The Fremont Peak Observer

— Bringing Astronomy to the Public —

Vol. 40, No. 4 Winter 2023

President's Message

Pat Donnelly

As I write this message, the 2023 year is about to end. This has been both a year of big success and big frustration. The year started quite badly. The road to the peak partially collapsed due to heavy rains last winter. Also, weather in the early part of the year did not cooperate, and several programs were cancelled due to cloudy and/or humid weather. It was mid-May before FPOA could conduct public programs. Once the bad weather departed, the rest of the year was one of our most successful seasons. The FPOA successfully conducted eight (8) special programs for various groups. This had to be a record for the most special programs given in one season. We successfully hosted the Hartnell astronomy class visit in late September. The final special event of the year was an observing program for the October 14 partial eclipse of the Sun. Although early in the morning and very cool at this remote location, our eclipse program was a grand success with approximately 85 event visitors. I would like to thank all of the FPOA members who helped with the programs and made 2023 a major success. I look forward to 2024 being even better.

Astronomically, December is one of the more interesting months. The sun reaches its farthest point south on the celestial equator at 7:21 PM on Dec. 21st at the "Winter Solstice". On this day there is only nine hours and 36 minutes of daylight. There is an old saying that seems appropriate for late December. It goes like this, "It sure gets late early this time of the year". It sure seems that way when it's dark by 5:30 PM. Another interesting event occurs on January 2. On this day, the Earth reaches its perihelion. The perihelion is the point on the Earth's orbit when it's closest to the Sun. This probably seems counter intuitive, but it's true. If one could accurately measure the apparent angular size of

2024 Program Dates

Saturday Evening Programs

April	13, 27	August	3, 10, 31
May	4, 11	Sept.	7, 21, 28
June	1, 8, 15, 29	October	5, 12, 26
July	6, 13, 27		

Solar Programs

April	13	August	31
May	4	September	28
June	1, 29	October	26
July	27		

Board Meetings

January	13	July	6
February	10	August	24
March	9	September	21
April	20	October	19
May	11	November	16
June	8		

Please check our web Schedule and status for updates before heading up.

the Sun, it would be the largest on this day. There is one final astronomical event one should observe. At approximately 6:00 PM each night from about Christmas (Dec. 25) to about January 6, all but four (4) of the first magnitude fixed stars visible from northern California can be viewed. Only Spica, Antares, Arcturus, and Fomalhaut are not visible at this time. I used to go out to see these stars, when I was young. It is quite the display.

PD

In Memoriam

Pat Donnelly, Peter Jenniskens, Eric Egland

FPOA founding Parks Ranger and past president (2010-2012) Rick Morales passed on Oct 5, 2021. Here are just a couple recollections from our grateful membership. Thanks Rick and clear skies.

Rick Morales with an early CAMS setup in back of the Ranger's house. From Jenniskens (2006) Meteor Showers and their Parent Comets. Cambridge: Cambridge University Press, 790 pp.

I was quite saddened to learn that Rick Morales passed away in 2021. Rick was the ranger at the peak for many years and helped establish the FPOA. He always had an upbeat mood, and he really enjoyed rock music. I thought I was the last person, this side of Neptune, to hear of his passing, but I was wrong. Thus, I want to let all of you know. I shall miss him. Rest in peace Rick.

PD

In my second year after arriving in the United States as a postdoc from the Netherlands, back in 1994, Rick Morales was the park ranger at Fremont Peak Observatory and active in FPOA. That year, the Perseids were expected to have a significant outburst that could be visible from California. I teamed up with Rick Morales and Mike Koop and our plan was to operate clusters of photographic cameras from three locations at Henry Coe State Park, south of Los Banos, and from Fremont Peak Observatory in order to triangulate the meteor trajectories and measure their radiant and speed.

On August 11, a fire broke out along the road leading up to Fremont Peak. With alarm, we saw the billowing smoke rising from near the peak on our way to Los Banos. At the time, I feared that this meant no observations. Indeed, the road to the peak remained closed that evening. Fortunately, after a day of hard labor to put out the fire, Rick took the time to set up the camera platform and operated the cameras that night, helped by one observer, lawyer Duncan M. McNiell, who managed to weasel past the fire guard to join Rick that night. Together they perfectly recorded the flurry of meteors around 3 am that night and I was able to determine the radiant position of the outburst meteors, providing clues to their epoch of ejection.

