

IO - July 2014

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

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EAS is a proud member of:

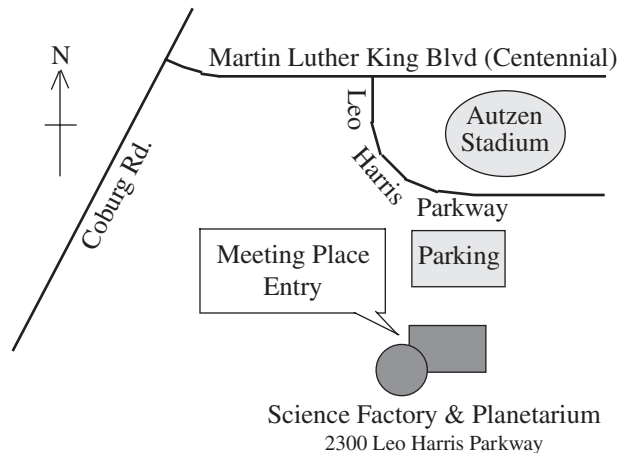
The Astronomical League
The World's Largest Federation of Amateur Astronomers



Next Meeting Thursday, July 17th Solar Observing by Jerry Olton

We all love to look at the stars, but one star presents a special challenge: our Sun. It's so close and bright that observing it with any of our traditional night-sky methods is a good way to burn your eyes out. Yet the Sun is a very interesting object, with sunspots, prominences, granulation, and occasional eclipses and transits. How do we view those safely? Jerry Olton will discuss various methods that will let you look at the Sun without danger and give you a good view of the dynamic star that lights and warms our solar system.

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, July 17th at the Science Factory planetarium. Come early to visit before the program starts.



Next First Quarter Friday: July 4th

Our July First Quarter Friday lands on Independence Day. EWEB closes the main reservoir on College Hill during the week around the 4th, but we still plan to set up on the grass outside the reservoir. There will be fireworks on the north reservoir, but we'll be comfortably far from that. Bring your scopes and have some Independence Day fun showing people something even better than fireworks.

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.

July 4 (47% lit)

August 1 (32% lit)

August 29 (18% lit)*

September 26 (8% lit)*

October 31 (61% lit)

November 28 (46% lit)

December 26 (31% lit)

*These star parties are a week earlier than normal to provide less moon glare.

June Meeting Report: “Deep Among the Star Groups”

On June 19th Larry Deckman gave a wonderful talk about several topics that he wove together into a fascinating narrative. He started with a discussion about starlight and Moonlight, and how if you added up the brightness of all the stars in the sky they would still not even come close to matching the brightness of the full Moon. When the Moon is out, it so overwhelms the stars that we lose two full magnitudes of visibility. The Milky Way vanishes during full Moons, and the constellations’ dimmer stars vanish with it.

Larry then went on to talk about some interesting symmetries in the patterns of stars in the night sky. Most notably, there are two “big dippers” in the sky, and they’re exactly opposite one another. There’s the familiar dipper that makes up the hindquarters of Ursa Major, but Andromeda and Pegasus join together to form another dipper-shaped asterism with surprisingly similar characteristics. Both dippers have pointer stars that aim at Polaris. Both dippers are oriented the same way, and their respective bowls and handles are exactly 180 degrees apart in the sky. That means they sweep through the meridian line in the same way 12 hours apart, and are visible in the same part of the sky at the same time of night 6 months apart.

Likewise Orion and Ophiuchus, two large figures that transit the meridian at the same times in winter and summer. Coincidence, or did ancient people purposefully draw these constellations to create these watchful warriors in the night?

Larry went on to talk about the seasons, and how Earth’s tilted axis changes the amount of daylight available to various places on the planet at various times of year. The farther north or south you go, the more extreme the variation, and Larry showed us very clearly how and why that works. Those of us who paid attention are now smarter than 80% of college graduates, who think the seasons are caused by Earth’s varying distance from the Sun.

This was a very insightful and well attended talk. Our thanks to Larry for researching and presenting such an interesting subject.

Also at our meeting, Mel Bartels brought his latest telescope creation: a 10-inch f/2.7 (not a typo!) telescope that he just finished. This is another of his wide-field fast telescopes that he has been experimenting with in preparation for making some equally fast monsters in the 30-40" range. It’s a beautiful scope and a tantalizing glimpse of even greater things to come.



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.



Report on Sky Camp Star Party

On the night of June 4th about half a dozen EAS members took telescopes out to Sky Camp on Fall Creek Reservoir to put on a star party for Springfield's Two Rivers/Dos Rios School. There were 60-70 kids of various ages, many of whom had never looked through a telescope before. We had a beautiful waxing crescent Moon to show them, along with Jupiter, Mars, Saturn, M13, and various other sights, so the "Oohs" and "Aahs" were flying thick and fast.

