

# ABOVE THE FOG

• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

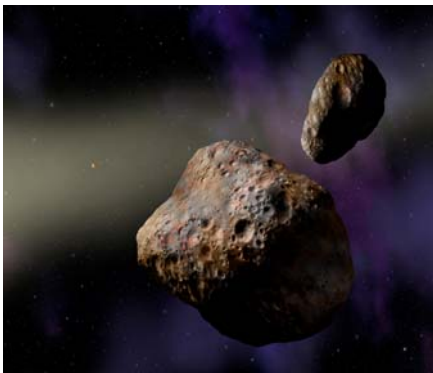
VOL. 54, No. 7 – JULY 2006

**July 19, 2006 – General Meeting**

RANDALL MUSEUM, 199 MUSEUM WAY, SAN FRANCISCO

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

## **DR. FRANCK MARCHIS, PH.D., ASSOCIATE PROFESSOR OF ASTRONOMY, UC BERKELEY CROWDS AROUND ASTEROIDS**



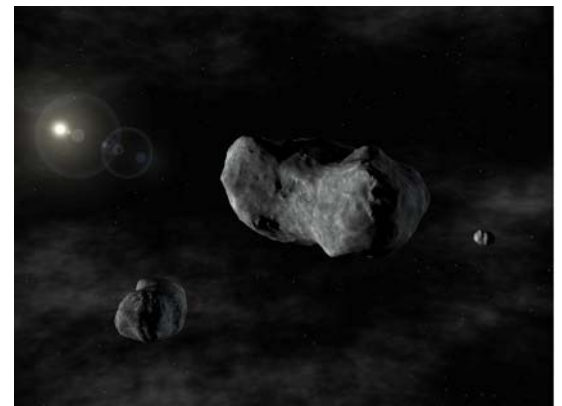
**Artist's rendering of the binary asteroids Patroclus (center) and Menoetius. Jupiter and its four Galilean satellites are visible in the distance, while the sun is out of sight to the left. The dirty snowballs probably are fugitives from the Kuiper Belt now hanging out in Jupiter's orbit. (Credit: W. M. Keck Observatory/Lynette Cook)**

After decades of speculation, the existence of double asteroids and companions around asteroids with examples in all minor planet populations has been observationally confirmed thanks mostly to the development of adaptive optics on ground-based telescopes. Their discovery is an astronomical prize for observers and theorists alike, since they help constrain theories on the origin of our solar system. I will briefly describe the adaptive optics technology, illustrating their capabilities describing our observing campaign initiated in 2004.. Most of our observations were performed with both the very Large Telescope (UT4-8m) at ESO-Paranal (Chile) and the Keck-I 10m telescope at Mauna Kea (Hawaii).. Various scenarios for the formation of binary systems based on the characteristics of their satellite will be described. The cherry on the cake of our campaign was the

recent discovery of the first triple main-belt asteroid system (87 Sylvia) composed of a large primary (280 km diameter) with two small moonlets named Romulus and Remus. Further away in the solar system, 617 Patroclus, the only known binary Jupiter-Trojan, made of two same size components called Patroclus and Menoetius was observed using the Keck Laser Guide Star AO observations. Our observations suggest that the asteroid is composed mostly of water ice, thus formed far away. This

last result places important constraints on the evolution and formation of giant planets.

*Franck Marchis is an assistant research Astronomer at University of California at Berkeley. He received his Ph.D. in 2000 from university of Toulouse (France) in planetary science. Although his thesis was performed while living in several places (Mexico, France, Great-Britain), the main part of his studies were made while working at La Silla Observatory in Chile for the European Southern Observatory, an intergovernmental organization aiming to develop astronomy in the southern hemisphere. He participated to the development of the first adaptive optics system available to a large community (ADONIS on the 3.6m telescope). He moved in California shortly after receiving his Ph.D. as through a postdoctoral position in the group of Prof. Imke de Pater at UC-Berkeley. He dedicates most of its activity to the monitoring of Io volcanism with the Keck-10m telescope with the support of the CfAO, an NSF science and technology center. In 2003, he was hired as an assistant researcher to conduct his research more independently and expanded it to a broader field, but still based on high angular resolution capabilities. Marchis and his team announced the discovery of the first triple asteroid system in August 2005, and the first measurement of a Trojan bulk-density in February 2006 in Nature journal. He also taught on several occasions "The Planets" class at UC-Berkeley. He is associate astronomer at Observatoire de Paris, IMCCE.*



**87 Sylvia and her Twins  
(Artist's Impression)**

ESO PR Photo 25b/05 (August 11, 2005)



## 2005 CLUB OFFICERS & CONTACTS

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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>

## CLUB TELESCOPES



The SFAA owns 6 club loaner telescopes, Dobsonian/Newtonian reflectors: 6" f/10, 8" f/7, 8.5" f/6 and 10" f/8, a Starblast and a Meade 8" SCT. 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 & Sarah Goldie, 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.