I'm telling the story in Chapter 17 of my book "Meteor Showers and their Parent Comets", which has a picture of Rick standing proudly with the small camera battery used that night (Fig. 17.17). I will never forget him.

PJ

Observations

Rob Hawley

The April Total Solar Eclipse

Another “Great American Eclipse” is going to occur on April 8, 2024. Unfortunately, instead of crossing the US during the good weather of summer, it will occur during April. Twenty Years of climate data compiled by Jay Anderson, suggest that the only viable US locations are in Texas (although a 5-year study done by Fred Espenak, showed that in several years upstate New York was also viable).

Assuming Jay is correct, here is where you need to go on the map below:

The eclipse covers a broad swath including the major cities of Dallas and Ft Worth. Austin is “just” inside. San Antonio is just outside. As far as prospects for chasing clear skies. I 10 runs northwest from San Antonio. I 35 runs north from Austin. I-30 crosses the track northeast from Dallas.

A number of festivals are being advertised on Facebook. You should be able to find these using Google. Of course, expect the mosh pit conditions of Madras, Oregon if you go that route. As far as hotels, they have been expensive for some time. One could image a 4 AM departure from a Houston hotel (but no thanks).

This will be a relatively long eclipse with totality in Dallas lasting 3m 44s. If you go southeast to the centerline, totality increases to 4m 22s.

If you do not want to try this eclipse, your next choice is August 2026 where the choices are Greenland, Spain, or a ship.

RJH

IAU asteroid 38639 (Samuels)

FPOA salutes our hard-observing citizen scientists. On Oct. 16, 2023, IAU Working Group for Small Bodies Nomenclature Bulletin named asteroid 38639 (Samuels) after our long-time member and contributor Dave Samuels.

Dave is honored to have a minor planet named after him in recognition of his volunteer contributions. Boy Scout Merit Badge participation sparked his first interest in astronomy at the age of 13. An amateur astronomer at age 15, he received his first cheap 4" reflector scope mounted on a ball mount and tripod. In the last few decades, Dave enjoyed Astro-imaging with various tele-scopes and mounts, including the Challenger telescope.

His dedicated service to FPOA includes 13 years on our board and held vice president for several years. Dave served as a founding board member at the start of the CAMS project and was instrumental in FPOA becoming the first CAMS site. In 2011, he set up the first amateur CAMS site in Brentwood, CA (first light August 10, 2011). He used a single Watec 902H2U with 12mm f/1.0 lens sitting on a camera tripod underneath the protection of his back patio (below left). Eventually, he had a CAMS station in his backyard with 4 cameras that triangulated with Foresthill, Lick, Fremont Peak, and Sunnyvale.

Within the first few days of setting up in Brentwood, Dave started writing scripts and scheduled tasks to ensure that capture always occurred – this was the beginning of the AutoCAMS. Over time, AutoCAMS has evolved into over 100,000 lines of script code that call the programs that were written by Pete Gural. Dave's AutoCAMS scripts were eventually adopted and they are currently being used at most CAMS sites worldwide (except for Sunnyvale, Washington DC, Benelux, and Brazil).

