

Renew now for 2015. Don't let your membership expire. See page 6 for details.

FPOA Programs 2015

Saturday Evening Programs

Apr 11, 18, 25 May 9, 16, 23
Jun 13, 20 Jul 11, 18, 25
Aug 8, 15, 22 Sept 5, 12, 19
Oct 3, 10, 17

Solar Programs

Mar 21 Apr 18 May 16 Jun 20
Jul 18 Aug 15 Sept 12 Oct 10

Board Meetings

Jan 24 Feb 21 Mar 21 Apr 18
May 16 Jun 20 Jul 18 Aug 15
Sept 12 Oct 10 Nov 14

Special Events

Star-B-Que Aug 15
Member Appreciation Night Sept 12

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

From the President

By Doug Brown

Board Updates

The Board elected new officers in January. Ric Babcock is our new Secretary, and Rob Hawley will continue as Treasurer. The board thanks Chris Angelos for serving as President and coordinating board meetings over the last couple of years, and Dave Samuels for quickly and accurately publishing meeting minutes and actions as Secretary. Dave will continue as webmaster, and John Parker will begin to assist in that role.

For 2015 I'll be returning as President, after a four year hiatus, with John Parker continuing as Vice President. I don't expect to be able to be able to serve as President in 2016, and will need to miss a number of board meetings this year, so John and I will coordinate closely and use a "two-in-a box" model.

State of the Organization

Rob has already prepared our 2014 year-end financials, which show that FPOA is fiscally sound. Our conservative, balanced, portfolio of stocks and bonds has done us well—much, much, better than our old collection of CDs would have—and our dues and normal donations continue to cover our typical operating costs.

Operationally, FPOA continues to quite successfully achieve its public outreach mission through public programs, and to serve the amateur astronomy community by operating the Challenger and the observing area surrounding the Observatory.

Challenges

There are some long-term trends that are affecting FPOA, and to which we need to adapt in order to

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Volunteer for a Unique Astronomy Outreach Opportunity at FPOA

By Doug Brown

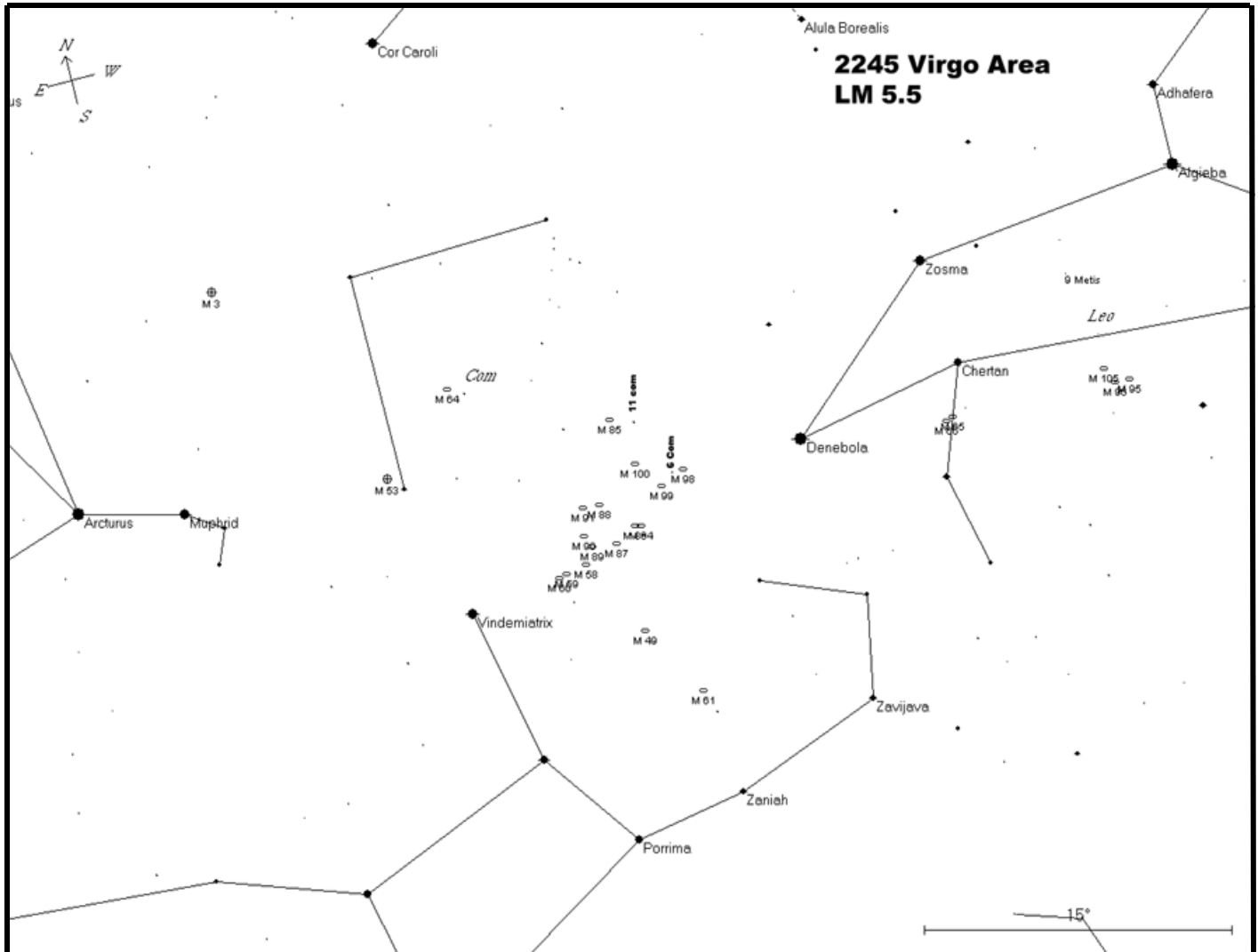
Wouldn't it be nice if more high school science teachers had direct experience with science? Now you can give them that experience by volunteering to sponsor an "externship" for local teachers. In this case, an externship puts teachers in an intense, hands-on technical setting to experience the process of observation, data collection, and analysis involved in doing science.

