

The Fremont Peak Observer

— Bringing Astronomy to the Public —

Vol 36 No. 2

Summer 2019

President's Message

By Patrick Donnelly

It is hard to believe, but more than half of 2019 is already complete. If the first half of this year is any indication of the expected level of activity at the peak during the second half, 2019 will be a spectacular year for the Fremont Peak Observatory Association (FPOA). All of our solar and evening public programs have been well attended by the public with many visitors coming to the peak more than once. The solar programs, although well attended, have been something of a bust. There have been essentially no sunspots to view and very few prominences and flocculi in the H-Alpha telescope. Let's hope that there is some activity on the Sun during the rest of this year.

Our Annual Members Meeting is scheduled for August 24. The meeting will have all of the usual events including the bar-b-que, election of board members, a raffle, an astronomical trivia test, the astro-gastro contest, and observing. Our guest speaker is Mr. Robert Garfinkle, who will take us on an imaginary trip to the moon. His talk seems quite appropriate, since this is the 50th anniversary of the moon landing on the Sea of Tranquility. For the meeting we need some volunteers to help us set up. If you can help, please come early. Also, it has become a rule that none of the evening events will proceed until the cleanup of the picnic area is complete. Therefore, make sure you deposit all of your garbage correctly. If you plan to attend, please RSVP on the observatory answering machine or send an E-mail to a board member, and don't forget to bring a dish to pass around.

The two (2) main building projects for this summer, new observatory siding and some fence parts replacement, have been progressing well. At present it appears that the new siding will be metal, and while the siding is being replaced, several other small items will be done. The replacement of the fence railings have been painted (primed and double coated) and are ready to be installed.

Continued Page 3

2019

FPOA Program Dates

Saturday Evening Programs

Mar 30 Apr 6, 27 May 4, 11, 25
Jun 1, 8, 29 Jul 6, 27
Aug 3, 24, 31 Sept 7, 21, 28
Oct 5, 19, 26

Solar Programs

Mar 30 Apr 27 May 25 Jun 29
Jul 27 Aug 24 Sept 21 Oct 19

Board Meetings

Jan 5 Feb 2 Mar 9 Apr 6
May 4 Jun 1 Jul 6 Aug 3
Sept 7 Oct 5 Nov 2

Special Events

Annual Meeting / BBQ Aug 24

Please check <http://www.fpoa.net/schedule.html> for changes or updates to this schedule.

Observatory Siding Project

By Eric Eglund V.P.

The buzz words are swarming. Kindling. The right ratio of oxidizer and oxidant. All observatories are white. Keep it brown. Keep the cost down. I like shingles. I like modern.

We've been thinking about wild fires over the past year while noticing the degradation of the observatory shingles along the south and west faces of the building where the weather works.

Continued Page 2

Observatory Siding Project

from Page 1

The board decided to replace the existing siding while addressing material, color, and additional fire-wise precautions such as additional roof gravel, and a lath-supported wire mesh building skirt to intercept embers.

Materials and Color

Various ideas are before the board for metal shiplap siding, metal corrugated siding, stamped metal shingle panels, Hardie siding shingles and shiplap, and some very interesting designs gleaned from the Hartnell Planetarium, and images across the web.

The question of heat capacity and thermal inertia were brought up at several board meetings. Would the attractive, easily obtained, installer friendly, budget friendly Hardie board pose a weight and heat concern? Results from a heat absorption and test performed on a light colored sample of 8" 0.25" Hardie lap siding by our facility instrument tech were very bad. Although the weight of Hardie board and shingles were comparable (Bossler arch. tests), the heat test and information found online indicating water absorption failed that option.

Metal siding profiles that are attractive and most like our current siding are inversely proportional to local availability and budget, leaving only "cargo cult" options available. No, it's not that bad, some cargo containers, military recruiting centers, McDonald's take out windows, and many other fine modern buildings are quite attractive. That aside, I've found some 'metal sales' company profiles that may fit in with existing parks buildings nearby.

In our search, I've discovered that most architectural covered fastener metal siding options are only sold to certified installers, and so limits our selection of profiles, and installers within our budget. Many combined metal quotes and one Hardie quote have approached about half our net worth. I continue to work several vectors, manufacturers, local roofing supply shops, local roofers, lumber yards, and some member recommendations. The Home Depot / Lowes stores only offer basic Hardie and vinyl.

We all voted to make the color something like desert sand at the latest board meeting. There's a white camp for those of us who have never approached an observatory without sunglasses and just getting out of our car near one makes the hands begin to twitch. There's the dark brown

camp for those of us who yearn for yesteryear and have never been inside the sweltering attic of the Animal House at Lick Observatory where all the paint has fallen off the old redwood siding leaving it in a state of natural 'shou sugi ban'.

But, that's without insulation. Loren, our maintenance chief, reminds us that current insulation is a primary variable in keeping the building cool. That's true, and so we can be a little brighter while not adding a huge thermal mass to conduct heat into the building through existing shearwall and studs. Along with siding material, and color, I would like to propose addition of Corning foil-backed foam insulation panels to the rolling roof as our primary cooling improvement.

