

# ★ ABOVE THE FOG

• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

Vol. 52, No. 5 – MAY 2004

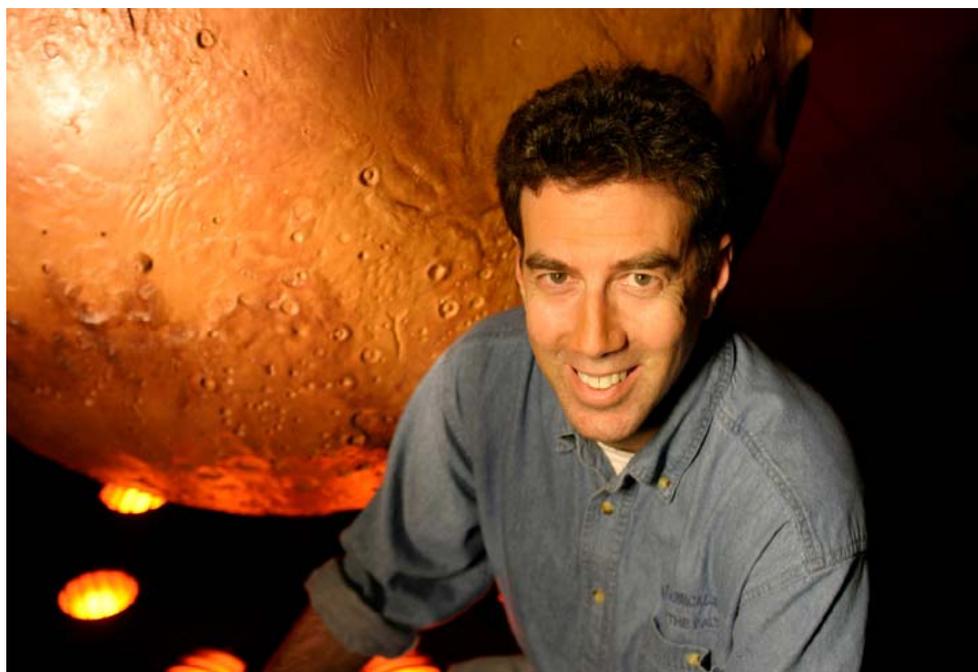
## MAY 19, 2004 – GENERAL MEETING

RANDALL MUSEUM  
199 MUSEUM WAY  
SAN FRANCISCO

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

## SOHO & SPACE WEATHER

PAUL MORTFIELD



With the recent set of explosive solar flares last October and November, solar astronomy moved into the media spotlight. Phrases such as Coronal Mass Ejections and CME's were being mentioned by newscasters across the country. Paul will give us a solar overview using many of the amazing images and movies captured by various NASA spacecraft missions. He'll also introduce us to the new field of SpaceWeather and its impact on space exploration and every day life.

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*Paul Mortfield is an astronomer involved in education and public outreach at the Stanford SOLAR Center, part of Stanford University's Solar Observatories Group, that operates the MDI instrument on the SOHO spacecraft. He is also a regular television commentator on astronomy, having appeared on CNN, the Discovery Channel, KPIX-TV in San Francisco and most notably, as the host of NASA's educational broadcasts on Sun-Earth Day and solar astronomy. A noted astrophotographer, Paul's photographs have appeared in books, magazines and NASA educational materials. He is currently developing a simple radio receiver for schools to actively monitor solar flares. In his spare time, Paul plays competitive ice hockey.*

## 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
Honorary Director	John Dobson	
Board Members	Jim Webster	
	Steve Bryson	
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	Cheryl Schudel	
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	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/Newtonian 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.



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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>

## FROM YOUR PRESIDENT MICHAEL PORTUESI

Our on-again, off-again relationship with the Mount Tamalpais State Park has taken a new turn. The park has a new supervising ranger, who has reviewed the Mount Tam star parties. In general, the new management is supportive of our activities on the mountain. But they are concerned about some issues, and that means some changes in the way we do things at the Park.

The State Parks are big on safety, and they have identified several areas that they (and SFAA) would like to address. The first is that SFAA members attending Mount Tam should definitely not bring their dogs or other pets. At the March star party, two dogs got into a fight and someone could easily have been hurt.

