

Eugene Astronomical Society



IO - November 2018

Eugene Astronomical Society
 Annual Club Dues \$25
 President: Andrew Edelen 618-457-3331
 Secretary: Jerry Oltion 541-343-4758
 Additional Board members:
 Oggie Golub, Jim Murray, Ken Martin.

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 Springfield, OR 97475
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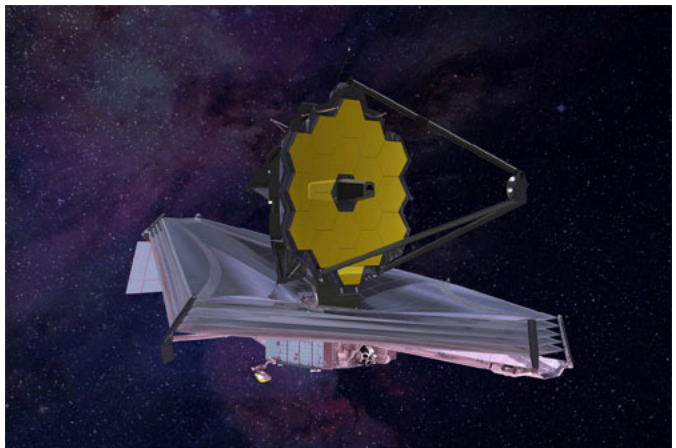
EAS is a proud member of
 The Astronomical League



Next Meeting Thursday, November 15th, 7:00 p.m.

The James Webb Space Telescope – Too Big to Fail? by Bernie Bopp, Professor of Astronomy, Emeritus

Scheduled to launch in March 2021, the James Webb Space Telescope (JWST) will be the most advanced — and expensive — orbiting telescope ever. With a mirror aperture of 6.5 meters and optimized for observations in the infrared, JWST promises to vastly increase our understanding of exo-planet and star formation. High-redshift objects have their visible emissions shifted into the infrared, allowing JWST to provide new insights on the formation of the most distant and oldest galaxies in the universe. At the same time, JWST is decidedly a “high-risk, high-reward” mission. It will be placed in a solar orbit



1.5 million km from Earth, making repair or upgrade missions impossible. To fit in the upper stage of the Ariane 5 launch vehicle, JWST must execute a complex series of orbital deployment steps that will “unfold” the telescope and its heat shield. Any malfunction may doom the nine-billion-dollar mission...

Next First Quarter Friday: November 9th

Our October 12th star party was held under a perfectly clear sky. It was well attended, with half a dozen scopes and 30-40 people, many of them kids.

Our next First Quarter Friday will be November 9th. 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 2018 and on into 2019. Star parties start at dusk or 6:00, whichever is later. (6:00 in November.)

November 9 (6% lit)
 February 8 (15% lit)

December 14 (46% lit)
 March 15 (68% lit)

January 11 (29% lit)
 April 12 (54% lit)

October 18th Meeting Report

Business meeting and “Forgotten Gems of the Fall Sky”

by Andy Edelen

October is the month of our annual business meeting, at which we elect board members and officers. This year three board positions were open. Jerry Olton and Jim Murray were re-elected for two-year terms, and Ken Martin was elected to a two-year term to fill the vacancy left by Diane Martin, who stepped down with the expiration of her latest term. Oggie Golub and Andy Edelen each have one more year on their terms.

Many thanks to Diane for her four years as our club president! Diane did an excellent job of keeping our club running smoothly during her tenure. Andy volunteered to take the presidency — many thanks, Andy! — and Jerry volunteered to remain secretary.

Oggie Golub gave a short talk about our telescope lending library, highlighting two of our scopes: the 10" Trackball and our 14.7" dobsonian nicknamed “Orion.” John Roberts spoke up for Orion.

Bruce Hindrichs, our outreach coordinator, talked about outreach opportunities, some of which he has had to decline due to the sheer volume of requests.



nearby, and Mirach’s Ghost (NGC 404), a galaxy hiding in the glare of Mirach, Beta Andromedae.



After the business meeting, Andy gave a presentation entitled “The Forgotten Gems of the Autumn Sky,” in which he called attention to several nice but underappreciated objects visible this time of year. Highlights include the Skull Nebula (NGC 246), a planetary Nebula in Cetus that’s surprisingly large for something most people have never heard of, NGC 7331, a great spiral Galaxy in Pegasus that’s usually skipped over on the way to Stephan’s Quintet



Despite technical difficulties with a dim video projector, the talk went very well and many people remarked later that they were inspired to go out and look for some of these forgotten gems. Many thanks, Andy!

The Western Aerospace Scholars Program

by Ben Weber

Last year I was accepted into the Western Aerospace Scholars (WAS) sophomore program. I've always been interested in space and recently I decided to pursue a career in a space-related field. At the time I applied, I was taking an Earth and Space science class at my high school and I wanted more — WAS filled that need. WAS is available for sophomore and junior high school students. You do not have to be interested in space-related studies to participate.

