

IO - September 2014

Eugene Astronomical Society
Annual Club Dues \$25
President: Sam Pitts - 688-7330
Secretary: Jerry Oltion - 343-4758
Additional Board members:
Jacob Strandlien, Tony Dandurand,
John Loper.

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The Astronomical League
The World's Largest Federation of Amateur Astronomers

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Eugene Astronomical Society



Next Meeting Thursday, September 18th

Eyepieces and Filters

by Jerry Oltion

Used to be, a person had a choice of about three different styles of eyepieces, and if you wanted a filter you held some glass over a candle flame and smoked the glass. Nowadays there are dozens, maybe even hundreds, of different types of eyepieces, and filters of all sizes and description. How does an amateur astronomer know which ones will be useful for their particular type of observing? By listening to Jerry's talk on the subject, of course. Jerry will dispell the mystery and cast the pure, unfiltered light of experience on the myriad choices available today. Learn whether the Ethos's thousand-dollar price tag is an extravagance or a bargain, and whether you want an OIII or an H-Beta filter for the Veil Nebula.

Have an eyepiece that got kid-fingered at a star party? Learn how to clean it without scratching the coating. Want to build your own? Jerry will show you how you can make a surprisingly good eyepiece for as little as \$10. And if you have opinions or experience with eyepieces to share with the group, there'll be ample opportunity for discussion after Jerry's talk.

At our meetings we also encourage people to bring any new gear or projects they would like to show the rest of the club. The meeting is at 7:00 on Thursday, September 18th at the Science Factory planetarium. Come early to visit before the program starts.



Next First Quarter Friday: September 26th

We had two First Quarter Fridays in August: the 1st and the 29th. Both were successful and well attended. On the 1st, Jerry Oltion brought his recently completed 12.5" binocular scope for its first real night of use. It proved to be a popular scope despite requiring people to kneel or even lie down in front of it to see Saturn or the Moon near the horizon. There was a line in front of it most of the evening, and many an "Ooh" and "Aah" could be heard as people got their first stereo views of the night sky.

We had several other scopes that night as well, which was a good thing because we had a pretty good crowd of people to look through them. The party lasted until well after midnight.

The 29th was a bit of a nail-biter in that clouds covered the sky most of the afternoon but cleared off

just about dusk. We had four scopes and maybe 50 people, so we stayed busy, but everyone seemed to be enjoying the party.

The Moon was only 18% lit, so we got to see a different terminator than we usually do, and we were rewarded with a “lunarism” that looked quite a bit like a spacesuited figure. Thanks to Rossco Wright’s wife, Ati, for letting Jerry use her phone camera to take this photo of it.

That was cool enough, but the highlight was probably not even a telescopic object. About halfway through the evening a bright fireball dropped into the northwest, shedding sparks and splitting apart along the way. It burned bright green and lasted for three or four seconds, giving nearly everyone a chance to turn and see it descend.

Our next star party will be September 26th. Let’s hope for another good night for our first Autumn event.

First Quarter Fridays are laid-back opportunities to do some observing and promote astronomy at the same time. Mark your calendar and bring your scope to the College Hill Reservoir (24th and Lawrence in Eugene) and share the view with whoever shows up. Here’s the schedule for the rest of 2014. Note that we’ve scheduled some of the star parties a week earlier than the calendar would normally dictate in order to have less moon in the sky.

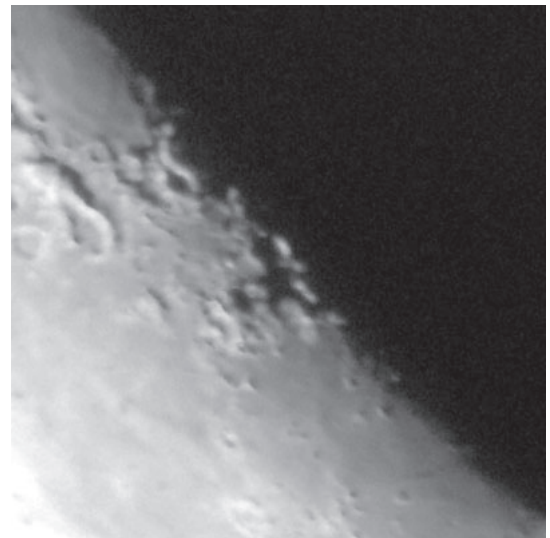
September 26 (8% lit)*

October 31 (61% lit)

November 28 (46% lit)

December 26 (31% lit)

*This star party is a week earlier than normal to provide less moon glare.



