

Renew now for 2016. Don't let your membership expire. See page 5 for details.

Vice - President's Message

By Pat Donnelly

It's the spring of 2016, the galaxy season at Fremont Peak. However, the galaxies are not taking top billing this year. The planets, Mars Jupiter, and Saturn, are putting on a show for all to see. This is especially true for Mars, who will have its best opposition in over 10 years. The observatory will be open to see them during our scheduled public programs. We shall also be conducting scheduled solar programs. Hopefully, the sun will cooperate more this year and provide us with some better and more sunspots and prominences. Check our web page for the scheduled programs. We hope you can attend one or more observing sessions.

The year 2016 is also important because it means that the Fremont Peak Observatory Association (FPOA) is 30 years old this year. I have been a member of FPOA from essentially its beginning. I knew the FPOA was something special, when I joined in 1986, but I had no idea what it would look like in 30 years and still be going strong. The organization has evolved a lot in 30 years, and we still have our core activity (public observing programs) intact. Over the years we have added other activities including solar programs, special programs for schools, churches, and scout groups, an intern program, and a participating program with NASA to collect meteor trajectory data.

As you know the FPOA Board has been seeking input and discussing ways to improve our annual event in a way that is beneficial to both the FPOA Board and FPOA members. As a result of these discussions, the annual event will be divided into two (2) parts.

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2016 FPOA Program Dates

Saturday Evening Programs

Apr 2, 9, 30 May 7, 14, 28
Jun 4, 11, 25 Jul 2, 9, 30
Aug 6, 27 Sept 3, 10, 24
Oct 1, 8, 29

Solar Programs

Apr 2, 30 May 28 Jun 25
Jul 30 Aug 27 Sept 24 Oct 29

Board Meetings

Jan 9 Feb 6 Mar 12 Apr 9
May 7 Jun 4 Jul 9 Aug 6
Sept 3 Oct 1 Nov 5

Special Events

Annual Meeting / BBQ Sept 24

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

Late Winter Observing / Imaging *After El Niño in California?*

By Ric Babcock

FINALLY! After being shut out the last six weeks, from any astronomical viewing whatsoever due to clouds, if not rain, from this 2016 El Niño, I saw a short break in the weather and made reservations for Fremont Peak on March 16th, 2016. Yes, the moon had just crossed its quarter waxing phase the

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previous night, but there were 'Clear Skies' and I had not taken my scope out since early February.

I wanted to get to the Peak and set up during daylight as I'm aware how screws can loosen, and mirrors may need adjusting and lens cleaned. I'm also cautious in insuring my guide scope and finder are aligned with my telescope, as it had been sitting in my home for a month and a half. If I did need to align my scopes, I would like the radio tower lights blinking followed by the southeast rolling hills meeting the sky as testing targets before it got too dark. All of these precautions make for less fumbling around in red headlamp light. Luckily, the only real adjusting needed was a slight collimation of my scope's mirrors and tightening of the set screws of my t-ring that attaches to my Canon 60Da DSLR.

With a fully tested and working setup I began my wait for Polaris, the North Star, to appear and begin my polar alignment. I had my mount roughly aligned so I decided to move my scope in the direction of that waxing gibbous moon and take a look through my optics till darkness settled.



The optics appeared in good condition for the night and I also realized that this would be a night of galaxies, as the moonlight would overwhelm any nebulosity and the "Realm of the Galaxies" was rising in the east in the constellations of Leo, Virgo and

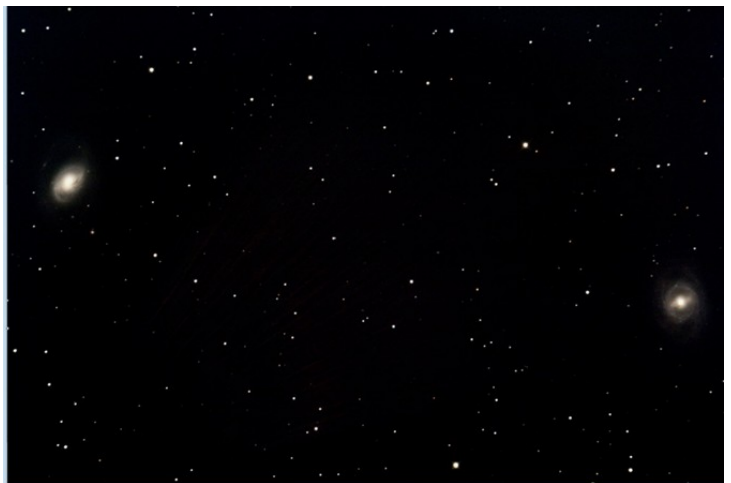
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My first target, after checking my Star Atlas, would be a solitary galaxy, Messier 96, not far from others, in the constellation of Leo. From this first image, after way too many weeks away, proved to be pleasing as I combined the first couple of 3 minute frames in my ImagesPlus processing program.



Messier 96

While staying within the Leo family of galaxies I slewed slightly north and went toward the object M 105 (on right of frame) and was able to also capture NGC 3384 (on left of frame) in my 48x32 arc minute Field of View of my Orion 8 inch f/8, R/C Astrograph.



