



The FREMONT PEAK **OBSERVER**

Editor: Donn Mukensnoble

Volume 18, No. 2

June 2001

15th Annual Star-B-Que Preparations

Our annual Star-B-Que is on August 18th this year, an auspicious date that also happens to be our esteemed (FPOA) president's birthday. Join us at the peak for an astronomically-themed day of fun and a night of great viewing.

This year a variety of activities are planned along with the traditional burgers & dogs BBQ hosted by the FPOA and AANC. Three current FPOA board members are up for re-election; a general meeting will be held. The astro-trivia contest returns, along with the Gastronomical Dessert competition. After dinner, there will be a raffle of astronomical items (along with a few surprises).

Awards will be presented by the AANC and FPOA, followed by a twilight talk by a guest speaker and viewing through the 30" Challenger telescope. Mars remains a prominent object in the south, and the splendor of the summer Milky Way will fill the skies. Later in the night, Saturn, Jupiter; and then brilliant Venus appears to grace the dawn. Look for meteor stragglers from last week's Perseid maximum on this new-moon night.

Finding FPOA on the Net

Web Site: <http://www.fpoa.net>

Member Information: Site:

<http://members.fpoa.net>

Userid: xxxxx

Password: xxxxx

Member e-mail list, join now via this page!

<http://www.fpoa.net/mailman/listinfo/fpoa-members>

Ranger's Eye View

by Paula J. Peterson,
Chief Ranger - Monterey District

For the past two months, and until we fill the supervising Ranger position for the Gavilan Sector (San Juan Bautista State Historical Park and Fremont Peak State Park), I am filling the role of the State Park Liaison to FPOA. I am enjoying getting to know your FPOA Board members and key volunteers with the organization and am finding myself more and more interested in astronomy and what observing at Fremont Peak State Park offers.

I have previously attended public astronomy nights and thoroughly appreciated the night sky information and passion shared with general public by Fremont Peak Volunteers, the opportunity for looking through so many telescopes, the dedication of FPOA Board members, and the volunteer time contributed. Speaking of the latter, from July through December 2000, there were 2,985 hours of public education provided by staff and State Park Volunteers at Fremont Peak. In government terms, that is the equivalent of 1.6 person year's full time attention provided to the public in just six months.

Here are some highlights on deferred maintenance projects funded by the Legislature for upgrades at Fremont Peak in the next 2-3 years. During the next 12 months we expect to complete the design phase for a campground rehabilitation project that will resurface roads and parking areas, level camp spurs, and provide flush toilets. We also expect to replace the vault toilets at the upper day-use parking lot with flush toilets. Redesign and construction of park entrance improvements are

anticipated to provide a sense of arrival to the park and to provide an informational kiosk and turn around area.

Construction of the campground improvements is expected in the next 12-24 months. Other projects on the 12-24 month cycle could include renovating the observatory area by adding level viewing pads, demolishing the shop and flammable storage buildings, improving the road surface and public parking on the Observatory ridge, creating an ADA compliant path of travel between parking and program areas, and potentially relocating the ranger residency out of the current facility and converting the facility to interpretive program support. Lighting levels will be seriously considered in all projects so as to be as compatible as possible with astronomy activities.

May was "State Parks Month", however as the summer continues, plan to take advantage of the variety of activities available in your State Parks. Start by exploring on the web at

URL: <http://www.parks.ca.gov>

Sign up for Public Programs

The heart of the FPOA's service to Public Astronomy is the weekend programs at Fremont Peak that run on Saturdays throughout the summer and fall.

The first observing Saturday of the month (check the 2001 Schedule for the precise dates) is the Solar Program, presenting the roiling surface and upper atmosphere of the Sun in hydrogen light using our Solaris telescope from the main Fremont Peak lot. Sunspots and prominences are frequently visible.

In the evening, the program focuses on presenting the beauty of the night sky using the 30" telescope and other instruments at the observatory. Short talks on the topic of the day are given at 8pm, followed by viewing.

This year, more volunteers are needed. Please contact Pat Donnelly to sign up for a day or evening and help the FPOA achieve its 15th year of success.