This last week, I've considered cedar or redwood lap siding, stained a light color, with a permanent intumescent coating over the stain to fireproof the building (noburn.com). This treatment is approved by Cal-Fire. The material has about the same density as our existing shingle build-up, is easily obtained and worked, and the entire process may be within budget.

Contractors

They came, they saw, they left. Our contractors have been very polite about not contacting us, although some have sent their bids and estimates. Following those quotes, the board switch from Hardie to Metal, we lost one contractor, and the other is silent. Two other contractors saw the facility following the switch, offered to bid and fell silent upon disclosure of our budget.

Parks

I met with Richard Winklebleck, the Fremont Peak Maintenance Chief. We discussed parks requirements for notification, architectural changes, and use of contractors within the parks. We only need to submit a plan, a change request form, have a ranger walk-through, and we are free to use a contractor of our choice without worries about prevailing wage considerations. We're stuck with single-ply for the foreseeable future. The fuel break is a good trade.

Cal-Fire is planning a 600' wide (300' either side of the road) Shaded Fuel Break. The brush will be cleared from under any living trees for 300' on either side of San Juan Canyon road during the month of July 2019. The fuel break, along with the slow burn of local vegetation types and airspace surrounding the observatory, reduces the likelihood of direct fire contact with our observatory. So our plan considers fire proofing for traveling embers. We'll update our siding material during replacement, add roof gravel, and add a building skirt. We can also add sand to existing porch surfaces immediately after painting to reduce flammability and improve wet weather/winter traction.

July 2 2019 Eclipse

By Rob Hawley

Many of you travelled to see the US eclipse in 2017. The moon and sun took a year off in 2018 and did their next dance on July 2. This time the track was in the southern hemisphere crossing Chile above Santiago. We based ourselves in the resort town of La Serena, but the weather prospects for that location were really bad so our group set up shop east near the town of Vicuña.

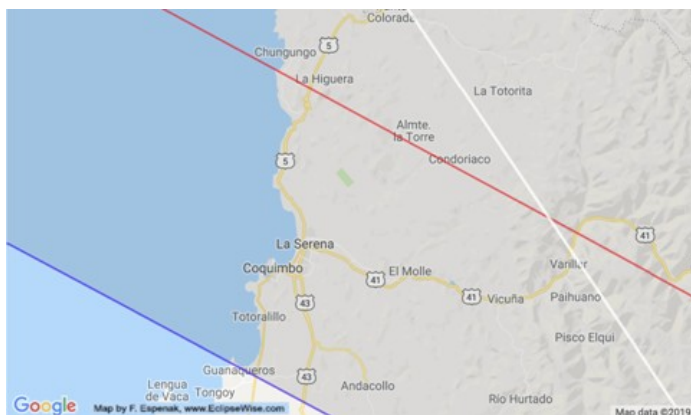


Figure 1 Eclipse Track in Chile

The experience of 2017 taught a valuable lesson. La Serena was being crushed under the weight of nearly 300,000 visitors. The roads at night were gridlocked. So our group set out at 7 AM for what was normally a hour drive on the two lane road to the east. From what we were told a half hour after we left the roads were full.

The early start allowed us to hang out and converse with friends. Hidden in the tent was a laptop that would control my camera during totality. The eclipse did not start until 4:23 PM, but we enjoyed just hanging out with folks that I have traveled with for many years.



Figure 2 Friends from other trips

Continued Page 4

President's Message *From Page 1*

I plan to announce via E-mail when the installation will be done. Thus, if anyone wishes to help, they can come up and help. I want to thank both Eric Eglund and Ryan Clark for their efforts on both projects. They have been doing the majority of the work to date, and we greatly appreciate it. There is one other minor project in progress. It is planned to re-work the south shutter door to make it much easier to get it up and down.

It should be noted that many of the activities conducted both on the 30" telescope and around the telescope are identified in written form in a notebook in the observing room. There is also a portable shut down checklist on a plastic placard in the lecture room behind the big orange telescope. Please refer to these procedures, when using the observatory equipment. This is especially important, when opening and closing the observatory.

Here are a few minor items for you. If you can help out with any of our programs, especially the special programs that occur occasionally, it would be appreciated. Also, if you have the gate and/or the observatory lock combination, please do not give the combos to anyone. We need to maintain some security for the observatory. Finally, do **NOT** approach any of the wild creatures that may be present near the observatory. This is always the safest thing to do.

Having finished the administrative items, it is time for some astronomy. This summer both Jupiter and Saturn are well placed for observing in the evening. Jupiter is just to the left of Scorpius and is by far the brightest object near the scorpion. Saturn can be found just under the teaspoon in Sagittarius and is also the brightest object in the area. Both planets show off their bright moons, and both objects are favorites during the public programs. The dwarf planet Ceres is also in the same southern part of the sky, hiding on the Scorpio/Libra border near Beta Scorpio. Ceres is one of those "Trust Me" objects, since it appears as a point source on the celestial sphere even in the 30" telescope. I have been following Ceres for the last three (3) months and showing it to the public with the 11x80 binoculars at the observatory.