NGC 3384 and Messier 105

These galaxies in Leo are around 35 to 38 million light years from Earth. To think of all that time for the light of these galaxies to finally reach us here on Earth.

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It's a fact that as I'm viewing all of these galaxy clusters tonight, there could very well be similar clusters in the direction of Orion and Gemini, where the moon is shining tonight, and in the direction of Scorpio and Sagittarius which has not risen yet, but due to the fact that in those directions we are viewing laterally into the disk of our own home galaxy, the Milky Way, and the interstellar dust within our galaxy prevents any optical viewing outside of our home galaxy. That's the objective of infrared and X-ray space telescopes.

At this point in tonight's observing, I'm pretty confident with the way my equipment is performing so I'll go after some more popular targets. The handle of the Big Dipper is well in the sky now, so I trained my scope on M 63, the Sunflower galaxy, also approximately 35 million lightyears from Earth.



Messier 63

Followed by M 64, the Blackeye Galaxy



Messier 64

By this time the night is progressing very nicely and I am so grateful that the sky gods have blessed me with this night. I'm looking at my Star Atlas and notice some very popular Southern Hemisphere objects are above and about to rise above the southeastern horizon respectively.

My next targets will be attenuated by the sky glow of Soledad prison but what the heck?



NGC 5128 Centaurus A

I slewed my scope to Centaurus A, aka NGC 5128, one of the closest radio galaxies to Earth at 13 million light years distance and positioned below the -40 degree declination line. NGC 5128 is a fine example of galaxies in collusion with each other as there is active star formation taking place as a spiral galaxy merged and cut through this elliptical galaxy.

I am now quite giddy in the success that I've experienced on this first night back out with my scope and Canon after the clouds and rain of late winter has bestowed upon us here. I went after a prize jewel and Fremont Peak "stretched to the limits" object.

It's after 3:00am and my next attempted target will be a horizon object, NGC 5139, Omega Centaurus. Omega Centauri, located 15,800 light years from Earth is the largest globular cluster in the Milky Way Galaxy with a diameter of 150 lightyears. It is now believed to have been a small galaxy of it's own that was captured by the gravity of our Milky Way galaxy and in the process, it's spiral arms were encapsulated within the stars of the Milky Way. I think now my night is complete.

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NGC 5139 Omega Centauri

I've had a great night with clear skies, little wind, and good seeing and transparency with the exception of the Moon's light which forced me to resort to galaxy hunting.

BUT...

The moon has set in the west, AND since daylight savings time took effect last week, I've still got some dark night sky time left. Feeling satisfied with what I have accomplished so far I'm going to try for one last object, that can be a challenge at times.



NGC 6543, popularly named the Cats Eye Planetary nebula, is an object that I have looked at in the past.

The trick to viewing this object, in all of its glory, is to have long enough sub-frames to capture the outer nebulosity of the sphere of oxygen expelled by this planetary nebula but not wash out the very bright core or else substitute a very shortly timed frame (<30sec) and stack that over the blown out core of the longer frame. Another obstacle of this object is that it's located at the North Ecliptic Pole .

Just twenty three degrees away from true north which at times can pose a difficulty with my PHD2 guiding and scope to calibrate successfully. My solution this night was to slew over to Deneb, the "tail" star of Cygnus the Swan and perform my guiding calibration over there, then using the same calibration, slew back to the Cats Eye and "It Worked!" I finished the night acquiring data from this object.

As you can tell, I took full advantage of the couple of clear sky nights we received here on the central California coast during this late winter opportunity when the El Niño clouds disappeared. I'm hoping that many more opportunities will come our way as the center of the galaxy approaches into view, by way of Sagittarius rising. I'll consider changing my telescope to one with a wider field of view, and hopefully share with you the many colors of our universe.

Ric Babcock, FPOA

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The first part is called the "FPOA Annual Membership Meeting & Barbeque" (Annual Meeting, for short). It will consist of a potluck dinner (same as before), election of board members, astronomical trivia test, Astro-gastro contest, and a small raffle. The Annual Meeting is open to all FPOA members, their families, and their guests. Following the conclusion of the Annual Meeting activities the FPOA will have a special public program with a guest speaker and observing through the telescopes at the observatory. The objects selected for observing will be somewhat obscure deep sky objects to honor the memory of Rob Toebe, FPOA's most dedicated visual observer. The Annual Meeting & Public Program is scheduled for Saturday, September 24, 2016. Please RSVP if you plan to attend. Parking will be coordinated with the rangers. Further details will be available on the FPOA web site, or you can contact any board member.

Next year the FPOA plans to remove the old worn out west ramp of the observatory and replace it with a new west ramp. A detailed design, generated by Greg Bosler (thanks, Greg), is in the approval process. Because of the time necessary to prepare the wood for the work, the replacement is tentatively scheduled for 2017. Because of the size of the project, it will require a large work force. If any of you wish to volunteer for this project, please contact any board member or leave a voice mail on the observatory phone.

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As you are aware we operate the FPOA area under contract to the state. Our current contract expires this year, but the state has informed us that they are willing to extend our current contract for another five years. While this is unofficial at this point it tells us there will be a 2017 (and 18, ..) program.

That's it for now.

Hope to see you at the Peak soon.

Pat Donnelly

2016 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

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

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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.