Colin and Casey Miller reported the following exchange:

5th-grade girl, looking through telescope, hugely impressed: (gasps in wonder)

"Wow! . . . I want to be what you guys are!"

Guy with telescope: "Well, we're just a couple guys with a telescope."

5th-grade girl, now clearly less impressed: "OK, I want to be what you guys are. And a veterinarian."

It's good to keep things in perspective. This girl will undoubtedly go far in life.

At the end of the evening, a representative of the school made a donation to the EAS of \$100 to help with our program of giving away telescopes at our dark-sky star party. Many thanks to Two Rivers/Dos Rios School!

A New Astrophotographer In Our Midst

Bruce Hindrichs has joined the madness. In mid June he pointed his telescope at the Moon and his camera into the eyepiece and got the result below. Now he's talking about camera mounts, processing techniques, and ever more powerful equipment.

EAS tried to stage an intervention, but rather than dissuade Bruce from his path of folly, Sam Pitts actually helped Bruce process his first image into the form you see here. With Saturn rising prominent in the evening sky, that will undoubtedly be his next target, and from there the Lagoon Nebula and all the spectacular clusters and nebulae of Summer.

At least Bruce is in good company. The EAS has several excellent astrophotographers, among whom Bruce will undoubtedly take a well deserved place. Congratulations, Bruce, on your first step into a hobby that will keep you engaged for years to come with ever greater challenges and ever greater rewards.



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Dark-Sky Star Party at Dexter State Park July 19th

Our sixth annual Dark Sky Star Party, sponsored by the State Park Service with scopes and expertise provided by the Eugene Astronomical Society, will be held on Saturday, July 19th at Dexter State Park, about 15 miles southeast of Eugene on Highway 58. The site is right at the lower end of Dexter Reservoir, and just across the highway from the town of Dexter itself. It has wonderful wide-open views in all directions, and sky dark enough to reveal the Milky Way.

The next page is a flyer that you can — and should! — print out and photocopy and post at work and wherever else you can think of that's appropriate. Always ask permission before posting flyers, but do get out there and post them. The farther we spread the word, the more people will come to the party, and the more people who will understand the value of dark sky.

The party will start at dusk, which should be around 9:15. Get there early to set up and learn where everything is. We'll be setting up in the grass to the east of the first parking lot.

To get there, head up Hwy 58 from Goshen. Just as you approach the town of Dexter, you'll see signs for Dexter State Park on the left (north). Park in the first parking lot you come to and set up in the grass toward the reservoir from there.

We'll be giving away two telescopes again this year, so interest should be high. We need volunteers to direct parking, run the information table, help put red filter material on flashlights, and so on. We'll coordinate things via the email list, and hopefully between us all we'll anticipate everything we need and have a smooth party.

The main thing is to have lots of club members there with telescopes! Bring yours, and help show people how beautiful the deep, dark sky can be. We have the park all night if we want it, so we can stay and observe on our own after the public has gone home.



Oregon Star Party August 19-24

The Oregon Star Party will be held on August 19-24 this year. This is the premiere star party of the year for the entire northwest, held in the Ochoco Mountains an hour east of Prineville in central Oregon. If you haven't gone to this star party before, you should seriously consider going. Sharing a high, dark observing site with hundreds of like-minded amateur astronomers is a kick, and the view from there will knock your socks off.

This is a high prairie site, so it's a pretty serious camp-out. You'll need to bring water, food, a tent, and a couple gallons of sunscreen to get through the day(s). At night it can get pretty chilly, so you'll want a heavy coat. And your telescope, of course! There are some amenities, though, including meals on Wednesday thru Saturday nights, a coffee stand, and a shower truck.

Early Registration will end on July 26th, after which you have to register on site and pay more, so if you want to go, register before the 26th. Several EAS members are going. Join us!

Dark Sky Star Party

July 19, 2014

Dexter State Park

15 miles S.E. of Eugene on HWY 58

Come see the wonders of the
night sky far from city lights

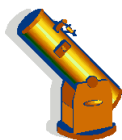
We bring the telescopes,
You bring curiosity and enthusiasm!

Free telescopes given to two lucky youngsters
(Ages 8-18, no purchase necessary, must be present to win).

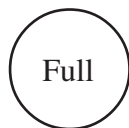
Starts at dusk (9:15) - Admission: FREE

Dress warmly. Please cover flashlights with red filter material
to preserve night vision. We will have filters on hand if you need one.