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## 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>

**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 Phil Estrin at [pestrin@dir.ca.gov](mailto:pestrin@dir.ca.gov).

## THROUGH THE FINDER ...



This is the time of year that reminds us SF Amateur Astronomers why we call our newsletter “Above the Fog”. Such gorgeous clear summer skies so near to San Francisco – just a few hundred feet away – straight up! City bound observers long for an observation deck on Sutro Tower (and an elevator)! Even the vertical migration up Mt Tam is often not enough to rise above our seasonal wet blanket. So exotic locales call.

Our annual Yosemite Star Party is full, again. No surprise there. Hope you weren’t wait-listed. Last week I joined several SFAAers who traveled up the flanks of Mt Lassen to the Shingletown Star Party where conditions were very hot and dark – but fortunately not at the same time. During the day the converted airfield runway reached 106 and at night the sky reached “forever”. Star Parties are such a great draw – you have an opportunity to look through scopes bigger and better than your own and learn observational lore from “old pro” amateurs. But, for me, the remote star party experience just reinforces the awareness that what’s most precious to our hobby is not the size and quality of our scopes but the darkness of the sky\*. Frequently at Shingletown I felt the impulse to quit looking down through my scope and look up - with nothing between me and the Dark. At times I felt I was seeing our galaxy in 3 dimensions - planets in front of stars, stars in front of dust lanes, dust lanes in front of spiral arms – all continuing beyond and below the horizon, enveloping the earth. Beyond that Andromeda. And beyond it all, in John Dobson’s memorable phrase, “the space between the stars”...

...Back to Earth. Jennifer Myers, our intrepid Board Secretary, has relocated to Beijing where she will be teaching English. As Secretary she not only recorded the discussions and actions of the Board, she instigated many of them as well. She will be sorely missed. We have lost several other Board Members this past year – which reminds me that we will be putting together a new slate of Directors for '07 in a few months. It’s a chance to serve your own interests by serving the interests of the SFAA. Think about it and let me or any other Board member know of your willingness to serve. I’ll be returning to this topic again before long.

\*[www.darksky.org](http://www.darksky.org) (please join, if you haven’t already)

**John Dillon**  
**President**  
**San Francisco Amateur Astronomers**

### 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 Stephanie Ulrey, Treasurer,

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

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

**Scope City**  
THE LARGEST AND MOST COMPLETE  
OPTICAL CENTERS IN THE WORLD

## IMPORTANT UPCOMING DATES

### SFAA General Meetings & Lectures

Wednesday, July 19

Wednesday, August 16

Wednesday, September 20

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

Tuesday, July 11

Tuesday, August 8

Tuesday, September 12

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

Saturday, July 22, 8:00 p.m.

Saturday, August 19, 8:00 p.m.

Saturday, September 16 – **ANNUAL STAR BQ, 3:00 p.m.**

### City Star Parties

Saturday, July 15, 7:30 p.m. – RANDALL MUSEUM - Telescope Clinic one hour before sunset  
Michael Portuesi, Speaker – SUMMER NEBULAE: FAINT FUZZIES

Saturday, August 5, 8:00 p.m. – LAND'S END - Telescope Clinic one hour before sunset  
KENNETH FRANK, Speaker – SKY STUFF: Summer sky from Cyg (*nus*) To Sag (*ittarius*).

Saturday, September 30, 7:00 p.m. – RANDALL MUSEUM - Telescope Clinic one hour before sunset  
MICHAEL PORTUESI & KENNETH FRANK, Speakers –

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 also 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 <http://www.sfaa-astronomy.org/sfaa/starparties/cspmap.shtml>

### Upcoming General Meeting Guest Speakers

August 16 - KEN LUM

A well known member of several Bay Area astronomy clubs will discuss his recent trip to view the Solar Eclipse this May. He will be joined by members of San Francisco Amateur Astronomers who will share their experiences as well.

