The Fremont Peak Observer

— Bringing Astronomy to the Public —

Vol 38 No. 3 October 2021

President's Message

Pat Donnelly

The last time I wrote an article for the newsletter, I was full of optimism and anticipation. Because of the number of vaccinations administered, the FPOA was back in business. In fact, we were able to conduct two (2) solar programs and an evening public program. However, soon after that everything fell apart. The Delta Strain of the COVID-19 virus hit. As a result, the board voted again to suspend all public programs indefinitely. If you are like me (let's hope not!!), you're quite frustrated. Based upon the data available to me today, I do not think that the FPOA will be able to conduct any public programs during the remainder of 2021. It is a shame, but it is the reality of the world in which we exist. Perhaps, 2022 will be a better year.

On a lighter note, Wednesday September 22nd the geometric center of the Sun will pass through the Celestial Equator. This event is called the "Autumnal Equinox." What makes this year's event interesting is that the exact moment of the equinox will occur only 39 minutes before local noon for the Fremont Peak Observatory. Thus, this equinox day will be the closest to a true equinox day in the last 647 years. In spite of this almost perfect alignment of the Sun, on that day there will be twelve (12) hours and eight (8) minutes of daylight. The extra eight (8) minutes is caused by the atmospheric refraction of light, keeping the Sun above the horizon for a longer period of time. The actual twelve (12) hour day will occur four (4) days later.

Although there are no public programs, the observatory can still be reserved for viewing through the 30" Challenger Telescope. When you arrive at the observatory to use the telescope, please note that we have new opening and closing checklists. There is also an emergency closure procedure for sudden inclement weather. The new checklists are filed on the lecture room east wall in an acrylic wall bin behind the 16" Big Orange telescope. Please use these checklists to insure safe and proper operation of the telescope and observatory. If anyone needs more information on any of the checklist items, details are in the retraining manual,

https://fpoa.net/private/ScopeCertManual.html

which has been updated to reflect the new observatory configuration.

COVID-19 Status

2021 Programs remain suspended indefinitely based on State and Local positivity of COVID variants.

FPOA Observer programs are unaffected.

I would like to thank Xavier Guaracha for his efforts to get the fence at the observatory painted. Xavier finished the fence as his public service project as part of his work to becoming an eagle scout.

Finally, I must report that Ryan Clark has stepped down from the FPOA Board. Ryan, along with Eric Egland, designed and built the new aluminum support for the south shutter. This modification has been a huge success. The south shutter can now be safely opened and closed by only one person with only moderate effort. The FPOA will miss Ryan with his enthusiasm and his ideas.

Here we feature an article from a new board member Tom Kellogg. Anyone who would like Training on the Challenger please contact *schedule at fpoa dot net*.

First Time Observer

Tom Kellogg

Friday the 13th of August 2021 and as I approached San Juan Bautista an hour before sunset the top half of Freemont Peak was buried in a white cloud, DRAT! I joined FPOA at the August 2019 StarBQ shortly after I moved to Aptos from San Francisco. At that StarBQ I asked how members go about getting trained on the Challenger. Lenore said that Windell was setting it up and I could observe him. I went up to the observatory and he directed me to take each step to set it up then told me I needed to arrange a time to get the official training by Ron, the instruments board member. In the coming months weather cancelled a few events when I had arranged to get the training from Ron then the observatory closed for renovation Autumn 2019. …then Covid hit so the wait dragged on and finally I was trained by Pat in July 2021.

I sent Lenore a text early morning Aug. 13, 2021 asking that she text me if there were changes in their plans to celebrate a birthday with Windell and several others at the observatory. Seeing the cloud covered mountain, I pulled over to look to see if there was a text from Lenore. Nope, so I drove up to the observatory fully expecting soaking wet conditions. Surprisingly it was dry but there were high clouds. Windell and Lenore arrived as I was unlocking the gate. Using the newly revised checklist, I set up Challenger with Windell's help hoping to observe through holes between the clouds. Around sunset, the clouds slowly disappeared, and the heavenly vault opened up with the Milky Way visible.

We started observing the moon with the Challenger while the sky was plenty bright, then we pointed at Venus. We observed a dozen celestial wonders and working with Windell was delightful. Sometimes he was at the eyepiece while I was at a Telrad, and sometimes vice versa. Windell was hesitant to point to the zenith, but we did that successfully to see the ring nebula M57 in Lyra and the dumbbell nebula M27. The smooth movement of this fine instrument was a joy to experience, and the views were stellar. Saturn got the visitors to shout that joyful utterance "WOW!" which is one of my favorite sounds at star parties.

Camping at Fremont Peak, I used my 13" dobsonian several times in the past 5 years since I retired. Since the mid '80s I had been observing from Mt. Tamalpais with the San Francisco Amateur Astronomers and am thrilled to get involved with FPOA.