The spaceman in the Moon.

Photo © by Jerry Oltion and Ati Yates

August 21st Meeting Report

by Rick Kang

President Sam Pitts called our meeting to order on time. Attendance was low as many members were at the Oregon Star Party. Sam invited anyone with announcements about recent, ongoing, or future astronomy topics of interest to the group to speak.

Bernie Bopp briefly described a new movie now available through Netflix titled *Particle Fever*. Bernie says, “*Particle Fever* — a 2013 film — is available via Netflix streaming (or you could rent the DVD copy). I stumbled across this one — might have been a Netflix recommendation for me. I mentioned the film to Jerry last week, before the meeting, and he too had seen it and really enjoyed it. Here’s the IMDB summary: http://www.imdb.com/title/tt1385956/?ref_=nv_sr_1.”

The movie is about the major research project at the CERN super atom smasher to detect the Higgs Boson. Existence of this massive but subatomic particle would help us determine the nature of mass and be another step to unravelling some of the other major mysteries of physics.

Sam introduced Fred Domineack who has just returned to live in Eugene after spending several years in Cincinnati, Ohio, recovering from a serious stroke. Fred was EAS’s VP a decade ago and was very active with Pine Mountain Observatory. Fred says hello to all his many friends in the metro area and hopes to be able to attend the First Quarter Friday events and perhaps other EAS events as access permits.

Next, Sam showed us slides, drawings, and video clips of the construction over this past year of Sam’s new observatory in central Oregon. He and three other astronomers scouted many sites around Oregon trying to find a location that has steady air and relatively many clear dark nights for visual observing and also for quality imaging. The property out in the desert offered what they desired. Sam said the light domes



Photo © by Sam Pitts

of Portland, Eugene, Bend, Klamath Falls, and Medford can be detected, but don't interfere with imaging objects closer to the zenith. The only downsides of the location are distance from civilization and absence of any power, water, or communications lines. Each person constructed a building that is divided into roll-off roof telescope room and a warm- room space for computers and a cot. A window and door connect the two compartments. The floor of the building is above ground level, placed on footings with moisture barrier under deck. The two most difficult parts of the project for each building were: 1. Design

and construction of the "floating" telescope pier made from cast cement, several feet in diameter and several feet high, customized for individual telescope mounts, and 2. Design and construction of the roll-off roof so that the roof piece would readily and smoothly roll, not fall off of the building, and provide a weatherproof and dustproof security seal when the telescope isn't in use. Metal rails and wheels were used. The roll-off operation is hand powered.

Wood was the prime construction material, pre-cut prior to being transported from lumber yards to the observatory site since there was no power for saws on site. Sam did most of the design work, doing detailed draftings that he showed slides of at the meeting. Several extra concrete slabs were poured on the ground to provide pads for temporary telescope setup on site by members or their guests.

One of the founding members of the observatory group owns the property. Construction progressed relatively quickly and with few snafus. The three buildings were effectively completed by last Fall and several observing sessions have taken place. Sam showed several sky photos. The Milky Way really stands out even in short exposures.

Then Sam made a surprising announcement: He and his wife, Sandy, are in the process of moving back to California, to Temecula, east of San Diego. Sam said he has several relatives currently in that part of California, Sandy wanted to try a dryer climate, they are originally from that area, and Sam wanted more clear sky time. He has scouted out the area and felt that there would be suitable locations for a new observatory. Mount Palomar is only a few miles away. Sam invited EAS members to make use of his central Oregon observatory; contact Sam at sampitts@comcast.net if you'd like to visit there. The buildings are normally locked.