September 20 - SCOTT SANDFORD, NASA Ames Research Center

One of the original members of the Stardust Mission, and the Capsule Recovery Team, Scott Sandford will discuss the most recent findings on the dust grains from Comet Wild 2 that returned to Earth this January.

October 18 - LYNETTE COOK, Astronomy Artist

This Bay Area artist illuminates the Solar system and beyond. Her art is featured in Dava Sobel's "The Planets" and "Infinite Worlds" Lynette's beautiful illustrations appear in Astronomy and Sky and Telescope magazines.

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KEEP OUR MOUNTAIN HAPPY --  
STAR PARTY VOLUNTEERS NEEDED

**THANKS TO THOSE WHO HAVE WORKED SO FAR AND THOSE SCHEDULED FOR THE REST OF THE PROGRAMS. YOUR TIME AND EFFORTS ARE GREATLY APPRECIATED. WE HAVE A NUMBER OF VOLUNTEERS WHO HAVE NOT COMMITTED YET THIS SEASON AND WE WOULD REALLY LIKE TO HEAR FROM YOU.**

Please think ahead for the rest of the season –

July 29 we have Kenneth Frank, Sara Arnaud, Susan Head, Jeff Munroe, Ranger Jeremy Burns but no one yet for SFAA. Kenneth will be in charge and I'm sure he would like more help that night.

Aug 26 only Tinka Ross, Jeff Munroe, ranger Jeremy Burns are confirmed with Marti Leland and Felicia Smith as possible. We need more and SFAA volunteers.

Sept 23 looks okay with Tinka Ross, Sarah Arnaud, Sue Fernstrom, Edna Hickok, Mardi Leland, Jeff Munroe, ranger Jeremy Burns and Felicia Smith a possible but one yet for SFAA.

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## **Astronomical Association of Northern California**

### **NOMINATIONS FOR 2006 HERMAN FAST AWARD**

**SFAAer's please let your board members know your wishes.**

**One of the key functions of the Astronomical Association of Northern California is to recognize members of the astronomy community each year. Herman Fast of the SFAA along with Paul Zurakowski of EAS were the first Awardees in 1976.**

**<http://aanc-astronomy.org/awards-AANC.html>**

**At Fremont Peak's Star B Q on August 26<sup>th</sup>, the AANC will once again present awards for these categories. Your input is requested before July 1st please.**

**Vote for your choice of: AMATEUR, PROFESSIONAL, COMMERCIAL and SPECIAL AWARD.**

**Thanks,  
Ken Frank - Vice-President, AANC**

## SFAA Yosemite Star Party at Glacier Point Friday and Saturday - July 14 and 15, 2006



*Yosemite spaces for this event are filled. HOWEVER, if you are not signed up and would like to be placed on the wait list, let Ken know ASAP. If you are signed up and your plans change, please let Ken know IMMEDIATELY in order that he may notify a wait list hopeful of an available space. Email Ken Frank <kennethfrank@planitarium.net> with your name(s), type and size of scope(s). THANK YOU.*

The annual Yosemite star party will be held at Glacier Point, hosted by the National Park Service (NPS). Rustic camping is located at the Bridalveil Creek campground group site. There is room for several tents. Cold running water is convenient but sans showers. The camp is 8.5 miles away from Glacier Point.

For those of you unfamiliar with this event, we are given free reserved admission and camping space. In exchange, we do two public star parties at Glacier Point, on Friday and Saturday night. We'll have the public (about 200 - 300 people) from twilight for a few hours, and then the rest of the night (and all day) to ourselves; this is a mighty good deal, considering how some folks come 12,000 miles to see these rocks. We take a maximum of 30 SFAA members. Please do not ask if your friends can come ... unless they are SFAA members. You are expected to have at least one public telescope for every two people. For up-to-date info on Yosemite Park current weather and conditions, check [http://www.wrh.noaa.gov/total\\_forecast/printable\\_forecast.php?wfo=hnx&zone=caz096&county=cac043](http://www.wrh.noaa.gov/total_forecast/printable_forecast.php?wfo=hnx&zone=caz096&county=cac043). <http://yosemite.org/vryos/sentinelcam.htm> provides a live cam from Sentinel Dome.

You will be sent an entrance fee waiver that you will need to present to the ranger at the park entrance. You may be asked to show the ranger your telescope.

