:58 pm
- October 25, 6:18 pm
- November 29, 4:51 pm
- December 27, 4:58 pm

## City Star Party

CSP events start at sunset (times listed below) with a public lecture, followed by public viewing. Land's End (LE) and the Randall Museum (RM) are the locations for the CSP this year.

- January 12 (LE), 5:11 pm
- February 16 (LE), 5:49 pm
- March 15 (RM), 7:17 pm
- April 12 (LE), 7:43 pm
- May 24 (LE), 8:21 pm
- June 28 (RM), 8:36 pm
- July 26 (LE), 8:23 pm
- August 23 (LE), 7:51 pm
- September 20 (RM), 7:09 pm
- October 18 (LE), 6:27 pm
- November 8 (LE), 5:04 pm
- December 6 (RM), 4:51 pm

## Weather Updates

Weather updates for all SFAA star parties are available the afternoon of the event on the SFAA Hotline: 415-289-6636 (289-NOFOG).

## Board Meetings

2<sup>nd</sup> Tuesday of every month, at the Randall Museum. 7 pm. All SFAA members are invited.

- January 8
- February 12
- March 11
- April 8
- May 13
- June 10
- July 8
- August 12
- September 9
- October 14
- November 11
- December 9

## General Meetings

3<sup>rd</sup> Wednesday of every month (**Note: except January**) at the Randall Museum. Doors open 7 pm, announcements 7:30 pm, guest speaker 8 pm. All are invited.

- February 20
- March 19
- April 16
- May 21
- June 18
- July 16
- August 20
- September 17
- October 15
- November 19
- December 17

## Other SFAA Events

- Annual Dinner: January 19
- Messier Marathon: March 8 (Alternate night April 5)
- Spring Astronomy Day: May 10
- Fremont Peak: May 30-31
- Annual Picnic: September 27
- Yosemite Weekend: TBA
- Fall Astronomy Day: TBA

## Other Astronomy Events

- Riverside Telescope Maker's Conference: May 23-26  
[www.rtmcastronomyexpo.org](http://www.rtmcastronomyexpo.org)
- Grand Canyon Star Party: June 21-28  
[www.tucsonastronomy.org/gcsp.html](http://www.tucsonastronomy.org/gcsp.html)
- Golden State Star Party: July 2-5  
[www.goldenstatestarparty.org](http://www.goldenstatestarparty.org)
- Stellafane: July 31- August 3  
<http://stellafane.org>
- Oregon Star Party: August 28-31  
[www.oregonstarparty.org](http://www.oregonstarparty.org)
- Fremont Peak Star-B-Q: TBA  
[www.fpoa.net](http://www.fpoa.net)
- California Star Party (Calstar): September 25-27  
[www.sjaa.net/calstar](http://www.sjaa.net/calstar)



## 2007-2008 MEMBERSHIP DUES

SFAA membership now comes due in June. Before now, dues were payable in the month a member first joined. Last year, the SFAA board voted to make everyone's dues payable at the same time - in June of each year. This was done for two reasons: 1) to save a great deal of work for our volunteer Treasurer, present and future, and, 2) for the convenience of members - it's easier to remember! In the past, many members forgot their due date and their membership unintentionally lapsed.

During this first year of transition: If your present membership runs past June 2007, just pay a prorated fee to extend your membership to June of 2008. Simply deduct 1/12 from this year's dues for each month already paid. For example, if you last paid your membership in September of 2006, you have a credit of three more months. Subtract 3/12 (1/4) from your annual fee and just pay that amount. We trust your math. Next year, and every year thereafter, everyone will pay only in June. Easy!

We realize this conversion process may be a bit confusing and more work for some. But this is a one-time transition and it will lessen the work and confusion for all the years to come!

N.B. for those of you who have a club discounted *Sky and Telescope* magazine subscription, you will need to renew your subscription separately. The magazine will send you a renewal notice. In the past, you had to send that renewal notice with payment to the SFAA; now you can mail your *Sky and Telescope* subscription renewal payment directly to *Sky and Telescope*. **Note: Not renewing your club membership on time may mean your magazine subscription(s) will also terminate.**

Thanks for bearing with us during this transition process -- it'll all seem worth it next year! Just complete the membership form on the last page of the newsletter and submit with your renewal check to:

San Francisco Amateur Astronomers  
P.O. Box 15097  
San Francisco, CA 94108

### YEARLY RATES FOR MEMBERSHIP

\$10 – Youth (under 18) Student Membership	\$25 – Individual Membership
\$30 – Family or Foreign Membership	\$40 – Institutional Membership
\$75 – Supporting Membership	

### MEMBER BENEFITS INCLUDE

- Subscribing to our Announcements mailing list to receive newsletter, activity and event announcements.
- Interaction with world class speakers as they present cutting edge astronomical research
- Discounts on *Sky & Telescope* and *Astronomy* magazines\*
- Discounts on equipment and accessories at local telescope retailers
- Annual club Astrophotography, Literary & Art Awards
- Social events, such as our annual picnic and our awards dinner
- Club telescopes – use one of the club's loaner scopes on a month-to-month basis
- Yosemite Star Party – held at Glacier Point exclusively for SFAA members
- Access to events and resources in Northern California and beyond
- Field trips – to observatories and other locations of scientific interest, such as Mt. Wilson Observatory in Pasadena, Chabot Space and Science Center, Fremont Peak, and the Stanford Linear Accelerator Center
- Extended observing hours at the Mount Tamalpais Astronomy Program
- Access to dark sites in Northern California

San Francisco Amateur Astronomers  
POB 15097  
San Francisco CA 94115

Please make checks payable to San Francisco Amateur Astronomers and mail to:

\_\_\_\_\_ E-Mail  
\_\_\_\_\_ Hard Copy

You can choose E-Mail (Recommended) or hard copy delivery for *Above the Fog*(Check one)

Information: Name(s) \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_  
 State \_\_\_\_\_  
 Home Phone \_\_\_\_\_  
 E-Mail \_\_\_\_\_  
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 \_\_\_\_\_ Zip \_\_\_\_\_  
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Membership Categories (Check one): \_\_\_\_\_  
 \$10 Youth/Student \_\_\_\_\_  
 \$25 Individual \_\_\_\_\_  
 \$75 Supporting \_\_\_\_\_  
 \$30 Family \_\_\_\_\_

Members pay one half for each upcoming year on June 30. Between January 1 and June 30, new members pay one half the amount listed below

### MEMBERSHIP APPLICATION

**San Francisco Amateur Astronomers**  
 P.O. Box 15097  
 San Francisco, CA 94115



Information Hotline: (415) 289-6636

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.