President's Message

by Pat Donnelly

It is around noon as I write this article, and I am watching Venus out of my window. I was surprised that not only is Venus visible during the day, but it can be followed from dawn till it is about 8 - 10° above the horizon. Below this altitude the sky is too white to allow following the planet. In our very dry, cloudless skies of June and July, Venus should be easy to find, and one should have no trouble following it for most of the day with either a pair of binoculars or with the unaided eye.

This is also the best time to observe Mars. This month (June) the visual magnitude of Mars exceeds the visual maximum magnitude of Jupiter. This month and next Mars will also have the largest apparent angular surface area, and the two tiny moons of Mars may also be visible. Most of the dates for June and July are still available to use the 30" Challenger telescope to observe Mars.

We have begun planning for the three big meteor showers that will occur later this year. Observing parties are planned for the Perseids (August 11 - 12), the Leonids (November 17 - 18), and the Geminids (December 13 -14), There is also a partial eclipse of the sun the afternoon following the Geminids. The moon will be a problem for the Perseids, but essentially new moon conditions will exist for the other showers. I would strongly suggest trying to catch the Geminids, since this shower will stop occurring in about 70 years.

I am happy to announce that the FPOA has received a modest unsolicited grant from the Entheogen Fund, which is part of the San Francisco Foundation. I would appreciate it if any member has suggestions for the use of the money to improve our public work at the peak.

Finally, don't forget the FPOA Member Appreciation Night is September 15 this year.

Clear, dark, and steady skies, *Pat Donnelly*

Chabot presents Hubble's new view of the Universe

Explore the Hubble Space Telescope and its extraordinary discoveries up close! Through activities, video, artifacts, and vivid Hubble images, folks will learn about the telescope's history, design, and purpose, and gain a greater understanding of planets, stars, galaxies, and intergalactic space.

Visitors enter the exhibit through a tunnel, where they will experience the sounds and views of space. When exiting the tunnel, they will see a scale model of the telescope as it appears in its orbit around the Earth. Other sections of the exhibit describe the history and operation of the Hubble Space Telescope, and its contributions to our understanding of the origins and evolution of planets, stars, galaxies, and the universe.

On Exhibit from the Smithsonian Institution
June 2 through August 12 (reprinted from CSSC)

For more information, visit the Chabot Space & Science Center on the Web at:
URL <http://www.chabotspace.org>

Mars at Opposition in 2001

The Red Planet Mars is at opposition on June 13th, meaning that the Sun, Earth, and Mars will form a straight line in the solar system, with Earth in the middle. As seen from Earth, Mars is opposite the Sun in the sky, so it rises as the Sun sets and sets as the Sun rises. Because the orbit of Mars is outside that of Earth, this is also when Earth and Mars are generally closest to one another (42 million miles on June 21st), making Mars appear larger and brighter than usual. This time around, Mars is nearer and brighter than it has been since 1988 and in the month of June will be brighter even than Jupiter, which is usually second only to Venus. (reprinted from Morrison Planetarium)
URL <http://www.calacademy.org>

Perseus' Stars of Summer

by Jane Houston Jones

The constellation Perseus has more to offer than just a meteor shower in July and August. The Perseids are the most famous of all meteor showers of course, and that is reason enough to view the mighty hero in the sky. But wait; there's more!

The Perseids are active from July 17th thru August 24th. The traditional peak, in reality, the second peak of three, is Sunday, August 12th at 17h UT. It is interesting that there are several peaks. The other two are Sunday the 12th at 14:00 UT and Monday the 13th 01:00 UT. A ZHR of 100 was observed in 1999 and 2000 and Perseid Y2001 ZHR is expected to remain at about that level. Unfortunately there is a bright waning moon on peak night. The moon will be visible throughout the night after the Perseid radiant reaches a useable elevation. The radiant and the third quarter moon rise from low in the north-east to high in the east as the night wanes. Now if you have travel plans that will take you to the central and western Pacific Ocean westwards toward eastern Asia overnight, you will be in the right place at the right time for maximum Perseids. Perseids are fast, bright and leave persistent trains. They are *the* shooting stars of summer.