We're sorry to see Sam leave EAS/Eugene, and wish Sam and Sandy all the best in their California adventure. We thank Sam for all the years of hard work promoting amateur astronomy and digital astroimaging locally, for his work at Pine Mountain Observatory, and especially for his efforts to guide the evolution of the Eugene Astronomical Society particularly to always be sure that we follow sound business and legal practices. Come back and see us once in awhile!

Sam announced upcoming club elections and noted that in addition to needing a new club president, that we'll also need a new director on the club board, as Tony Dandurand wishes to relinquish director duty. Thanks to Tony for all his service to EAS. As Jerry Oltion has noted elsewhere, Jerry is willing to continue as Club Secretary, so we need a pair of members to step up as president and additional board member. Since Tony is also our telescope lending coordinator, we'll need someone to take over that position as well.



Photo © by Sam Pitts



The 2014 Oregon Star Party

by Jerry Oltion

This year's Oregon Star Party was held over the week/weekend of August 20 – 24th. Several EAS members attended, and we mostly camped together in a spot just down the main road from the junction. We were a bit worried about the weather and about smoke from nearby fires, but both worries proved to be unfounded. The smoke was only rarely visible on the horizon, and while we had some cloudiness by day it burned off every night to give us wide open sky.

I took my recently finished 12.5" binocular scope, eager to see what it would do under dark sky. I wasn't disappointed! It gave me some of the most incredible views of star clusters, nebulae, and galaxies I have ever seen. The stereo effect was quite pronounced, especially on wide, bright objects, but it helped even when I was looking at faint 15th- and 16th-magnitude galaxies. To find out what the limits of the scope were, I worked on the level 3 observing list, normally the province of 16" and larger scopes, and was happy to find that my binoscope was able to show me most of the objects on the list. It topped out at about 16th magnitude for galaxies and readily showed me the NGC and IC components



Jerry with his 12.5" binocular scope

within M101 and M33. The view of the Andromeda Galaxy was amazing at medium-high power; far too large to fit in the field of view so we had to drive around to see it all. With the 3D effect, it felt like we were swooping around it in a spaceship.

It was a binocular-themed star party, at least for our camp. Frank Szczepanski brought two pairs: his 8" binoscope that he's had for many years and a new 4" set that he completed just this year. The smaller pair showed some great wide-field views, while the larger pair gathered enough light to delight both eyes up to about 300x.

Mel brought a pair of telescopes, too: his 6" f/2.8 and 10" f/2.7 that he built this year. These were made to be test platforms for larger fast-mirror scopes, but they turned out to be spectacular scopes in their own right. Their fast focal ratio and wide field of view reveal things that have never before been documented by amateur astronomers. Mel has made a steady stream of discoveries with these scopes, including a bubble of nebulosity around the Pleiades, shelves of nebulosity or maybe extended Milky Way beneath the Andromeda galaxy and the



Frank with his two binocular scopes

Double Cluster, and another “swoosh” of light near Albireo. I was skeptical of all these new nebulae, suspecting flare in the eyepiece off bright objects nearby (after all, Mel insists on using those dubious Ethos eyepieces!) or maybe retinal weirdness from the 100-degree field of view, but after moving the scopes around and changing my eyes’ orientation, I became convinced they’re real. Mel has sketched some of his discoveries, which we reproduce below.

Every year Mel does his telescope walkabout, in which a group of 50-100 people hike around the star party to look at the new and innovative telescope designs. All the scopes I’ve described here were part of the walkabout, and were the subject of a steady stream of admirers day after day and night after night. It was so common to hear “Wow!” “Holy cow!” and even “F–ing unbelievable!” at high volume from our camp that neighbors finally complained about the noise.