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The center of the Virgo cluster of galaxies will start appearing in the sky about midnight during March. This is a good time to learn how to navigate this dense cluster of galaxies using just star hopping. It is really quite easy – once you know the secrets.

The two most important principles are having a good chart and knowing how to sync the chart to the stars you see. For Virgo this is actually rather easy.

The cluster is in an area lacking bright stars that is between the haunches of Leo (the triangle to the east) and is circled by Virgo to the south and the triangle of Coma Berenices.



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Volunteer

from Page 1

Hartnell Adjunct Professor Brian Palmer is getting grant money for such a program, and will be holding a conference with representatives from local technical institutions to review proposals March 27th. Local high school teachers will be funded to attend externships lasting 3-5 days over a period of several weeks.

We need one or more volunteers to present externship project proposals at the conference, and then--if selected--put them on. Examples which could be done at FPOA might include:

1. Measuring the mass of Jupiter by timing the orbit of its moons
2. Finding the approximate distance to a main sequence star by estimating its visual magnitude and color temperature, then using the H-R diagram to find its estimated absolute magnitude.

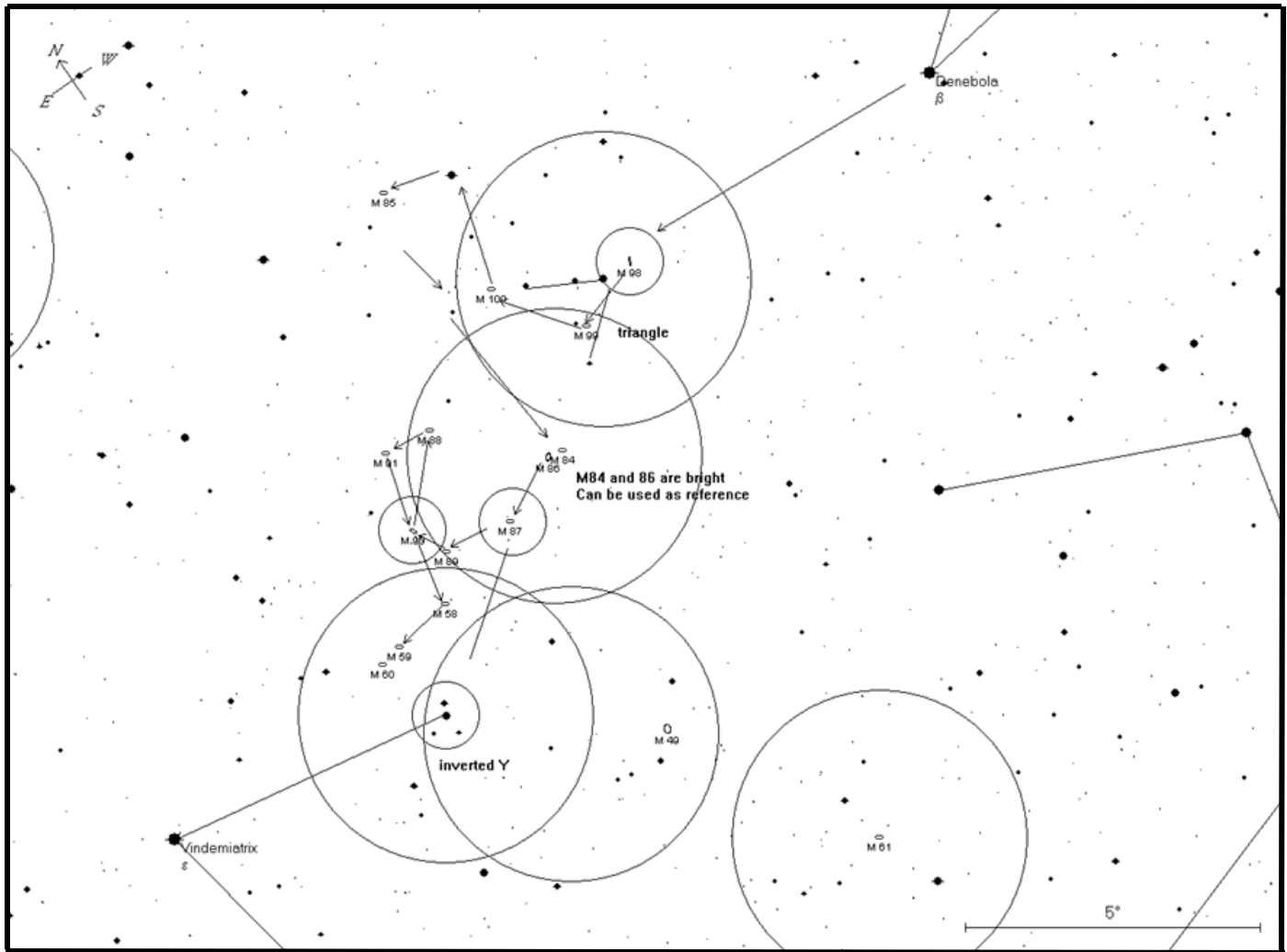
If you are interested, please contact Doug Brown at nworbd@comcast.net.