EclipseTimesCalc App

Rob Hawley

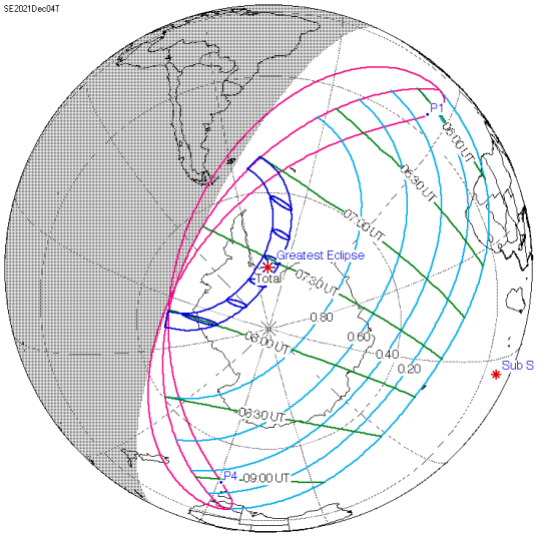
Eclipse Times Calculator now available on the Apple App Store

Download on the App Store

This app provides estimates of where and when the various events of an eclipse will occur without needing access to the Internet. Many places I have observed from places (e.g. deserts or bows of ships) that did not have cell service or WiFi. This allows the user to get the exact event times for the exact location even while bouncing around on the bow of a ship.

Why write another app that does eclipse prediction? This started with a MacOS app I am writing to control my camera during an eclipse. The previous gold standard for camera control during an eclipse, Solar Eclipse Maestro, will not run on Catalina (or later versions) nor be compatible with the long battery life M1 machines Apple announced in late 2020. I have used SEM twice in 2017 and 2019. After experimenting I determined that running on a VM in the field was not an option. Traveling with an operational computer running Mojave is also a non-starter. Those reasons (and COVID boredom) led to work starting on the MacOS CaptureEclipse.

After completing the scheduling engine I decided that I wanted the ability to generate event times. This, in turn, lead to learning about the algorithms to make eclipse predictions. Once I had those I realized that they were useful on their own. So I took a couple of months off from working on the main app to make that code available first as an IOS app.



December 4, 2021 0730 UTC (late Dec 3 PST) eclipse track across the south Atlantic Ocean with Greatest Eclipse just offshore of the Ronne Ice Shelf in the Weddell Sea. The sun will graze Earth's edge.

For more information on the IOS App see

EclipseTimesCalc Solar Eclipse Prediction (almadenobservatory.net)

Before you ask, I do not have a schedule for completing work on CaptureEclipse. At the present time the App is caught in a conflict between the requirements of the Apple Store and the implementation of a library I use from Canon. Until that is resolved the App cannot be distributed. I am interested in recruiting volunteers to help in the TestFlight of the app. If you are interested (and use Canon Cameras) you can contact me at eclipse@fpoa.net

Oh and I need to thank Pat's wife for the design of the app icon.

Construction

Eric Egland

It's an adjustment period, the building is setting into its new skin, and we're fine-tuning fittings and finishes.

Although the steel shingles are painted in a heat reflective enamel that should reduce heating, the telescope room still

gets pretty warm during the hot summer days, and I'm working to improve venting to release the heat bubble via intake around the telescope piers. Although the mouse guards (1" ¾ round pine on 2" aluminum angle) installed around the piers greatly reduced intrusion of Mr/s Various Rodentia into the building, I'm planning to replace those with metal screen or perforated panel next summer.

After some user installation issues, we're moving the binocular mount toward users to improve installation ease and reduce operator hazard. Installation of the binocular mounts is a hazardous procedure for fingers, and installers need extra training for safety.

The leftover wood and scrap storage has left the building. Usable pieces are neatly filed in Eric's wood barn for retrieval on demand. Dedicated telescope supports and mirror boxes remain on-site.

Fix of the water seep at the west wall roof track joint looks like a thorough cleaning and caulking job about once every 5 years or so.

Award for a Job Well Done

Pat Donnelly

On Saturday, September 18, Eric Egland was finally able to receive his award for all of his work renovating the observatory in 2019-2021. Eric both performed the majority of the construction work and supervised the remainder of the work. Under his guidance the observatory looks almost new again. He received the award at the end of a training session, because the COVID pandemic prevented a formal award at the annual meeting at the observatory.

Thanks everyone for helping on this project in teams… engineering, demo, construction, painting. Special thanks to Ryan Clark who proposed, purchased, and helped install our new aluminum shutter axle header, Rob Hawley who helped with the shutter, restructuring, doors and finish woodwork, and to the crew of ER Construction of Marina who hung the new Tyvek vapor barrier, exterior trim, and metal siding on our building.

I drew on my grad experience preparing for ocean surveys to get all the tool kits, hardware kits, and power equipment on-site as it was needed. FPOA is a lot like being at sea, a good ship, a dedicated crew, and the stars are still there.

Support

Rob Hawley

Let me give a big thanks to those of you that renewed since the first of the year. You will notice that you received a full year of membership instead of it being truncated in December.