Mel with his two fast scopes



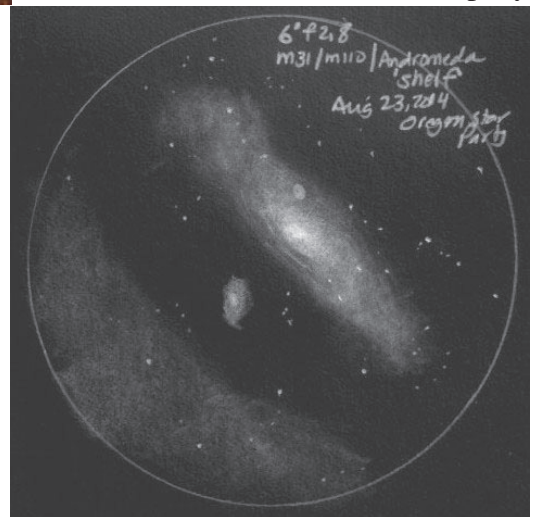
The EAS camp at sunset, with Ken and Diane’s scope and camp to the left, Jerry and Kathy’s next, Mel and Barb’s next, and Frank’s in the foreground. Photo by Barb Bajek.

(Frank, Mel and Barb, Ken and Diane, and Steve from the EAS, plus many other friends from farther afield), we don’t remember ever having such a fun time at any other OSP.

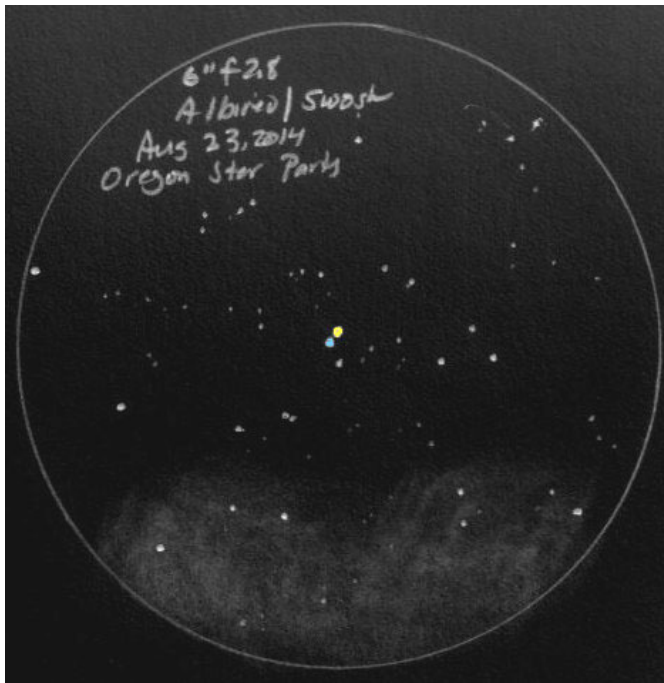
Thanks to everyone who helped make this such a fun and interesting star party. Usually after a three-night campout in the high desert I have to wait a few months before I would consider doing it again, but this time as we packed up and drove home on Sunday, I was already eager for next year. 2015’s OSP will be during the height of the Perseid meteor shower. Should be a great time! Come enjoy it with 500+ like-minded friends.

(See more of Mel’s sketches on next page)