The program has two phases. The first phase is an adapted University of Washington class that was created by NASA. Every two weeks, students are assigned a lesson that consists of writing space-related essays, completing space-related math problems, and reading about NASA's history which they are quizzed on. The sophomore program has two lessons, while the junior program has ten. The junior program can provide students five college credits if they successfully complete the first phase. After phase one, students who maintain a good grade are invited to phase two which is a summer residency. The sophomore residency is three days long, but the junior program is more extensive and spans an entire week. For phase two, students are assigned to a team and are tasked with building and programming a robot to find rocks and presenting a potential Mars mission. My group had the opportunity to sleep on a submarine, explore OMSI's robotics exhibit, tour the Garmin factory in Salem and learn about their building and design processes, and listen to STEM professionals who discussed their careers. Also, the host of our event brought his home-made solar car and showed us how he built it.

The WAS program is really fun and exciting. I got to work with really fun and cool people. Everyone can participate, not just students interested in space. You will learn a lot about space travel including NASA history and the math behind launching a rocket and having it return to Earth. You will also learn about NASA's procedure and strategies for building a rocket and what to send to the Moon, Mars, or other parts of space. While doing this you will create long lasting connections with your teammates and the staff. For the junior program you can get college credit, taught at a slower pace than a normal college class.

This program is not just for students. They are also seeking STEM educators who currently teach middle school or high school math and science classes. If you are interested, please review the WAS website at <https://www.museumofflight.org/Education/Explore-programs/WAS-Educators>

I would be happy to talk to anyone interested in this program. You can contact me at yodabenmom@gmail.com. Or you can check out the program at <https://www.museumofflight.org/Education/Explore-programs/was>



Dues are Past Due!

EAS membership runs from October thru September. If you haven't paid already, please mail your dues to the Eugene Astronomical Society, PO Box 7264, Springfield, OR 97475. Dues are still the same low \$25 they've been for years. Make your checks payable to Eugene Astronomical Society.



Thank You Storage Junction

Storage Junction has donated the use of a storage unit for us to hold our loaner telescopes when they're not in use. EAS would like to thank Storage Junction for their generosity and support for our group. Please give them a call if you need a storage space, and tell your friends. Storage Junction is located at 93257 Prairie Road (at the intersection of Hwy 99 and Hwy 36, 3 miles south of Junction City) Phone: 541-998-5177

Happy Birthday, Junia!

Junia Clark, our youngest club member, just had her 10th birthday. To celebrate Junia's interest in astronomy, her mother, Karlene, baked her an astronomy-themed birthday cake complete with the Sun and all nine planets (including Pluto!) on a background of the Milky Way.

The cake was chocolate, befitting a dark night sky, and the Sun and planets were fondant, a sugary confection that molds well and tastes yummy.

What an excellent way to celebrate a birthday, and during one of the clearest Octobers on record, too! With both the sky and a cake full of planets, who could ask for more?

Happy Birthday, Junia! We wish you many more.