Another fascinating object is located in Perseus, and it's another object that has a peak of brightness. It's Algol! Beta Perseii is the most famous of the eclipsing variables. At magnitude 2.15, Algol is a white spectral type B8 V main sequence star 100 light years distant. It is a binary, too, of course! At primary eclipse, 79% of the bright star is hidden by the larger companion. It dims significantly from 2.15 to 3.4 every 2.9 days. This eclipse takes place over a very short time frame - less than four hours. The dates (times in UT) to watch for this minimum are available in Sky and Telescope. They are also printed in the RASC Observers Handbook 2001.

I hope you give Perseus and Algol and the Perseid meteor shower a look-see this summer and fall.

Proposed 30" Telescope Reservation Procedure

The purpose of this procedure is to identify the requirements and the process for reserving the 30" Challenger telescope at the Fremont Peak State Park (FPSP) for non-public program nights.

PREREQUISITES

1. The following items are required to be completed prior to making telescope reservations:

A. The requestor shall be a paid up or life member of good standing in the Fremont Peak Observatory Association (FPOA).

B. The requestor shall have participated in a public program as a registered FPSP volunteer during the current or previous calendar year.

C. The requestor shall be currently certified on the 30" telescope and be a FPSP volunteer in good standing.

D. The FPSP Reservations Coordinator (to the extent practical) shall have a list of persons authorized to make telescope reservations. This list shall be compiled by the Reservations Coordinator based upon the following input from the proper personnel:

- o current FPOA members, from the FPOA membership chair
- o currently certified members, from the FPOA telescope training officer
- o state park volunteers in good standing, from the Volunteer in Parks (VIP) Coordinator for the FPSP.
- o recent or scheduled public program volunteer (give program or run telescope), from the VIP Coordinator for the FPSP.

E. Reservations should be made at least 48 hours prior to the reservation date. Reservations made less than 48 hours prior to reservations date are accepted at the discretion of the Reservations Coordinator (see Item 3 of Methodology).

2. The (FPSP) Reservations Coordinator shall be chosen by the VIP Coordinator for the FPSP. The VIP Coordinator for the FPSP may solicit input from the FPOA Board of Directors in the choosing of the Reservations Coordinator.

METHODOLOGY

1. The requestor shall contact (telephone, fax, E-mail, etc.) the Reservations Coordinator and provide the coordinator with the requestor's name, requested date, and purpose for the request. The following are the only authorized purposes for reserving the telescope:

- o education or interpretive presentation for a school or nonprofit organization (provide the name, address, and contact person of the organization or school) - specify whether use is requested to be exclusive or non-exclusive
- o research or photography (specify) - exclusive use
- o telescope maintenance, testing, or calibration - exclusive use of the Director of Instruments or designee
- o proficiency training - non-exclusive use

2. The Reservations Coordinator shall verify that the person meets the prerequisites, and the coordinator shall notify the requestor of the confirmed reservation.

3. The Reservations Coordinator should keep a reservations log of approved telescope reservations and, as practical, submit a copy to the FPOA Webmaster for publication on the FPOA Website. The Reservations Coordinator shall fax updates of the reservations list to the San Juan Bautista State Park Office (831-623-4612) at least 48 hours ahead of the reservation.

(NOTE: The gate combination is changed at the beginning of each calendar month, and the observatory lock box combination is changed at irregular intervals.)

4. During the calendar month of the reservation, prior to the reservation date, the authorized requestor shall contact the San Juan Bautista State Park Office (831-623-4526 or 831-623-4881) to obtain the gate (and if necessary, the observatory lock box) combination. The Reservations Coordinator may provide this information to the requestor at the time the request is made if the reservation is authorized and if the coordinator knows gate combination.

OTHER CONSIDERATIONS

1. A list of the FPOA members authorized to make reservations shall be posted on the FPOA website and maintained by the FPOA Webmaster or by another individual as designated by the Webmaster.

This information shall be available to all FPOA members through the FPOA website or by contact with the Reservations Coordinator. In order to maintain this database, the Reservations Coordinator shall obtain, as necessary, input from others as identified in Item D of the Prerequisites above.

2. The list of telescope reservations shall be posted and available on the FPOA website or by contacting the Reservations Coordinator.