FPOA gets most of its income from Memberships. Most of the annual members are now Observers. The area is open for observing (with some restrictions).

For those that have not renewed we still need your support. Although 2021 programs are suspended, our expenses to support our observers continue, and to cover our phone, insurance, etc. We appreciate your continued support.

Membership Renewal

Rob Hawley

FPOA Memberships are for 12 months with Observer memberships available as a separate option. Please use our web enrollment forms on the membership page to join or renew.

Members may pay with PayPal or mail a check to the address below:

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

Editor's Corner

Eric Egland

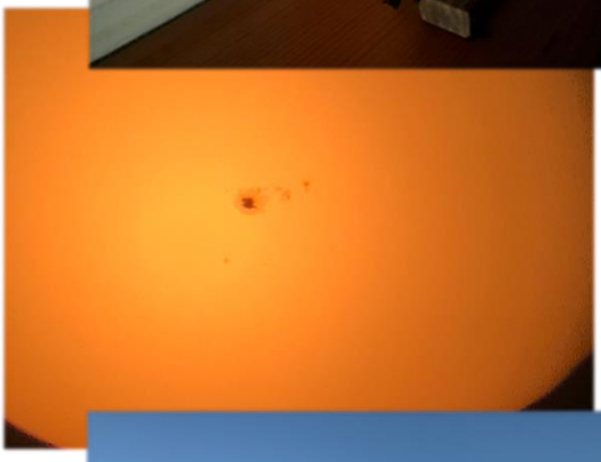
We hope you like our new Observer format, and are working hard to update our website and training materials to reflect changes to our facility.

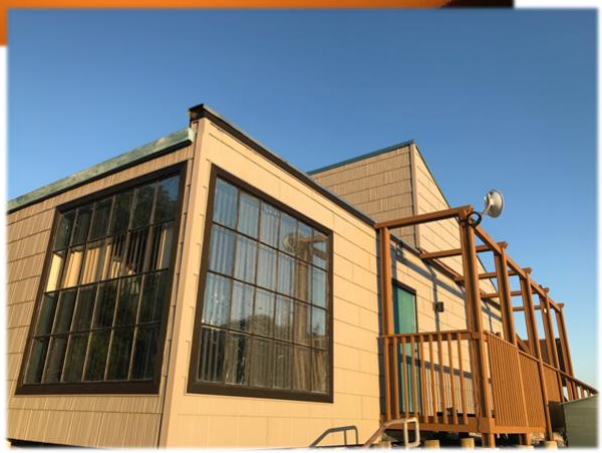
Our most important physical update to the facility was our 2021 shutter brace. Now a cedar 2x6, it inserts top first into a roof pocket and rests against a stop on the new south shutter sill. Installation is perpendicular to the shutter to brace loads of 50 lb/ft2 during 100mph winds.

Please send articles and photos to editor at fpoa dot net by January 1, 2022. Anything you had fun doing, events, cruises, trips, abductions you were conscious for where they let you keep your mobile phone, etc.

Feature Photos

(Please submit 2022 issue photos to the editor by Jan 1st)





(CW from upper left)

The new shutter brace installed (top/bottom), purple finches hatching in the CAMS box, that moon crater with the cliff across it, We had high hopes for opening, a full Harvest Moon over Lone Tree Peak, new siding turns creamy at sunset with new dark window frame paint, the best sunspot of the summer (June).

No one expects the Robinson's Universal

Observing Reservations

For observing pad 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 (2020 1 guest limit, contact FPOA to bring more than 1 immediate family member
- Vehicle description and license plate
- Specific observing site request (pad)

COVID Precautions:

- Arrive before 8pm, depart before 8am
- Face masks, hand hygiene
- Maximize distance between observers (one pad at least)
- Observers may bring immediate family
- No public viewing or talks that encourage formation of a tight group
- The building remains closed

Fremont Peak Observatory Association

Box 1376, San Juan Bautista, CA 95045

Phone Number:	(831) 623-2465
General info	*info at fpoa.net*
Schedule	*schedule at fpoa.net*
Membership	*membership at fpoa.net*
Editor	*editor at fpoa.net*
Treasurer	*treasurer at fpoa.net*
Website:	www.fpoa.net
Facebook:	fpoa.observatory
Twitter:	fpoa_info

Officers and Directors 2021

President	Pat Donnelly
Vice President	Chris Angelos
Instruments	Ron Dammann
Treasurer	Rob Hawley
Secretary, Editor	Eric Egland
Facilities	Loren Dynneson
	Ryan Clark
	Windell Oskay
	Lenore Edman
	Tom Kellogg
Instruments and: Schedule	Ron Dammann
Membership and: Distribution	Rob Hawley
Website	Rob Hawley
Directors Emeritus	Kevin Medlock
	Denni Medlock

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* is published four times a year (Winter, Spring, Summer, Fall). Articles from members are encouraged and should be emailed to *editor at fpoa.net* by Feb. 1, May 1, Aug. 1 and Nov 1 in plain text or Word format.