A note for non-members and those not making the list: Yosemite is *your* national park, and you may come if you arrange your own accommodations. In this case, you would be welcome to join us at Glacier Point for the public star party and the observing afterward; however, you would not be obligated to set up for the public.

If you decide for some reason you can't come, please let Ken Frank know as soon as possible so others may fill your campsite. Those on the wait list will thank you for your consideration.

Observing site - The observing area is mostly open, with good views from about NNW to the east, around to due south. The horizon from south around to the west is partly to mostly blocked by tall trees. Still, there's a lot of open sky, and typically, the seeing and transparency are excellent. It's warm (70 to 90) during the day, and cool to chilly (40) at night, due to the elevation of 7200 feet.

Star Party - One of the rangers does a sunset talk, and then delivers the crowd to us. Following that, a member of the club will give an evening talk. Some of the public will have white flashlights, and we need to be tolerant of that. We'll have club members with red brake light tape to cover the offending flashlights. Expect lots of questions from the public. We will supply an object list with corresponding finder charts and some brief information.

Now here's the really fun part: By around 9:30 or so, we'll have the place to ourselves, and can stay until dawn. Scopes must be removed when we quit, then set up again on Saturday. Some of us may set up Sun scopes during the afternoon, show Half Dome, and invite people to come again after sunset.

Gastronomic Astronomic- Early Saturday eve is traditionally pot luck and is always fun. Please provide enough for ~ say 4 or 5. Salads, main course, pu pu's and desserts are all welcome. Let's try again for the best astronomical theme of incredible edibles. Prizes will be awarded!

Please remember this repast takes time so it's better to start our own gastronomic party early so there's no need to rush for set up Saturday evening on Glacier Point. Sunset this year will be 8:21 pm.

If you'd like to attend and are a current dues paying member, send an e-mail to kennethfrank at planitarium.net with "Yosemite Reservation" in the subject line; in the text body: your name(s), number of people, type & size of scope(s). **Ken**

# ASTRONOMY DAY REDUX UNDER THE STARS AT SHINGLETOWN

by Ken Frank



After getting a slightly later start than planned due to my lack of preparation, we left for Mt. Lassen territory, previously charted two years before. Accompanying John Dillon is always an adventure, seeing things thru a naturalist's eyes. We successfully navigated over the Richmond San Rafael Bridge without any problems and stopped at a friendly gas oasis in Orland where Jayni had just been the day before for her work. After consuming sandwiches that had the appearance of Corvettes and Porsches on the labels making the morsels even more appealing,, we started hearing sounds from the bowels of John's Element. Was it the tires or the road,

maybe the steering? Or was it just us? After reassuring ourselves that our mode of transport would safely make our destination we stopped in Red Bluff for our 2.5 day sojourn on an old abandoned runway outside of town.

We took 36 to A6 'til it ended in Menton, then climbed into the pine forest above, going from grassy meadows of 103 degrees (Red Bluff set a record the next day at 113) to a comfortably warm alpine clime with a breeze. After checking in at the gate, we settled in on 700 west as our spot on the tarmac which reminded me of Keahole Airport's runway atop lava fields on the Big Island of Hawaii.

After setting up tent and tripod I took my trick at welcoming guests with Keith Hanson of Scopes 4 Rent, to the star party so skillfully put together with great care by my waco TACo friends including Marsha, Richard, Jane, et al.

After cruising up and down the runway on Dennis Steele's collapsible bike, it was time for dinner. Uncle Bob English thankfully joined us w/ his 18-inch modified light magnet. Sleuthing planets such as Mercury, Mars and Saturn was relished. Decidedly better seeing was had Thursday night after studying the bands of Jupiter, big and red jr. and as compared to the night before when many SSP entrants had come. We marveled at the Milky Way, were enveloped by the Veil, comparing views between Robert's Newtonian, my Megrez 80 and John's StellarVue 130 with binoviewers. I brought along over 60 Lumicon visual filters to tempt the star party participants just for Shingletown. Robert fell in love with the 48mm OIII that had a great bandpass cutoff. Bob said, "get the pillows," to break our fall from the eyepiece, for we were truly blown away with the



Setting up

majesty and overwhelming, haunting beauty of what we saw. Finishing up with Neptune and Uranus hanging low over the trees, we retreated to our quarters near 4 am.



