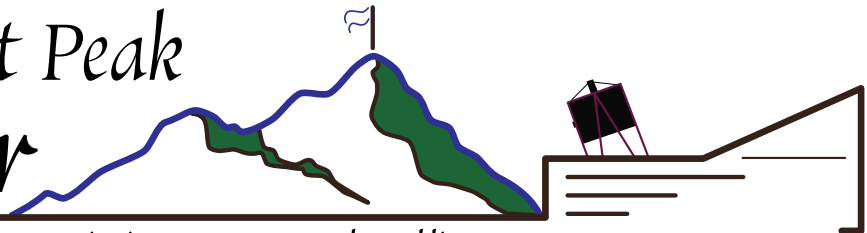


The Fremont Peak Observer

— Bringing Astronomy to the Public —



Vol 38 No. 1

March 2021

President's Message



Pat Donnelly

If you are like me, you probably are happy that 2020 is in the past. During the ongoing world pandemic, basic activities and movements have been severely restricted. We were all (and are) to some extent under house arrest. During this shelter in place period, I have very much missed observing galaxies over 200 million light years from Fremont Peak. This new year, 2021, should bring to us new hope for a better, more mobile future. Until we are given the all clear, I hope everyone does all they can to remain safe.

In spite of the pandemic, 2020 was still a good year for astronomy. There are three (3) new space probes heading for Mars. From these probes, we hope to learn much more about the possibility of life on Mars. Perseverance includes a helicopter that will fly over the Martian surface. I sure wonder how we were able to test the helicopter. The other big story was the possible discovery of Phosphine (PH_3) in the atmosphere of Venus. This is exciting because to date, the only way to synthesize Phosphine is biochemically. This discovery implies that there may be microscopic life forms high up in the atmosphere of Venus. Venus was probably the last place one would expect to find life in our solar system. The year 2020 was also a good year for observing. Comet Neowise was a naked eye object in the summer, and

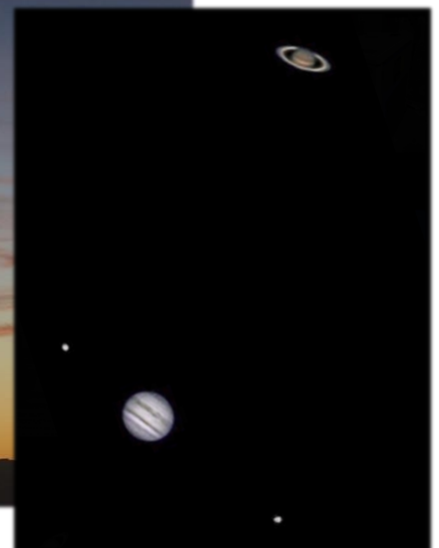
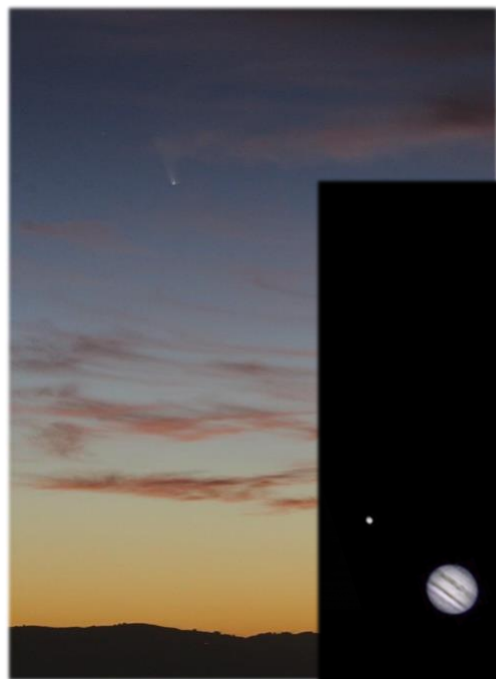
2021 Programs +

2021 Programs are tentative pending approval of our programs by the Parks.

At this time, we're submitting our program safety plan to State Parks to restart our solar programs. The outdoor solar program model should satisfy state and local COVID guidelines.