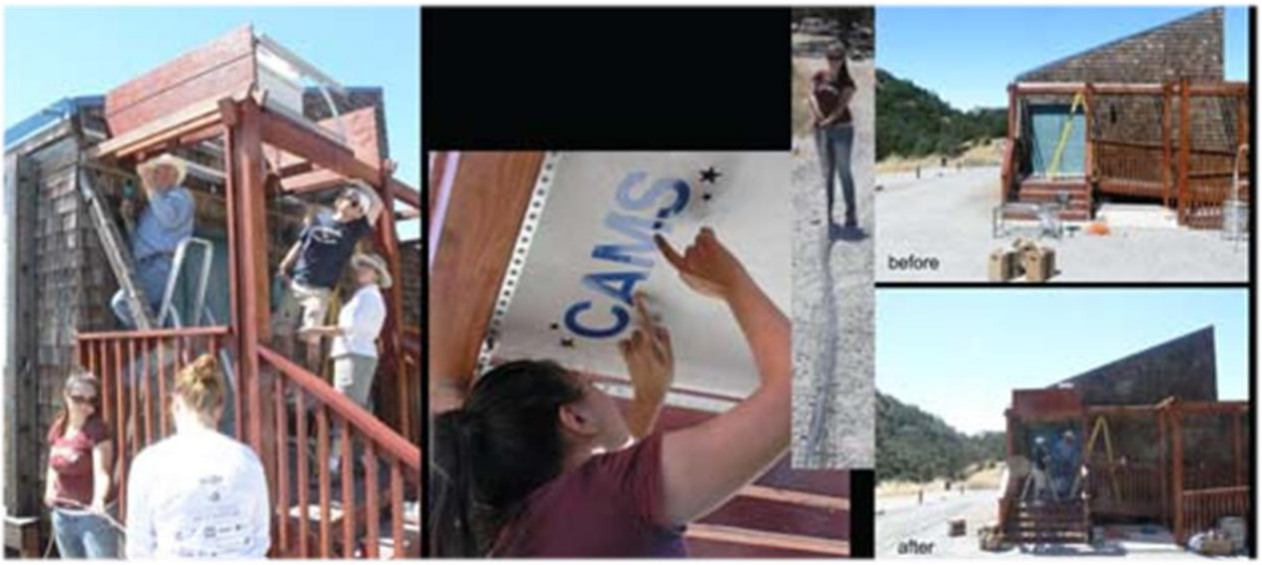
These scripts launch capture and do post-capture processing, such as validation, calibration, detection, applying the new calibrations to the detections, collecting and compressing the necessary files for transmission, reliably uploading the results to the NASA server, maintaining archives, and preventing the hard drives from becoming full.

Dave and Jim Wray (Foresthill, CA) worked together to prove that 1/3" cameras can be used to develop a much less costly CAMS array than by using WATEC cameras. A paper was presented at the Giron conference in 2014. It was that experimentation where the Sensoray 8-port capture cards (right) proved economical and reliable, and are widely used worldwide. Fremont Peak has 3 Sensoray capture cards and 20 cameras arranged in low

and mid angle circles around a center zenith (right).

Dave volunteered his time to this project since 2011, remotely installing and configuring the software on CAMS stations around the world. He dedicated himself to the training of site operators and trouble-shooting and maintenance of these stations to ensure that they run as smoothly and autonomously as possible.

DS



FPOA work party installing original camera box outside the double doors (above); 20 Watec CCD cameras over the East ramp (top); House finches in a cozy corner beside the CAMS box (below).

Facilities

Eric Egland

With the fence fixed, the ramp painted, and renovations in service, we're looking forward to ongoing small projects that improve storage and organization of FPOA optics, tools, and supplies as well as weatherproofing and fire safety.

Possible 2024 projects include west door weatherstrip, upper shutter gap seals, and a more accessible key box/location.

ETE

The roof no longer makes groaning sounds with some east guide adjustments.

Support

Thanks to those who renewed. FPOA receives most of its income from our memberships. Most annual members are now Observers. We still need your support. Contributions cover publications, phone, insurance, rent, etc.

Please consider volunteering, it's great fun and a service to our community. Please see the back page for details.

Please send Spring 2024 Observer articles to the editor by March 1st.

Membership Renewal

To join or renew, please select from the list of options on our Membership page and pay via PayPal or mail a check to:

FPOA Membership
c/o Rob Hawley
1233 Hillcrest Dr.
San Jose, CA 95120

New Private Resource Credentials

FPOA has maintained the same user/password for our user private directory (https://fpoa.net/private) for at least the past 15 years. The information the credentials protect are detailed FPOA procedures, contracts, and other material for which the public has no need to know.

Recently Apple began notifying iPhone users that the old "fpoa" user password is compromised and listed on various password compromise websites. The password is set by the website admin so there is no way for our members to resolve the warning. Thus, we updated it.

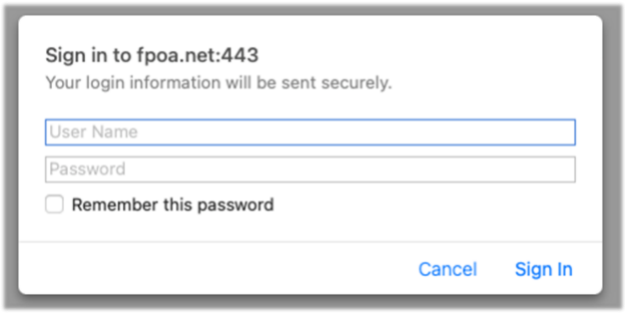
I announced this change in the last Observer and the old "fpoa" user name is now invalid. Unfortunately, we discovered a problem with our Observer distribution so not everyone was notified.