Let me conclude this article with some thoughts about the bright globular clusters in the summer skies. Of the following globular clusters, which one of the following globular clusters has this characteristic?

Continued Page 5



Figure 3 My wife next to my setup

So on to the main event. The sun is REALLY quite now so I was not expecting sunspots or prominences. This is what we saw



Figure 4 Second Contact



Figure 5 High Dynamic Range image of the Corona

Figure 3 is a combination of 9 images and tries to recreate what I saw with my eyes. Per my own processing style. I have not over-processed this to show every bit of structure, but just what I saw visually. The image under emphasizes the solar brushes. These are the magnetic lines at the top and bottom of the sun. (Think of iron filings on a bar magnet.) During the eclipse these were very distinct and I was not able to reproduce that effect.

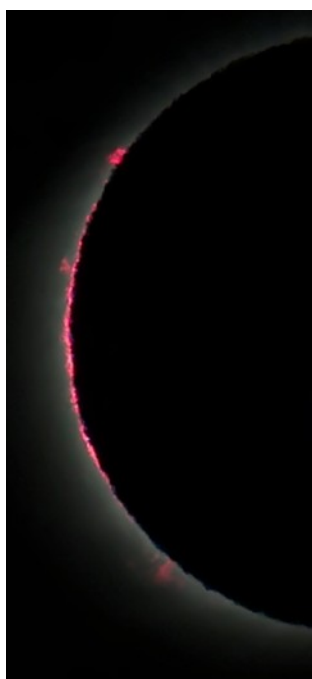


Figure 6 3rd contact Prominences

Of course, eclipses end. As this one did – surprise some prominences. Small, but they were there.

For more and higher resolution pictures see <https://robhawley.net/2019PeruChile/eclipse.html>

So that was Number 15 for me. As I write this I am starting the planning for Dec 2020.

President's Message *From Page 3*

1. The brightest
2. The closest
3. The easiest to find
4. Gives the overall best view

Here are your candidates: M3, M4, M5, M13, M22, and M55. The answers will be provided at the annual meeting.

FPOA is Growing

In 2019 FPOA has seen its first increase in membership since 2010. We have not determined whether this is because of our new membership policy or whether it is because our new website highlights our site as an Observing destination. We welcome our new members.

2019 Membership Renewal

Memberships in FPOA are now for 12 months instead ending on Dec 31. For annual members Observer status is now a type of membership instead of an add-on. You can use the forms on the membership page <http://www.fpoa.net/membership.html> to pay with PayPal (they will accept credit cards). For those preferring paper you can just send a check (that has your current correct address) to : FPOA Membership, c/o Rob Hawley, 1233 Hillcrest Dr., San Jose CA 95120

FPOA on the Internet

Phone Number: 831-623-2465
Email Address: info at fpoa.net
Website: www.fpoa.net
Facebook: www.facebook.com/fpoa.observatory/

EMAIL DELIVERY OF THE OBSERVER

Dear FPOA Members,
The Observer is now only delivered electronically. New editions are posted on our website. If you would like to be notified when a new edition is available please be sure we have your current email address. Since most annual memberships are now renewed via PayPal we will use that address by default. If you would like us to notify you at a different address or your email changes then please send your new email address to membership at fpoa.net

Fremont Peak Observatory Association

PO Box 1376, San Juan Bautista, Ca. 95045
Observatory 831-623-2465

Officers and Directors—2019

President	Pat Donnelly 408 778-2741 <i>kungfugina at aol.com</i>
Vice President	Eric Egland
Secretary	Chris Angelos 831 688-3562 <i>christopher_a_95067 at yahoo.com</i>
Treasurer	Rob Hawley 408 997-6526 <i>treasurer at fpoa.net</i>
Directors	Sal Ascencio 408-636-3907 <i>s_ascencio at hotmail.com</i> Ron Dammann 408 255-1863 <i>schedule at fpoa.net</i> Daniel Dynneson 831 269-3544 <i>dynnesond at gmail.com</i> Loren Dynneson 831 443-8631 Ryan Clark 831-297-3779 <i>ryansfabrications at gmail.com</i>
Director of Instruments	Ron Dammann 408 255-1863 <i>schedule at fpoa.net</i>
Membership and Newsletter Distribution:	Rob Hawley <i>treasurer at fpoa.net</i>
Website	Rob Hawley
Directors Emeritus	Kevin Medlock Denni Medlock <i>epoch at majornet.com</i>

The *Fremont Peak Observer* is published four times a year (Winter, Spring, Summer, Fall). Articles from members are encouraged and should be emailed to <schedule at fpoa.net > Articles should be in plain text or MS Word format. Deadlines are Feb. 1, May 1, Aug. 1 and Nov 1, respectively.