Friday morning, John and I escaped to Lassen National Park to cool in the beaver-dammed Hat Lake and enjoy photographing the snow capped peaks reflecting in the lake complete with waterfalls. John found an *aplodontia rufa* (commonly known as mountain beaver) snacking on pond grass. I thought he'd scare it away as he boldly walked up to it (they're nearsighted.)



**18 inches of fun-packed viewing**

Shingletown Star Party has to be geek heaven. I mean that as a compliment. From visual to astrophotography, from minimalist to the max, you could find all extremes and the means.

The SFAA contingent was well represented with Bill Cherrington, Richard Crisp, John Dillon, Bob & Fran Douglas, Robert English, Ken Frank, Kristina Strong and



**Dennis Steele, Ken Frank, Jeff Crilly**



**Sagittarius and Scorpius**

family. Bill's John Dobson's class of '73 12.5 scope gave us some great views of various M objects in Sagittarius.

We returned home to the Bay Area's natural air-conditioning; our friendly finger of fog embracing Tennessee Valley.



# MT TAM ASTRONOMY PROGRAMS

MOUNTAIN THEATER, Mt. Tamalpais State Park

EXPLORE THE WONDERS OF THE UNIVERSE

On the Saturdays between the new and first quarter moons through September 23, we will enjoy a lecture in the Mountain Theater followed by viewing through telescopes. A complete list of the programs with dates and times can be found at the MTIA website: [www.mttam.net](http://www.mttam.net). **Check it out and plan now to come and join us.**

Following the talk, and weather permitting of course, you can join the San Francisco Amateur Astronomers for a close up look at the marvelous objects in our summer sky. Jupiter will be a highlight and this will be a good month for perusing the rich regions of nebulae and clusters in the Milky Way.

Even if the day is hot, wear layers as it can chill down at night. And don't forget your flashlights. Please car pool if at all possible. If there is any change in the program due to weather, it will be on the hot line: 415-455-5370 after 4:00pm.

Thanks for supporting our programs, and for forwarding this to anyone interested. To be removed from this list just send a return with "unsubscribe".

**We are always looking for volunteers** to help our programs run smoothly. You can park cars, set out lanterns, greet the public, etc., and still enjoy the programs and the star party. But to do so, you must be a VIP (Volunteer in the Park, also Very Important Person) which means a one time, two-hour session with a park ranger. If you can help us out at any of the programs this year, please join us. Let me know by return e-mail or by calling me at 415-454-4715.

I look forward to seeing you on The Mountain this year. Please share this information with anyone interested.  
Tinka Ross, volunteer coordinator, Mt Tam Astronomy Programs

## 2006 SPEAKERS

<b>July 1</b> <b>8:30 pm</b>	<b>Dr. Lynn Cominsky</b> Sonoma State University	<b>"A 'Swift' View of the Universe"</b> NASA's Swift mission studies gamma-ray bursts, the most powerful explosions in the Universe. Learn how black holes are created when stars die, and how one galactic neutron starquake changed our Earth's atmosphere.
<b>July 29</b> <b>8:30 pm</b>	<b>Dr. Eugene Chiang</b> UC Berkeley	<b>"The Tenth Planet and Beyond"</b> Since 1992, astronomers have discovered over 1000 icy, rocky objects beyond Neptune, one larger than Pluto. What is known about this "Kuiper Belt" of bodies and what are the implications for the formation of our planetary system?
<b>August 26</b> <b>8:30 pm</b>	<b>John Dillon</b> Randall Museum	<b>"Ancient Astronomy, the First Science"</b> The pinnacle of ancient Greek science was the amazingly sophisticated astronomy developed more than 2000 years ago at the legendary Museum of Alexandria.
<b>September 23</b> <b>8:00pm</b>	<b>Dr. Chris McKay</b> NASA-Ames Research Center	<b>"Latest results from the Huygens' Mission to Titan"</b> Last year the Huygens Probe landed successfully on Titan, the largest moon of Saturn. What we saw was not what we expected. Hear the latest results from the analysis of the data from the Probe.

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.

**Treasurer, SFAA, POB 15097, San Francisco CA 94115**

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

- \$10 enclosed, youth/student membership
- \$25 enclosed, individual membership
- \$30 enclosed, family or foreign membership
- \$40 enclosed, institutional membership
- \$75 enclosed, supporting membership

**Select one category:**

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Email address:

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## **San Francisco Amateur Astronomers 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.