For those with electronic delivery, the new login was included in your Observer notification. For everyone else, (and those who discarded their Observer notification), please contact info@fpoa.net.

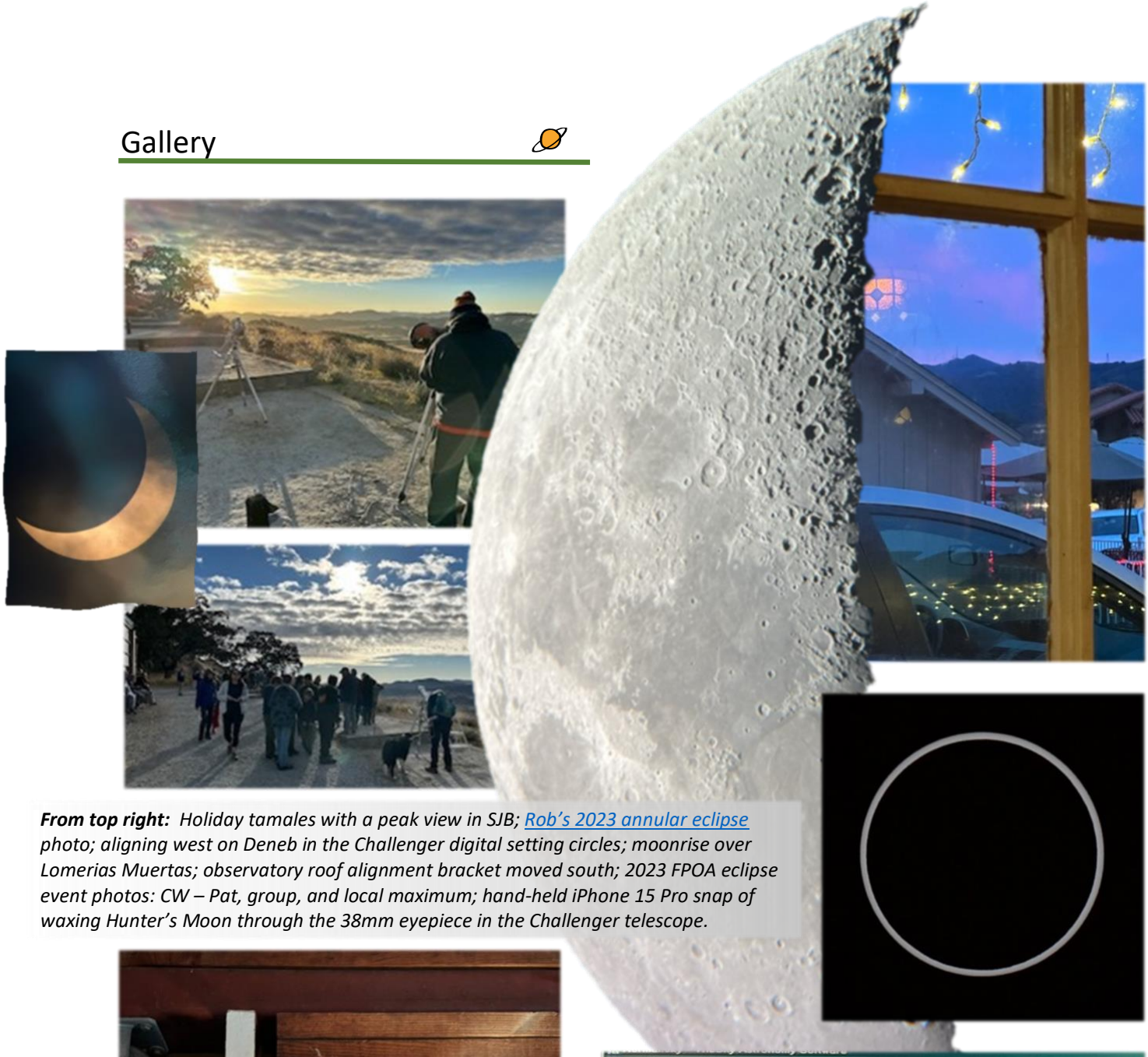
We are not storing missile launch codes or credit card numbers on our site. Our actions should prevent a casual duplication of the password against another site and thus a flurry of new warnings. We will likely change the password annually again in sync with an Observer release.

Remember, when you access the directory, the https:// is not optional.