The park management has requested that we not give out gate passes to people who register for SFAA membership on site. You can join SFAA at Mount Tam, but you can stay late at the *next* star party. This is to provide more predictability in who is able to stay on the mountain after hours. (You can still *renew* your membership at any time by providing payment to an officer or board member).

If you have attended the Mount Tam VIP training and have permission to work the gate, you should never give the gate

password out to anyone, least of all someone who has not had the VIP training. Only those who have taken the VIP training should have the gate password. To get the gate password, you should ask myself or another VIP person before the event. Additionally, if you are the volunteer on duty at a Mount Tam star party, please introduce yourself to the Rangers and Park Aides on duty when you arrive at the site. The park staff also has an orange vest you should wear to identify yourself as the designated gatekeeper for the evening.

Since we're all observing as a group at star parties, it's best if we are all considerate towards one another – it's the best way for everyone to have a great time. I've prepared a simple guide to star party etiquette, drawn from sources on the Internet with some additions of my own. It appears in this issue.

Just a little consideration and common sense can make SFAA events run better for everyone: yourself, fellow observers, SFAA, and the State Parks. Have a great observing season!



### IMPORTANT UPCOMING DATES

**BOARD MEETING**  
**MAY 12—JUNE 9—JULY 14**  
**7:00 P.M.**

*Western Addition Library*  
*Scott & Geary Streets, San Francisco*

**SFAA GENERAL MEETING & LECTURE**  
**MAY 19 — JUNE 16 — JULY 21**  
**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)*

**CITY STAR PARTY**  
**MAY 22 — 7:00 P.M.**  
**JUNE 12 — 7:30 P.M.**  
**JULY 10 — 7:30 P.M.**

*Star parties on the above dates sponsored by the National Park Service*



# HOORAY FOR RAY

KENNETH FRANK

Since the MoJane migration to the Southland (NOTT) North of the 210, I've inherited Big Green a 10"er that was made in one day at the Randall Museum honoring John Dobson's 80<sup>th</sup> anniversary with the mirror made by John, and the OTA and mount made by, you guessed it, Ray Cash!



You may have noticed a similarity of all the club scopes sans the StarBlaster; yep, it's the Dobson mounts all made by Ray.

So why this article? As Ray does, to encourage others to make use of the telescopes available and enjoy the heavens.

Ray does this loaning bit without fanfare or bus fare. (The N Judah stops in front of his house). All he requires is a signature (same for SFAA). Some clubs I belong to charge a rental fee, with the caveat: you break it or you lose it you replace it. With that responsibility when you borrow a scope, please maintain it and follow thru if something goes awry. Ray or Pete Goldie, for that matter doesn't like to see a scope returned missing a part or broken so a word if I may, fix it first please before returning.

Ray has a vanity page which is interesting in itself with pictures of some guy jumping out of planes.

If you visit his The Unofficial Sidewalk Astronomers website <http://members.aol.com/raycash/sidewalk.htm> you'll find many great links to ATM and others who have the Dob revolution firmly planted in their brain, including open truss tube types, like VP of HAS <http://hawastsoc.org/> Barry Peckham's Litebox. <http://www.litebox-telescopes.com/>

I just recently borrowed Ray's 13.1 Coulter travel scope that is featured in the April SJAA ephemeris article here <http://ephemeris.sjaa.net/0404/b.html> with Ray's buddy Steve Gottleib in Costa Rica. (No mention of Ray though). Both Ray and Steve are DSO fanatics and if you check out the AstroCon2004 website there's a link to some interesting Ray minutia if you click on their logo of Einstein's Cross. <http://www.astrocon2004.org/aboutLogo.html>

The first telescope I borrowed was one of Ray's 6" f/8, a real beauty with excellent optics and smooth alt az. (The SFAA's scopes were all loaned out at the time). Ray operates out of his garage where he showed me 2 new hoops for a redesign of his 13.1 UTA that has inspired a fellow most recently from Portland to build a Coulter, with a mirror refigured by Steve Swayze and is using curved carbon fibre for spider.