There are two entry points for the star hop:

1. Hop From Denebola to a finder-visible triangle of stars. The Magnitude 5 star *6 Com* is at the point of the triangle and should be visual with averted vision.
2. Hop from Vindemiatrix to an inverted Y that is easily finder visible. *Rho Virgo* (mag 4.9) is at the center of the Y and may be visible with averted vision

OK now you are at either the west end (first) or south end (second).

The arrows are the suggested order for a Messier Marathon. The large circles are typical finder FOVs (field



of view).

By this technique one starts the tour from Denebola. It then progresses to the northern Messiers. Then it resets on M84-M86. These are so bright that they can now be used to reset the FOV themselves. From here one sequences through the other Messiers in Virgo.

One of the most striking asterisms in the area is called Markarian's Chain. This is group of galaxies extending from M84 – M86. This is easily visible in a small scope. In fact, to see it requires low magnification.

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Markarian's Chain from Almaden Observatory

Of course there are other interesting galaxies in the area. I am looking forward to putting the 30" on M 99 (on the right below).



Photographically this is an interesting spiral. I wonder what it looks like visually.

What I presented here is just a taste. Several years ago I wrote "**Star Hopping Guide to the Messier Marathon.**" This provides detailed descriptions of how to star hop to every Messier Object. While intended for the Messier Marathon it can be used all year. The paper is available on my website at

<http://robhawley.net/mm/index.html>

If you are unfamiliar with the techniques of star hopping then my tutorial on YouTube should help.

<https://www.youtube.com/user/RobHawleyAstro>

By John Parker

Hundreds of people visit the observatory at Fremont Peak each year and our guests are treated to an informative presentation and then an evening of fantastic viewing through a number of telescopes set up on the viewing pads and manned by volunteers such as our board members and interns from Hartnell College. The smaller scopes are a lot of fun to look through and people form short lines, stepping up to the eyepiece to gaze at what that scope is currently pointing at. Of course the line gets long for those who want to view the heavens through our 30" Challenger telescope. It is a wonderful experience to view through the telescope on our public viewing nights. It is all the more wonderful when you can have this superb telescope all to yourself for the evening.

Maintaining an Observer Class membership with the Fremont Peak Observatory Association gives you access to the telescope pads so that you can setup your own telescope(s) for the evening when the public is not around. This includes access to power right at the pad if needed. Another, very big benefit is that once you have been checked out on the operation of the Challenger, you can reserve it as well. This is a big benefit in that you have access to a professional-grade telescope for the evening on your own schedule. After an afternoon of "training" with our Director of Instrumentation, Ron Dammann, I was successfully checked out on the telescope.

I had my first "solo" evening with the scope a few months back – my brother who is an amateur astronomer from southern California was visiting me in Santa Cruz and we went up to the peak for several hours to do some viewing. Needless to say, we were both very excited about having access to the observatory for ourselves for the night. We arrived in the late afternoon and I gave my brother a tour of the premises – pointing out the CAMS equipment, the other telescopes that are used for our public events, the presentation room and then to the observatory to see the Challenger in its stowed position.