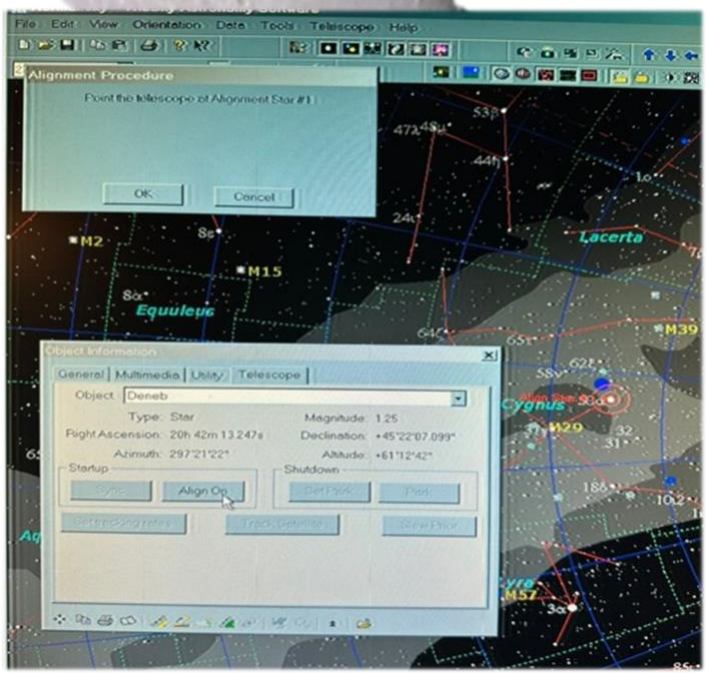
RJH

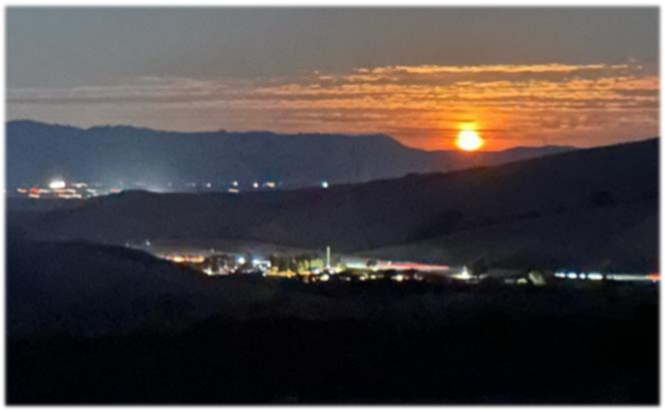


Gallery



From top right: *Holiday tamales with a peak view in SJB; [Rob's 2023 annular eclipse](#) photo; aligning west on Deneb in the Challenger digital setting circles; moonrise over Lomerias Muertas; observatory roof alignment bracket moved south; 2023 FPOA eclipse event photos: CW – Pat, group, and local maximum; hand-held iPhone 15 Pro snap of waxing Hunter's Moon through the 38mm eyepiece in the Challenger telescope.*





Moonrise over the Diablo Range and Hwy 101

Observing Reservations

Please send the following information ***48 hours in advance*** to:

schedule at fpoa.net

- Member name
- Reservation date
- Estimated arrival time
- Duration of stay
- Number in party
- Vehicle description and license plate
- Specific observing site request (pad)

Reminder – 48-hour notice for Observer Access is non-negotiable

Please, No 'last minute' requests

We lease access to the FPOA area from the State. Our agreements with the State require we give 48 hours' notice for all visitors. Observer members agree to the 48-hour notice per the liability contract.

Public Program Volunteers

- Complete the updated 2023 liability waiver and return to *membership at fpoa.net*.
- Also, please email name, vehicle, and the program date to *schedule at fpoa.net*.

Fremont Peak Observatory Association

Box 1376, San Juan Bautista, CA 95045

Inquiries	*info at fpoa.net*
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Directors Emeritus	Kevin Medlock
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Dates and Delivery

Members, The Observer is now sent by email and posted on our website at FPOA Observer online
Please send email updates to *membership at fpoa.net.*

The *Fremont Peak Observer* publishes four times a year following Winter, Spring, Summer and Fall. We welcome articles and photos from our members. Please email those to *editor at fpoa.net* by Mar. 1, June. 1, Sept. 1 and Dec. 1 in plain text or Word format.