So thanks Ray for all you've done to the Astro community.

Ken Frank is still looking for that perfect telescope.

## STAR PARTY ÉTIQUETTE

### MICHAEL PORTUESI

With the observing season now upon us, and several new observers in the club, now is a good time to cover base rules of etiquette for star parties. Observing is often a group activity, and following these simple rules will make observing more fun for yourself as well as everyone who shares the evening with you.

- **Use red lights only.** Red lights spare everyone's dark adaptation, and allow them to see through their telescope! If you don't have a red flashlight, pick up some red taillight repair tape from the auto supply store, and cover the flashlight lens.
- **Arrive at the star party before sunset.** Turn your headlights off if entering or leaving the observing area after dark. If entering after dark, try to park away from the main area so as not to shine them with light.
- **Get red plastic covering for laptop displays.** Turn screen brightness down to the minimum. If you can, set up your laptop at one end of the observing area.
- **Turn off the interior lights to your car,** and/or cover them with red plastic or tape.
- **Announce your intentions first** if you must do something that will shine a bright light. Give people a chance to cover their eyes or look away.
- **No Pets. Period.** Dogs by nature are uncontrollable, and they pose a threat to people when they get out of control. They also don't realize the equipment they're running around (not yours) can be worth several tens of thousands of dollars. This year, I have seen dogs from different owners fighting and snarling at each other. This has no business at star parties.
- **Do not touch other people's equipment without permission.** This goes back to the "tens of thousands of dollars" some of this equipment is worth. In some cases, equipment can be irreplaceable if something breaks.

- **Supervise your children.** Kids are welcome at star parties – encouraging science and astronomy among youngsters is important, and kids love it. But please keep an eye on them, and make sure they don't touch equipment unless they have permission. Remember, "tens of thousands of dollars".
- **If you are a visitor, do not monopolize people's time.** It's great to look through other's telescopes and ask questions. But star parties are not ideal for extended conversations on astronomy. The Moon eliminates two weeks of every month for deep-sky observing, because it brightens the skies. Of the remaining two weeks, most people can observe only on Saturday evenings. Figure in occasional clouds and bad weather, and that means many deep-sky observers get at most a dozen evenings per year for observing. They want to make the best use of their time they can. During public events, there are usually several people behind you who want a look, too. Give them a chance.
- **If you have no telescope, park away from the main area** so that people with heavy telescopes will not have to carry them far when unloading.
- **If you have a telescope, bring your own eyepieces and equipment.** People love to loan out their equipment so that you can try new things – but you should not depend on other people for your equipment.
- **Generally, people frown upon music.** If you want to listen to music, ask people first, or use headphones.
- **Bring your own food and beverages,** since catered star parties are very rare.
- **Clean up all trash** after you've eaten your food and beverages. Leave no litter at the site.
- **Respect the rules of the facility** which you are using. If you don't, the owners of the facility are very likely to disallow use of the park for astronomical events. We get use of observing sites only through the good grace of others.

## [DOBSON2000] SUMMER ASTRONOMY BOOTCAMP

### KENNETH FRANK

San Francisco State University is offering a weeklong course in observational astronomy this summer from July 18-23 at its scenic Sierra Nevada Field Campus. I took the class last year and it was a great hands-on course. In fact, it was my major inspiration for taking John Dobson's telescope building class this past fall. You learn to identify the various constellations and read star charts. They had several 16" and 17" Dobsonian telescopes which we used each night. We mostly looked at Messier objects, however, one ambitious student was able to observe Pluto! Perhaps, someone will see Sedna this year. :-)

The campus and class schedule is very nice. Although you don't have to, most people choose to live at the campsite during the week. The university has large tents as well as bathrooms and showers. They also have dining facilities which serves breakfast/dinner and provides bagged lunches. The astronomy lectures are in the afternoon so most people go hiking or lake swimming during the morning. After lectures, you get a couple of more hours to relax and have dinner. We then drive up to the observation point and usually stay until the wee hours. The "final" is a star party, although last year it was overcast so it was a little disappointing. For more information on the campus and class, check out: <http://www.sfsu.edu/~sierra>; <http://www.sfsu.edu/~sierra/astrc1.htm> Or feel free to e-mail me directly.