3. Only the Reservations Coordinator shall authorize telescope reservations. Authorized reservations shall be entered into the FPOA website, and edited on the FPOA website only by the FPOA Webmaster or by another individual as designated by the Webmaster. Updates to the reservations list shall be on a best-efforts basis.

4. The reservations schedule and the list of current FPOA members able to reserve the telescope shall always be available to the State Park personnel either through the FPOA website or by requesting the information from the Reservations Coordinator.

5. All non-weather cancellations or exchange of reservations shall be made through the Reservations Coordinator.

Get ready for Meteor Season

by Jane Houston Jones

There are a lot of Meteor Showers coming up during the summer and fall.

August: August 12 - Perseids, active Jul 17 thru Aug 24. ZHR 120-160. The big daddy of showers! These are fast and bright meteors and often leave persistent trains. Moon Phase: 23 day old waning moon. Lawn chairs at attention. Now observe!

September: Best for sporadics and mysterious minor showers.

October: October 8 - Draconids, active October 6 thru 10. ZHR from 0 to *storm!* Showers occur when the parent comet, 21P Giacobini-Zinner reaches perihelion. That happened in 1998. Moon Phase: 21 day old waning moon.

October 21 - Orionids, a minor shower active Oct 2 thru Nov 7. ZHR 20

November: November 12 - Taurids, active Oct 1 thru Nov 25. ZHR 5. Low, slow, bright and yellow. Good offset to Leonids.

November 17 - Leonids, active Nov 14 thru 21. ZHR variable 10-*storm*. Swift and bright with 50 to 70% leaving persistent trains.

We'll have more information on Year 2001 Leonid storm year predictions and will provide a FPOA Meteorwatch webpage for up-to-the minute meteor observing plans at Fremont Peak Observatory before the Perseids.

Almost certainly there will be meteor counting, plotting and imaging at Fremont Peak for all of these showers. Announcements will go out between newsletters to the FPOA e-mail list, so if you are not on it, and want to be, just let us know. An email to info@fpoa.net will get you on the e-mail list.

[or, *sign up yourself - see Finding FPOA on Net pg.1 Ed.*]

FPOA Public Schedule 2001

March

24 Board Meeting

April

14 Solar Program*
21 Board Meeting, Work Party (10 am)*
28 Public Program* (**Astronomy Day**)

May

12 Solar, Public Programs
19 Public Program
26 Public Program, Board Meeting

June

02 Solar, Public Programs (**Mars**)
16 Public Program
23 Public Program, Board Meeting
30 Public Program

July

14 Solar, Public Programs
21 Board Meeting, Public Program
28 Public Program

August

11 Solar, Public Programs
18 Public Program, Board Mtg, **Star-B-Que**
25 Public Program

September

08 Solar, Public Programs
15 **FPOA Member Appreciation Night**
22 Public Program

October

06 Solar, Public Programs *
13 Board Meeting, Public Program*
20 (Work Party) Public Program*

November

17 Board Meeting (offsite, TBD)
* - Call FPOA Hotline 831-623-2465
beforehand to verify program schedule

To volunteer for a public night, you **must** have completed the docent training course.

Contact Pat Donnelly at 408-255-1863 to reserve dates; ideally one month but at least two weeks prior to the date desired.

Program Needs Equipment

The ongoing meteor study program was dealt a severe loss a few months ago when the stationary camera platform disappeared from the observatory.

In anticipation of the upcoming Perseid and Leonid shower patrols, the FPOA Meteor Program is looking for a few good (but old) cameras.

What we need are several (up to 12) 35mm cameras with 50mm lenses that can be set to a 'bulb' (or time exposure) setting and have a tripod socket for mounting. That's all!

Take a few minutes and search through your attic or closet; that old camera gathering dust may be just what we're looking for. Donations will be gladly accepted and donors provided with letters of receipt for tax purposes.

Fremont Peak Observatory Association Officers and Directors

| | | |
|-------------------------|------------------|---|
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The *Fremont Peak Observer* is published quarterly by the FPOA, a non-profit cooperating association. For more information, contact any Board Member or write to FPOA, P.O.Box 787, San Juan Bautista, CA 95045