Jupiter & Saturn were at conjunction on Dec 21st, both within the angle of view at low power for a few days astride the Solstice.

Comet Neowise NNE early dawn SJB E. Eglund



Jupiter Saturn conjunction Ryan Clark

Reporting in mid-March 2021, the following information on FPOA activities may be a bit dated at publication. At this time, use of the observer pads has been restored. Please check the website for further information relative to pad use. Minor construction activities are allowed with permission of the Department of Parks and Recreation (DPR). The first programs we may be allowed to conduct are the monthly solar programs. These programs appear to be feasible following vaccination of participating volunteers and with permission of the DPR. At present, the DPR has indicated that we might (??) get permission towards the end of May. Please check the website for updates. Rob tested a modified DSLR the H-alpha and white light solar program viewing setup. With digital viewing, the members of the public will not have to touch the equipment, significantly reducing impact of repeated cleanings. As far as evening programs go, and observing through the Challenger telescope, the future is very uncertain. At this time, evening programs and activities may be possible in the fall, if life returns to normal. I believe that there will be few, if any, evening programs in 2021.

On a more cheerful note, all major construction is complete. There are still a few minor one- or two-day jobs left. On the FPOA [website](#), we can see most of the repairs, modifications, and upgrades to the observatory. I would once again like to thank Eric Egland for the outstanding job he has done both directing the activities and performing most of the major tasks. Once the observatory is back in full operation, the FPOA plans to have a rededication of the observatory.

Since it is early in 2021, I ask all members to renew their memberships. Despite our not

being open our bills continue. Member support goes toward our rent, state fees, land line answering machine, power, insurance, and reimbursed support for the SETI CAMS project. We need your support again for 2021.

Finally, FPOA has three new board members: Lenore Edman, Windell Oskay, and Tom Kellogg. These three individuals all bring additional experience in design, fabrication, instrumentation, and astronomy.

Please stay safe, isolate yourself to the extent possible, get vaccinated, and follow all of the government mandated restrictions. Let's all live to view another day.



Winter holly over Hollister, San Juan Canyon Rd. E. Egland

Restarting Solar Programs



Rob Hawley

2020 was a complete loss. By Fall we were eager to restart *something*, but then the COVID wave hit and even the Observer Program was lost. With continued discussions, it became clear that our main evening programs were likely beyond reach well into 2021. To meet health guidelines, we adopted social distancing, masks, frequent

cleaning, and {somehow} restricting crowds from our usual 150+ summer nights, all in the dark. Not possible in our tiny lecture room.

Our solar program did not have the same challenges. The program always has fewer guests. It is conducted during the day which makes social distancing and mask enforcement tractable. It is outside so ventilation is not a problem. Equipment cleaning and the safety of our volunteers were the two remaining issues.

The safety issue has now been solved. As of the beginning of April I will have had my two Pfizers + 28 days. I will still wear a mask per CDC rules, but conducting a program will no longer be life threatening. Pat Donnelly is right behind me and will be good in mid-April.

Cleaning is the last challenge we face. As we traditionally conduct the program, visitors look directly into the eyepieces. While providing a richer experience, most visitors have difficulty viewing through the H-alpha objective. We frequently have to cover their heads, which is not COVID safe. Children often see nothing. After every group, we would have to scrub down the equipment. It's a lot of work and may also damage the optics.