**SFAA STAR PARTY  
GLACIER POINT - YOSEMITE  
AUGUST 20-21, 2004  
KENNETH FRANK**

The annual Yosemite star party is held at Glacier Point, hosted by the NPS and Ranger Dave Balogh. Camping is at the Bridalveil Creek campground (the group site, rather primitive). There is room for several tents. There is cold water and a deep sink adjoining the toilets but no showers. The camp is 8.5 miles away from Glacier Point.

We are given free admission and camping space. In exchange, we provide 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. Mighty good deal, seeing how some people come 10,000 miles to see those rocks.

We may take a maximum of 30 people, with priority given to SFAA members. We are expected to have at least one public telescope for every two people. If you wish to go, email [Ken Frank](mailto:Ken Frank) with the number of people and telescopes. I'll be at the SFAA meetings and star parties where you can pick up the entrance pass, map and page of rules.

**A note for non-members and those not making the list:** Yosemite is your park, and anyone may come if they arrange their own accommodations. In this case, you would be welcome to join us at Glacier Point for the public star party and the observing afterward. But you would not be obligated to set up for the public; there are some useful spots that would leave you mostly alone. You would have to follow the ranger's rules for driving in to unload, then parking in the regular lot (as do we all).

When you arrive at Yosemite, make your way up to the Bridalveil Creek campground. This is close to Bridalveil Falls, but upriver from it; the driving distance is 18 miles, uphill. Allow at least an hour from the Falls parking lot; make a stop at the Wawona Tunnel overlook, which is *the* classic view of Yosemite Valley. Try to reach the camp by 5 pm.

At the campground, look for the group camp, with several regular campsites with "Reserved for SFAA" on the space marker. We won't know exactly what this consists of until we get there, so we'll need to be flexible when we arrive. Pick out a place to sleep, set up tent, as needed and do use the bear box for all food items.

Glacier Point is another 8.5 miles up the road. Allow time to find your way and set up; the summer sunset is late, so there's plenty of time. There is electricity in the observing area, but you may need a long extension cord. We usually are setting up by 7:30, and it's a good idea to be there earlier, as we can bring in only a few vehicles at a time.

Drive in, unload your scope stuff, then immediately park your vehicle by the toilets. If we do this quickly, there will be no car line. Then we can leisurely set up after. The observing area is open, with good views from about NNW to the east, around to due south. From south around past west is partially to mostly blocked by tall trees. Still, there's a lot of open sky, and typically, the seeing and transparency are excellent. It is warm (70 to 90) during the day, and cool to chilly (40's) at night, due to the elevation, 7200 feet.

One of the rangers does a sunset talk, and then delivers the crowd to us. Many will have flashlights, (we'll provide red plastic and rubber bands) however and need to be tolerant of that. Pick out an object that you are familiar with, tell about it, etc., just as we do at Lands End and Rock Springs on Mt. Tam. We'll have a list and accompanying chart of suggested objects to show. Expect questions. By 2216 after the Moon sets, we'll have the place to ourselves, and can stay until dawn, or you drop...whichever occurs first. Scopes to be removed when we quit, then set up again on Saturday.

Because of the altitude, I recommend getting plenty of sleep during the day, take a few aspirin and call me later.

**TRANSIT OF VENUS**  
**AN ASTRONOMICAL EVENT LAST WITNESSED IN 1882!**  
**LIVE@EXPLORATORIUM WEBCAST FROM ATHENS, GREECE**  
**JUNE 8 AT 10PM PDT IN THE MUSEUM AND ONLINE**  
**JUNE 9 AT 4AM PDT ONLINE ONLY**

[HTTP://WWW.EXPLORATORIUM.EDU/VENUS](http://www.exploratorium.edu/venus)

Join Exploratorium staff astrophysicist Dr. Linda Shore, live from Greece, at [www.exploratorium.edu/venus](http://www.exploratorium.edu/venus), for the 1st, 2nd, 3rd, and 4th contacts of Venus and the sun, respectively. For the 10:00 pm transit, the public is invited to also take part from inside the Exploratorium, where planetary physicist, Dr. Paul Doherty, will field questions from the crowd. At the Exploratorium, roving astronomers will train their telescopes on the stars, while hands-on activities and Greek music, food, and dancing will set the ambience. The 4am Transit of Venus will be available only online. In the hours in-between, high-resolution still images of the transit's progress will be posted to the Exploratorium's award-winning website in intervals of fifteen minutes.