The weather was cooperating – clear and dry - and we enjoyed a late bite as the sun began to get close to the horizon. It was soon time to open up and prepare the observatory. Doug Brown has prepared a check-list to make the process as straight forward as possible. Lower south side wall – check, remove turnbuckles – check, and we worked through the steps to get the observatory prepped for viewing.

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Once the check list was complete, it was time to begin our stellar adventure. Keep in mind that this is a very large piece of equipment but it is balanced perfectly and does not take too much effort to move. It is equipped with multiple finders so that you are never too far away from one to help you lock onto your target. The whisper quiet Right Ascension tracking motor keeps your object centered in the field of view until you want to view something else. There is a computer connected to the scope in case you would like it to help you find some of those more elusive DSO's.

My brother and I did a tour of the planets that were to the east – Saturn looked stunning though this scope and we could make out a couple of Saturn's moons. Mars looked really good under high power and then we decided to chase down some DSO's. As mentioned earlier this telescope is very large but moves easily. It can be a little tricky to get it positioned just right depending on the angle to the object you want to observe. This was the case when we went to look at Omega Centauri. With a little effort we found our target and took in its wonders. After quite a few hours of observing, it was time to wrap up. It was a simple process of putting up our eyepieces, and working through the closing checklist to make sure that the Challenger was secure in its home. I encourage anyone of our members to become an Observer Class member, get checked out on the Challenger and make a reservation for your own, personal viewing session at one of the best observatories in the area. See you at the peak!

New Schedule Sign

By Rob Hawley

Once they have arrived at the Peak, how do visitors know when an FPOA program is going to happen? If you come on a day other than a day we are open your only two choices are get out your cell phone and Google "FPOA" (if you can get signal) or try to find our schedule on one of the park bulletin boards. Unfortunately the type on the posted schedules is so small eagles could use it as an eye test. Your luck might be better on the day if you are staying in the campground and if you hear one of your neighbors talking about the observatory.


The board decided this was a problem that needed to be fixed. Last Fall we installed a new sign that will announce our schedule in type large enough to be easily read from a car. This should solve both of the problems identified above. If a visitor comes on

Sign

an off day they will know when to come back for a future program. Campers and other day visitors will know that tonight is the night and can attend.

We decided on a simple design as demonstrated below. One lunar month will be displayed.



April	11	18	25
Solar Program	-	2-5 PM	
Evening Program (Presentation, then viewing)	8 PM - midnight	8 PM - midnight	8 PM - midnight
 831-623-2465 fpoa.net			

Of course, one must be careful what one wishes for. While our intent is to make it easier for visitors to attend a program, it is entirely possible that the extra publicity may greatly increase attendance to the point we require additional staffing. If you are interested in helping us please contact <schedule at fpoa.net>.

Volunteers Needed for School Programs

"Bringing Astronomy to the Public" is FPOA's motto. To do this, we frequently need volunteers to help with special programs at the Observatory for groups. If you would like to help out using your telescope or a observatory telescope please contact Ron at <schedule at fpoa.net>. Volunteers for the following dates are needed: March 21, April 10, 17, 18, 19, and May 22.

Star-B-Que on August 15th is also in need of members to help with that day's activities.

From the President *from Page 1*

continue our success. An observable consequence of these trends is that FPOA's membership has been slowly declining for the past half decade. There are undoubtedly a number of factors at work here. Probably a significant contributor is the adoption of digital and remote imaging technology, which allows amateurs to image in their back yards or remote locations without needing to travel to a dark-sky site like Fremont Peak, which is no longer as dark as it was back in 1986.

Over time, this decline is increasing the load on the dozen or two people who are most frequently called upon to keep FPOA running. During 2015 we will be making some changes to address this problem. If you have any suggestions, now would be a perfect time to let me or other members of the board know.

2015 Membership Renewal

Renewals are easy. You can use the forms on the membership page <http://www.fpoa.net/membership.html> to pay with either PayPal or via a credit card. 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

If your email has changed, then please be sure to include that in either the PayPal payment as a comment or a note with your check.

FPOA on the Internet

Phone Number: 831-623-2465
Email Address: info at fpoa.net
Website: www.fpoa.net
Members Only Page: members.fpoa.net
Members List Signup: <http://fpoa.net/mailman/listinfo/fpoa-members>

EMAIL DELIVERY OF THE OBSERVER

Dear FPOA Members,
We have been delivering the Observer via email for the past several years. This obviously saves the Association postal expenses, and assures the quickest delivery to you. However, several of you no longer have valid email addresses, due to ISP changes, moves, etc. If you would like to continue to receive, or begin to receive, notification of the Observer via email, please send your current email address to membership at fpoa.net

Fremont Peak Observatory Association
PO Box 1376, San Juan Bautista, Ca. 95045

Officers and Directors—2015

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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.