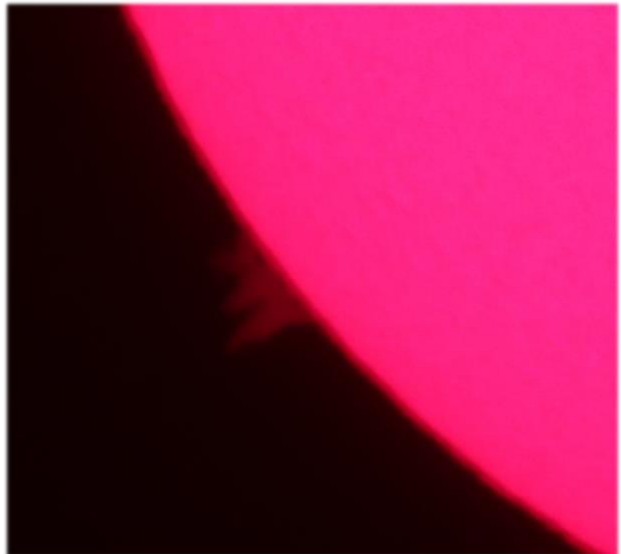
Over Christmas, I thought of a different approach. As a skilled solar eclipse photographer, I am used to taking "white light" pictures of the sun. A digital photo or video feed taken during the program could easily be displayed on a laptop; providing a no touch experience.

Here is my 2019 Chile setup with a couple of my fellow eclipse chasers. My laptop with an accessible remote view is in the little tent.



At the 2020 Chile eclipse R.Hawley

Could I also capture an image from the H-alpha telescope? My first try last Fall was with an astronomical camera. The results were not encouraging.



Extremely large solar flare through Canon 80D R. Hawley

In February I tried again this time with a new Canon 80D modified for astronomical use. Great timing for an extremely large flare that day. There were also some smaller flares.

It looked like we needed some equipment upgrades to optimize the visitor display. The board approved a new fine focuser which will allow for sharper images. We will also use a different mount that will allow us to track the sun more precisely.

Thus, we now have a plan. We'll resume the solar program in a way that's safe for our guests, safe for our volunteers, and safe for our equipment. While this approach lacks the drama of safe optical solar observing, the digital experience might be a better one for our guests. We'll present images more accessible to the public and young children.

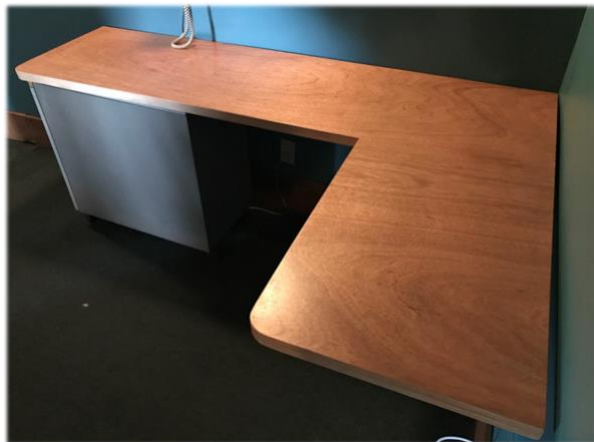
However, at this point, the state is reluctant to have *any* public gatherings. This will change as more people get vaccinated and the case counts come down. Our discussions with the state continue, but we feel we have a plan that is feasible once the blanket "NO" is removed.