Go to: <http://www.exploratorium.edu/pr/documents/04-6Transit.html>

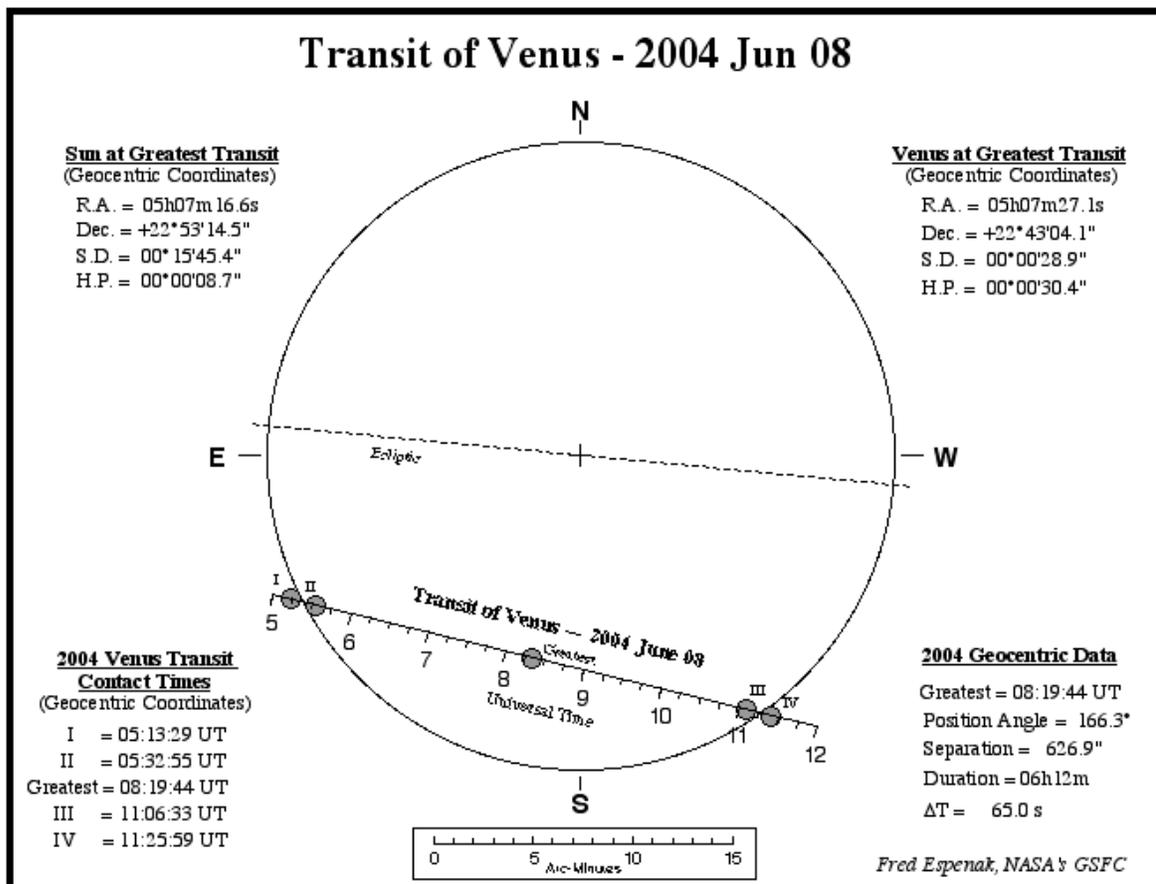


Figure 2 - Path of Venus across the Sun's disk on 2004 June 08.