Sponsored by Oregon State Parks and the Eugene Astronomical Society
For more information, visit www.eugeneastro.org



Observing in July



July 5, 4:59 AM	July 12, 4:25 AM	July 18, 7:08 PM	July 26, 3:42 PM
Mercury Rise: 4:35 AM	Mercury Rise: 4:20 AM	Mercury Rise: 4:19 AM	Mercury Rise: 4:24 AM
Venus Rise: 3:39 AM	Venus Rise: 3:42 AM	Venus Rise: 3:48 AM	Venus Rise: 3:58 AM
Mars Set: 1:03 AM	Mars Set: 12:42 AM	Mars Set: 12:24 AM	Mars Set: 11:59 PM
Jupiter Set: 9:46 PM	Jupiter Set: 9:24 PM	Jupiter lost in Sun	Jupiter lost in Sun
Saturn Set: 2:24 AM	Saturn Set: 1:56 AM	Saturn Set: 1:32 AM	Saturn Set: 1:01 AM
Uranus Rise: 12:55 AM	Uranus Rise: 12:28 AM	Uranus Rise: 12:04 AM	Uranus Rise: 11:29 PM
Neptune Rise: 11:27 PM	Neptune Rise: 10:59 PM	Neptune Rise: 10:36 PM	Neptune Rise: 10:04 PM
Pluto Set: 5:51 AM	Pluto Set: 5:22 AM	Pluto Set: 4:58 AM	Pluto Set: 4:26 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	Moonset	Sunrise	Sunset	Twilight Begin	Twilight End
07/1/2014	09:56	23:15	05:33	20:59	03:10	23:22
07/2/2014	10:54	23:42	05:34	20:59	03:11	23:22
07/3/2014	11:53		05:35	20:59	03:12	23:21
07/4/2014	12:52	00:09	05:35	20:58	03:13	23:20
07/5/2014	13:53	00:37	05:36	20:58	03:14	23:19
07/6/2014	14:56	01:07	05:36	20:58	03:15	23:18
07/7/2014	16:01	01:40	05:37	20:57	03:17	23:17
07/8/2014	17:06	02:19	05:38	20:57	03:18	23:16
07/9/2014	18:11	03:04	05:39	20:56	03:19	23:15
07/10/2014	19:12	03:58	05:39	20:56	03:21	23:14
07/11/2014	20:08	05:01	05:40	20:55	03:22	23:12
07/12/2014	20:57	06:10	05:41	20:55	03:24	23:11
07/13/2014	21:40	07:24	05:42	20:54	03:25	23:10
07/14/2014	22:18	08:40	05:43	20:54	03:27	23:08
07/15/2014	22:53	09:55	05:44	20:53	03:29	23:07
07/16/2014	23:26	11:08	05:44	20:52	03:30	23:06
07/17/2014	23:59	12:18	05:45	20:51	03:32	23:04
07/18/2014		13:27	05:46	20:51	03:34	23:02
07/19/2014	00:33	14:32	05:47	20:50	03:35	23:01
07/20/2014	01:08	15:35	05:48	20:49	03:37	22:59
07/21/2014	01:47	16:34	05:49	20:48	03:39	22:58
07/22/2014	02:29	17:29	05:50	20:47	03:41	22:56
07/23/2014	03:15	18:19	05:51	20:46	03:42	22:54
07/24/2014	04:06	19:03	05:52	20:45	03:44	22:52
07/25/2014	04:59	19:43	05:53	20:44	03:46	22:51
07/26/2014	05:55	20:18	05:54	20:43	03:48	22:49
07/27/2014	06:51	20:50	05:55	20:42	03:50	22:47
07/28/2014	07:49	21:19	05:56	20:41	03:52	22:45
07/29/2014	08:47	21:46	05:57	20:40	03:53	22:43
07/30/2014	09:45	22:13	05:58	20:39	03:55	22:41
07/31/2014	10:44	22:40	06:00	20:37	03:57	22:39

Items of Interest This Month

- Good month to find Pluto (14th magnitude this year and growing steadily dimmer)
- 7/3 Earth is at aphelion (94.5 million miles from the Sun)
- 7/4 -7/5 Ceres & Vesta within 10' at beginning of month, drawing slowly apart
- 7/4 First Quarter Friday Star Party.**
- 7/5 Moon passes just under Mars. Closest at 5:30 pm (still daylight), but still pretty close after dark.
- 7/7 Moon passes just under Saturn. Also closest at 5:30 pm (still in daylight), but still close after dark.
- 7/12 Mercury at greatest western elongation. Find it 7° below and to the left of Venus about 5:00 am (a half hour before sunrise).

For Current Occultation Information

Visit Derek C. Breit's web site

<http://www.poyntsource.com/New/Regions/EAS.htm>

Go to Regional Events and click on the Eugene, Oregon section. This will take you to a current list of Lunar & asteroid events for the Eugene area. Breit continues to update and add to his site weekly if not daily. This is a site to place in your favorites list and visit often.

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