Construction



Eric Egland

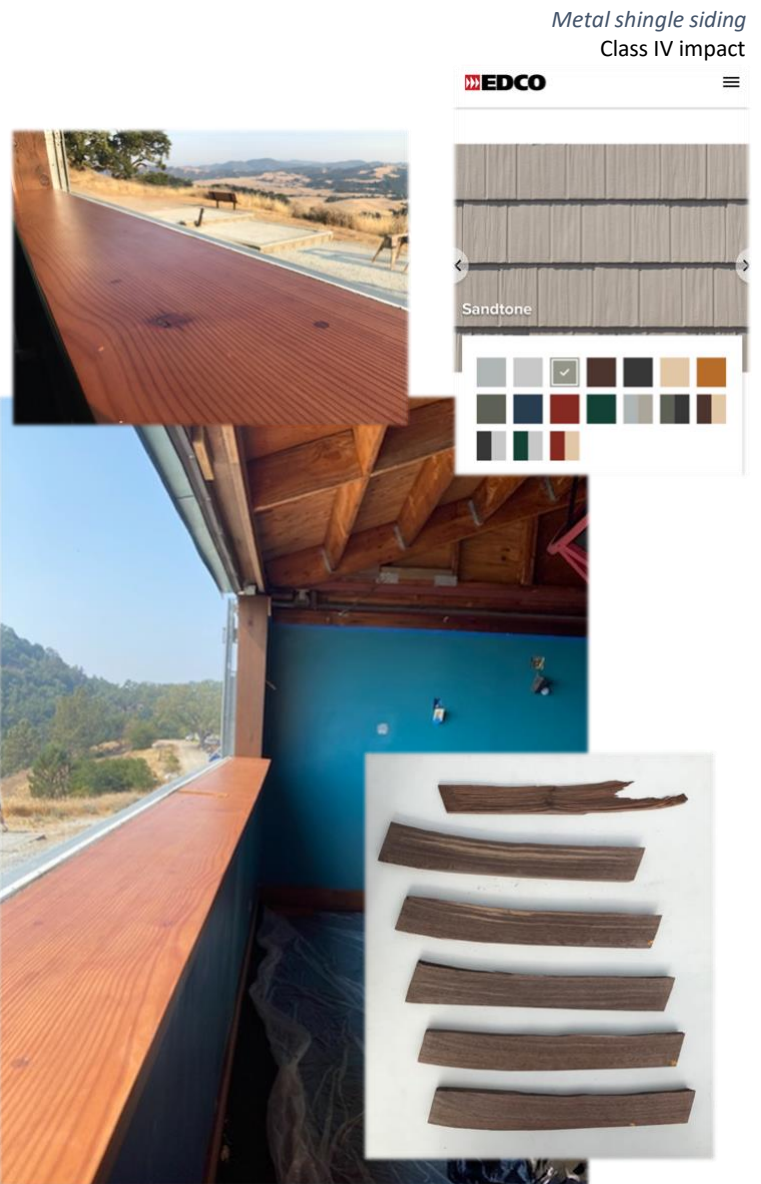
In France, homeowners say that no home is ever finished and our construction work rapidly approaches that goal. During 2020, we completed the shutter, track guards, south sill, observing desk, and the south bench. More desk space on the new 2x12 sill, more rodent resistant, easier cleaning, no wind-blown rain on the carpet, cooler in summer.



New observing desk, mahogany door skin over 1 1/8" ply (coped now) with birch edge for better headlamp visibility.



New bench and shutter axle cover/lower support



New south sill and shutter stop (went with stripey walnut #2 down), found on the dimensional pile at M&S in Seaside, almost Select grade for 1/2 off

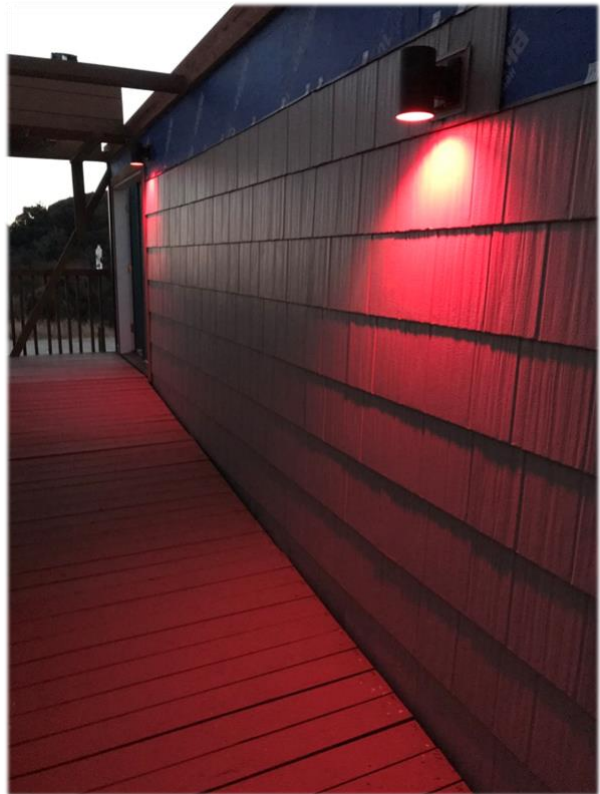


East conference room inner threshold, when I saw it at San Lorenzo in Capitola, I said "That One. that's our board"