## 2004 MT TAM ASTRONOMY PROGRAMS TINKA ROSS

### MT TAM ENTHUSIASTS

BELOW IS A LISTING OF OUR PROGRAMS FOR THE 2004 SEASON  
LOOK FORWARD TO SEEING YOU ON THE MOUNTAIN!

#### A FEW CHANGES THIS YEAR

- 1) Our astronomy programs will be on the Saturdays near the First Quarter Moons (not new moons)
- 2) The Madrone Picnic Area (next to the Mt Theater) is reserved 1 1/2 hours before each program for informal gathering. Bring your picnic supper and meet the speakers before the talk.
- 3) We have added two storytelling evenings - suitable for young and old alike. No telescope viewing with these programs



Plenty of time to get your raffle tickets for the trip to Egypt to view the Transit of Venus this coming June. Purchase at our March-May programs, check out our website at <http://www.mttam.net/> or send money to Mt Tam Astronomy Programs, c/o Tinka Ross, 89 Dominican Drive, San Rafael, CA 94901. \$5 per ticket or 5 tickets for \$20. Proceeds will benefit the Mt Tam Astronomy Programs and the MTIA Gravity Barn Project.

### 2004 MT TAM ASTRONOMY PROGRAMS

**MAY 22 - 8:30PM**

DR. GORDON SQUIRES  
SPITZER SCIENCE CENTER  
CAL TECH

#### "SPITZER - FIRST RESULTS FROM THE LAST OF THE GREAT OBSERVATORIES"

The Spitzer Space Telescope, launched in August 2003, is giving us a new look at our universe in the infrared.

**JUNE 26 - 8:30PM**

DR. JEFF MOORE  
NASA-AMES RESEARCH CENTER

#### "FORTHCOMING EXPLORATION OF THE PLUTO SYSTEM"

The distant planet Pluto and the Kuiper Belt Objects will be the last members of our Solar System to be visited by spacecraft.

**JULY 24 - 8:30PM**

DR. SAUL PERMUTTER, LAWRENCE  
BERKELEY LABS

#### "SUPERNOVAE, DARK ENERGY AND THE ACCELERATING UNIVERSE"

Astronomers use exploding stars to investigate one of the biggest scientific mysteries of our day.

**AUGUST 21 - 8:00PM**

DR. PHILIP PLAIT  
SONOMA STATE UNIVERSITY

#### "BAD ASTRONOMY: FACING DOWN THE 'FACE' ON MARS"

The recent spate of nonsense circulating the web involving the Red Planet will be debunked with science, simple logic and a dose of humor.

**SEPTEMBER 18 - 7:30PM**

DR. PASCAL LEE  
MARS INSTITUTE/NASA-AMES

#### "HUMANS ON MARS"

Research in the Antarctic is being used for feasibility studies preparing the way for humans to explore the planet Mars.

**OCTOBER 16 - 7:30PM**

DR. EMMA BAKES  
SETI INSTITUTE/NASA-AMES

#### "EXPLORING THE MEANING OF LIFE"

There is evidence for the universal formation of life throughout the cosmos.

### 2004 MT TAM STORYTELLING

**JULY 10 - 7:30PM**

DOREEN DEVORAH  
DAVID PONKEY

Doreen Devorah

#### "ANDREW P. HILL AND THE BEGINNING OF OUR STATE PARK SYSTEM"

David Ponkey

#### "THE LABOURS OF HERCULES: A STORY WRITTEN IN THE STARS"

**OCTOBER 23 - 5:00PM**

MARY ELLEN HILL

#### "WE ARE THE STARS THAT SING: THE STORY OF THE UNIVERSE"



**MAY 13-16, 2004  
 DESERT SUN STAR PARTY  
 CABALLO LOCAL RANCH  
 SOUTH OF THREE POINTS, ARIZONA  
 (NOT AN SFAA EVENT)**

**SPEAKERS . DOOR PRIZES  
 DAY TRIPS**

**ADDITIONAL INFORMATION AND REGISTRATION MATERIALS ARE  
 AVAILABLE AT [HTTP://CHARTMARKER.TRIPOD.COM/SUNSET.HTM](http://chartmarker.tripod.com/sunset.htm)**