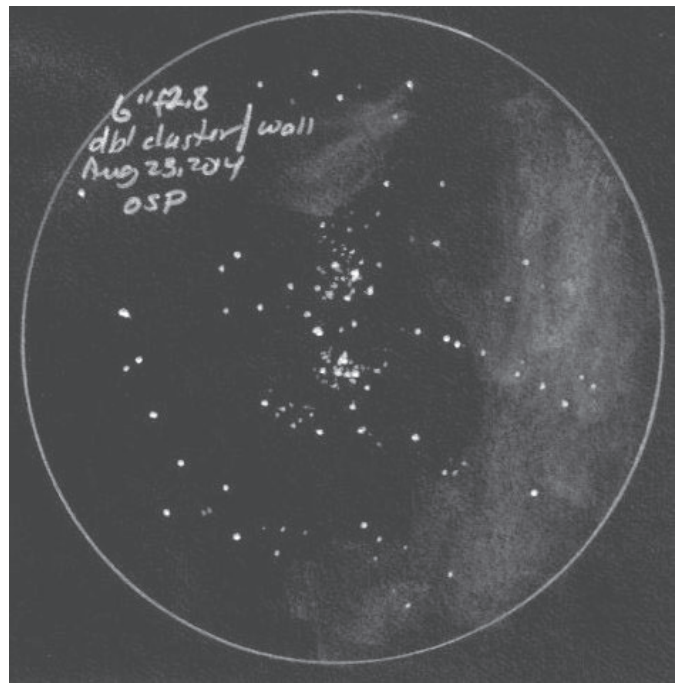
Kathy and I tried an experiment this year to make the camping experience more pleasant. We brought a roll of carpet and laid it under the tent to protect us from the rocks and sagebrush roots, and that proved to be worth its weight in eyepieces. We slipped off our shoes at the door and walked sock-footed in the tent as easily as we would at home. That plus the mellow temperatures during the star party (70s during the day, 50s at night) made this one of the most comfortable camps we’ve ever spent time in. Combined with the company



The Andromeda Shelf. © 2014 by Mel Bartels



The Albireo Swoosh. © 2014 by Mel Bartels



The Double Cluster Wall. © 2014 by Mel Bartels

EAS Members in *Sky & Telescope*

Three EAS members were featured in the September issue of *Sky & Telescope* magazine. Kathy and Jerry Oltion had an article about cataracts and how they affect amateur astronomers, and Mel Bartels was featured in the Telescope Workshop column for his 6-inch f/2.8 telescope.

Kathy and Jerry's article was a bit muddled by bad editing (including the addition of a huge 1/3-page illustration that didn't even fit the article), but the main point of the article made it though intact. They've been receiving grateful emails from people facing cataract surgery, so that has been gratifying. They plan to release a PDF of the corrected article soon for those who want to share it with their friends and/or optometrists. That will be available on Jerry's website as soon as the September issue of *S&T* is off the stands. (See <http://www.sff.net/people/j.oltion/> around mid-September.)

Mel's telescope, along with his 10-inch f/2.7 scope, have been receiving accolades worldwide, and rightly so. Mel has discovered an entire new sky visible at this short f-ratio. After building large scopes up to 30 inches, he's making history with a 6-inch wide-field scope that he can carry in one hand.

For more on these scopes see Mel's website at:

6-inch: <http://www.bbastrodesigns.com/6inchF2.8/6%20Inch%20F2.8%20Telescope.html>

10-inch: <http://bbastrodesigns.com/10.5inchF2.7/10.5InchF2.7Telescope.html>

Thank You Castle Storage

For the last six years, Castle Storage has generously provided EAS a place to store its telescopes and equipment. EAS would like to thank Castle Storage for their generosity and support for our group. Please give them a call if you need a storage space, and tell your friends. They are great people and offer secure and quality storage units.

CASTLE STORAGE

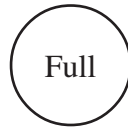
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Observing in September



Sept. 2, 5:11 AM	Sept. 8, 6:38 PM	Sept. 15, 7:05 PM	Sept 23, 11:14 PM
Mercury Set: 8:29 PM	Mercury Set: 8:19 PM	Mercury Set: 8:06 PM	Mercury Set: 7:48 PM
Venus Rise: 5:22 AM	Venus Rise: 5:38 AM	Venus Rise: 5:56 AM	Venus Rise: 6:16 AM
Mars Set: 10:26 PM	Mars Set: 10:14 PM	Mars Set: 10:01 PM	Mars Set: 9:47 PM
Jupiter Rise: 4:01 AM	Jupiter Rise: 3:44 AM	Jupiter Rise: 3:24 AM	Jupiter Rise: 3:00 AM
Saturn Set: 10:30 PM	Saturn Set: 10:08 PM	Saturn Set: 9:42 PM	Saturn Set: 9:13 PM
Uranus Rise: 8:58 PM	Uranus Rise: 8:34 PM	Uranus Rise: 8:06 PM	Uranus Rise: 7:34 PM
Neptune Set: 6:23 AM	Neptune Set: 5:58 AM	Neptune Set: 5:30 AM	Neptune Set: 4:57 AM
Pluto Set: 1:53 AM	Pluto Set: 1:29 AM	Pluto Set: 1:01 AM	Pluto Set: 12:29 AM