East shutter axle cable threading and track cover

Most finishes are several coats of danish oil finished with matte water base poly after a couple weeks curing time, and a light sanding. A test piece spent the whole winter in the rain without any issues. The observing desk has 7 coats of oil base lacquer and 3 of matte poly. At night the red desk light reflects off the oiled mahogany grain, refracts through the lacquer build, and imbues a faint red surface glow to improve visibility.



New evening program lights and Tyvek vapor barrier



East building shingles on a late winter morning

As our construction efforts draw to a close, I'd like to thank Ryan Clark of Arc Fabrications who procured, prepped, and helped install the 4x6 aluminum shutter axle support beam, MPS Construction of Seaside for their building wrap and siding install, and all our volunteers.

We stand on the shoulders of many dedicated and variously skilled members. Thank you all.

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. While we are still working out when (if?) our programs will start in 2021, our expenses continue. We WILL restart our programs at some point, but in the mean time we need to pay for the phone, insurance, etc. We would appreciate your continued support.

Membership Renewal



Rob Hawley

Memberships in FPOA are now for 12 months. Observer memberships are now a separate option and not available as add-ons for Annual memberships. 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



Uranus E. Eglant

Editor's Corner



Eric Eglant

This year, we will continue to publish quarterly to keep our membership updated on status changes of our Observer and Public programs, and share the remote viewing of our membership while we stay apart.

Please submit articles and photos of interest to [editor](#) at fpoa.net by the [dates](#) requested below.

Some winter shots during Mars opposition, as a visitor might see and take with their camera or phone, (Canon SX210 at full zoom).



Mars at opposition

E. Eglant



Alberio

E. Eglant



Jupiter and the Galilean moons

E. Eglant

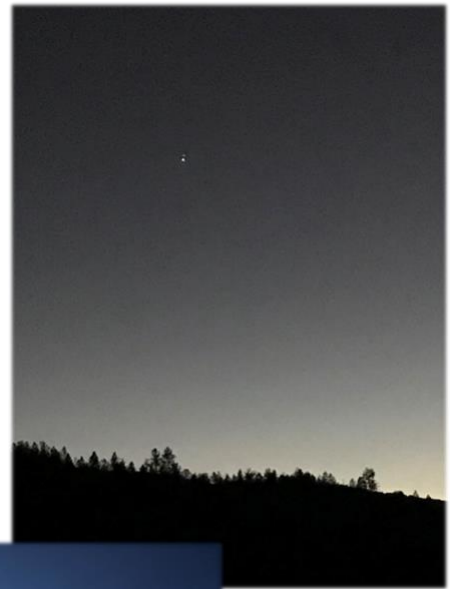
Feature Photos



(please submit next issue photos to the [editor](#) by May 1st)



(red light refracted in new obs. desk)



*Jupiter and Saturn
over the west ridge
Dec. 21st*



winter afternoon contrail



*my manx at his post, whose stashed bits of
bedding keeps facility Rodentia uneasy*

*CAMS video grounds tied and
chassis-bonded to reduce noise*



the old observing desk 2019





Fremont Peak Observatory Association

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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](https://www.facebook.com/fpoa_observatory)
 Twitter: [fpoa_info](https://twitter.com/fpoa_info)

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

Officers and Directors 2021

President	Pat Donnelly
Vice President	Chris Angelos
Instruments	Ron Dammann
Treasurer	Rob Hawley
Secretary	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](http://www.fpoa.net). 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.