**SPONSORED BY PAT AND ARLEEN HEIMANN**

**AREA ATTRACTIONS**

**KITT PEAK NATIONAL OBSERVATORY . WHIPPLE OBSERVATORY/MT. HOPKINS  
 PIMA AIR AND SPACE MUSEUM . FLANDRAU PLANETARIUM . ARIZONA SONORA DESERT MUSEUM . UA  
 MIRROR LAB . OLD TUCSON . TITAN MISSILE MUSEUM . BIOSPHERE 2 CENTER . AND MUCH MORE ....**

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**SOLAR TELESCOPE VIEWING AT SAN FRANCISCO PUBLIC LIBRARY**

**JUNE 5, 2004 – 1:00 P.M.**

A one and one-half hour moon workshop will be conducted at the San Francisco Public Library, with a reception and telescope viewing following the workshop.

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**THIRD ANNUAL SHINGLETOWN  
 STAR PARTY**

**NIGHTS OF JUNE 16 - 20, 2004  
 PARTY CLOSSES 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.

- Daytime Activities
- Onsite Generator for Batteries
- Close to Restaurants
- Magnitude 7 Skies
- Tarmac Surface
- Showers Available On-Site!

- 17 miles to Mt. Lassen
- Avg. June temps -mid 70's
- Nearby Stores and Services
- 3900 feet Elevation
- Camping On-Site
- Easy Access

**For full information and on-line registration visit: [www.ShingletownStarParty.org](http://www.ShingletownStarParty.org)**

**Registration this year is *limited to 300 attendees.***

## SAN FRANCISCO CITY STAR PARTY . 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	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).

### BE A VISITING ASTRONOMER IN YOUR LOCAL SCHOOL GET FREE TRAINING AND MATERIALS WITH PROJECT ASTRO

Project ASTRO is looking for amateur or professional astronomers who would like to work with teachers and students in 4th - 9th grade classrooms. This is a great opportunity to help kids learn science, sharing your love of astronomy with the most enthusiastic audience you can find (and sharpening your teaching or communication skills in the process.)

Through Project ASTRO, you will be paired in a one-on-one partnership with a Bay Area teacher at a school near you. Together, astronomer and teacher partners attend a free two-day summer training workshop where they learn effective hands-on astronomy activities and receive a copy of Project ASTRO's rich curriculum resource book, "The Universe at Your Fingertips", materials to lead hands-on activities, invitations to additional workshops, and access to the Project ASTRO lending library. The project emphasizes ongoing partnerships, not just one-time class visits.

During the school year, astronomers make at least four visits to their adopted classroom at mutually convenient times. The program has been operating for 10 years in the Bay Area, and previous participants often report that it has been one of the most satisfying volunteer endeavors they have undertaken.

Graduate students and advanced undergraduate students majoring in astronomy are also encouraged to apply. Astronomer applications are now being accepted for the 2004 - 2005 school year. The deadline is May 7. Space is limited to 30 partnerships. All participants must attend a hands-on training workshop, which will be held August 6 & 7, 2004, at the San Mateo County Office of Education in Redwood City. Astronomer application forms are available from: <http://www.astrosociety.org/baprojectastro.html> or from Kristin Nelson, Project ASTRO, A.S.P., 390 Ashton Avenue, San Francisco, CA 94112, (415) 337-1100 ext. 101, [knelson@astrosociety.org](mailto:knelson@astrosociety.org)

*(Project ASTRO, a program of the nonprofit Astronomical Society of the Pacific, began with support from the National Science Foundation and the NASA Office of Space Science. It has now expanded to 12 other sites around the country and has trained over 1,300 astronomer-teacher partnerships.)*

Kristin Nelson  
Bay Area Project ASTRO Coordinator & Family ASTRO Coordinator & Night Sky Network Administrator  
390 Ashton Ave.  
San Francisco, CA 94112  
415.337.1100 ext 101, 415.337.5205 fax  
<http://www.astrosociety.org/education>

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

- \$10 enclosed, youth/student membership
- \$25 enclosed, individual membership
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## San Francisco Amateur Astronomers Membership Application

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**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.