All times Pacific Daylight Time (March 9 – November 1, 2014 = UT -7 hours) or Pacific Standard Time (November 2, 2014 – March 7, 2015 = UT -8 hours)

Date	Moonrise	Moonsset	Sunrise	Sunset	Twilight Begin	Twilight End
9/1/2014	13:41	23:39	06:36	19:48	04:52	21:31
9/2/2014	14:41		06:37	19:46	04:54	21:29
9/3/2014	15:38	00:30	06:38	19:45	04:55	21:27
9/4/2014	16:31	01:29	06:39	19:43	04:57	21:24
9/5/2014	17:19	02:35	06:40	19:41	04:58	21:22
9/6/2014	18:02	03:46	06:41	19:39	05:00	21:20
9/7/2014	18:41	05:01	06:43	19:37	05:01	21:18
9/8/2014	19:18	06:17	06:44	19:35	05:03	21:16
9/9/2014	19:53	07:32	06:45	19:34	05:04	21:14
9/10/2014	20:29	08:47	06:46	19:32	05:06	21:12
9/11/2014	21:05	09:59	06:47	19:30	05:07	21:09
9/12/2014	21:44	11:08	06:48	19:28	05:09	21:07
9/13/2014	22:25	12:14	06:49	19:26	05:10	21:05
9/14/2014	23:10	13:14	06:51	19:24	05:11	21:03
9/15/2014	23:58	14:09	06:52	19:23	05:13	21:01
9/16/2014		14:58	06:53	19:21	05:14	20:59
9/17/2014	00:50	15:41	06:54	19:19	05:16	20:57
9/18/2014	01:44	16:19	06:55	19:17	05:17	20:55
9/19/2014	02:39	16:53	06:56	19:15	05:18	20:53
9/20/2014	03:36	17:25	06:57	19:13	05:20	20:51
9/21/2014	04:34	17:54	06:59	19:11	05:21	20:49
9/22/2014	05:32	18:21	07:00	19:10	05:22	20:47
9/23/2014	06:30	18:49	07:01	19:08	05:24	20:45
9/24/2014	07:30	19:17	07:02	19:06	05:25	20:43
9/25/2014	08:30	19:47	07:03	19:04	05:26	20:41
9/26/2014	09:31	20:20	07:04	19:02	05:28	20:39
9/27/2014	10:33	20:56	07:06	19:00	05:29	20:37
9/28/2014	11:34	21:38	07:07	18:59	05:30	20:35
9/29/2014	12:34	22:26	07:08	18:57	05:31	20:33
9/30/2014	13:31	23:21	07:09	18:55	05:33	20:31

Items of Interest This Month

Good month for Andromeda Galaxy after midnight.

9/17 Good night for seeing Algol minimum (from 10 pm – midnight)

9/20 Another good night for Algol minimum (7:00 – 9:00 pm)

9/21 Mercury at greatest elongation, 26° from Sun in evening sky but still low on the horizon due to shallow angle of ecliptic.

9/22 Autumn begins 7:29 pm.

9/26 First Quarter Friday Star Party.

9/27 – 9/28 Mars near Antares. They look nearly identical.

9/27 Moon near Saturn and Ceres at sunset

9/28 Moon near Vesta at sunset



For ongoing discussion of astronomical topics and impromptu planning of telescope outings, join the EAS mail list at http://eugeneastro.org/mailman/listinfo/general_eugeneastro.org

All times are for Eugene, Oregon, Latitude 44° 3' Longitude 123° 06' for listed date