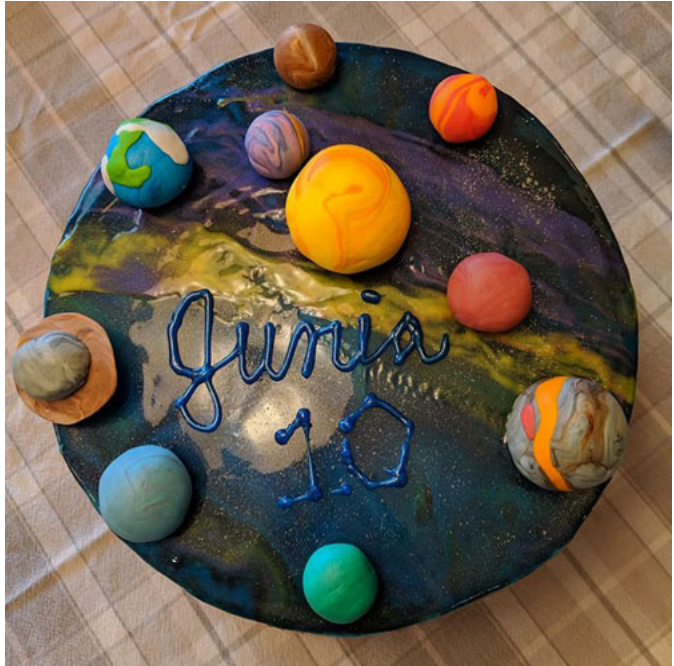
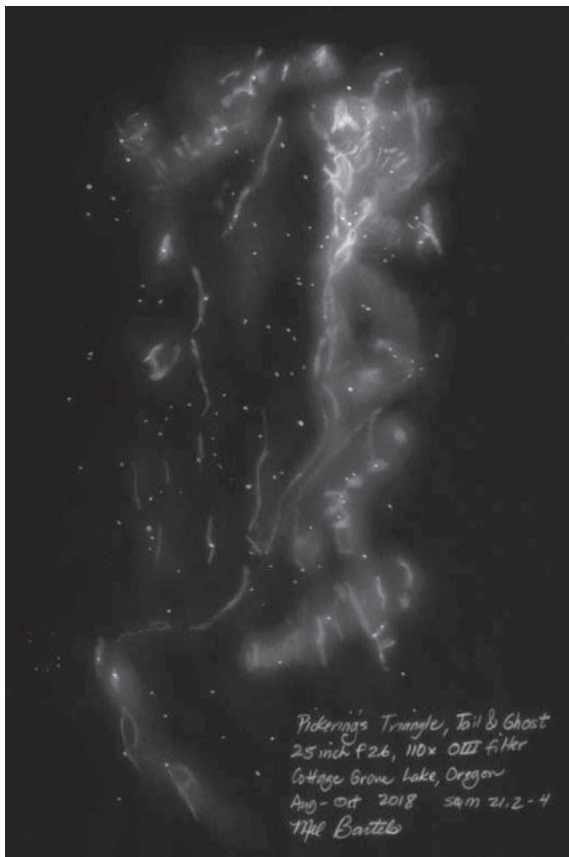
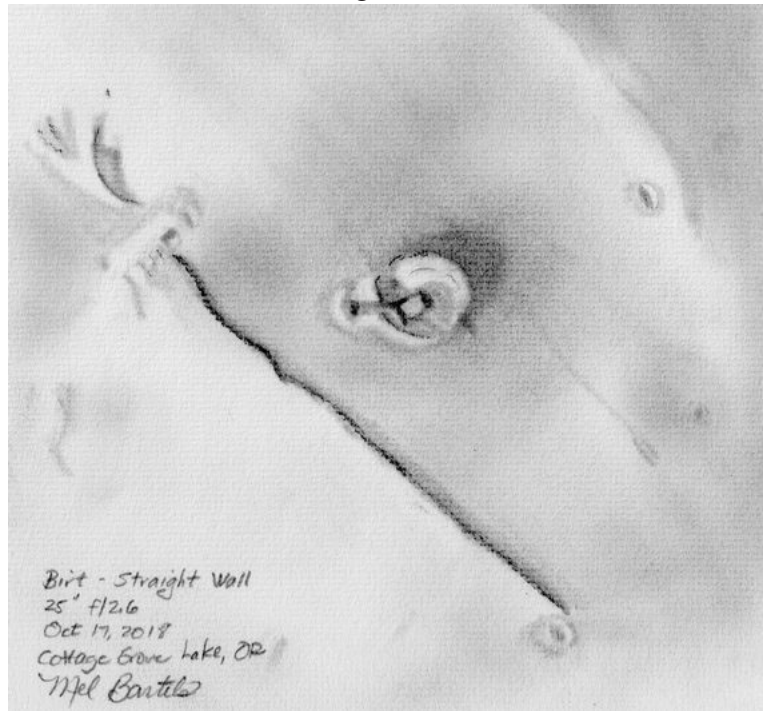


Photo and Sketch Gallery



Pickering's Triangle, Tail & Ghost
25 inch f2.6, 110x OIII filter
Cottage Grove Lake, Oregon
Aug - Oct 2018 ssm 21.2 - 4
Mel Bartels

October was a great month for observing. Mel Bartels took advantage of that with these great sketches of Pickering's Triangle (in the middle of the Veil Nebula) and the lunar crater Birt, next to the Straight Wall in Mare Nubium.



Birt - Straight Wall
25' f12.6
Oct 17, 2018
Cottage Grove Lake, OR
Mel Bartels

Jeff Phillips reports that he got a new/used Skywatcher ED80 off Craigslist and has pressed it into service as an astrophotography scope. After seeing his first night's images, Jeff says, "I'm thinking this deep-space imaging may be worth pursuing." Indeed, it may be!



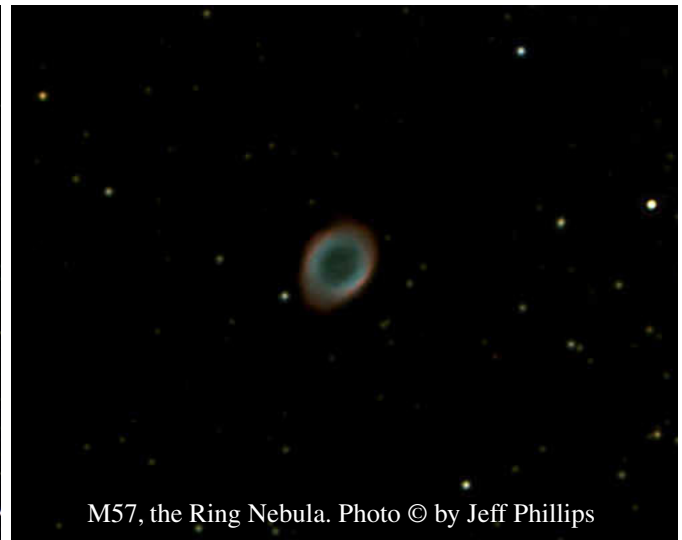
M13. Photo © by Jeff Phillips



M15. Photo © by Jeff Phillips



M27, the Dumbbell Nebula. Photo © by Jeff Phillips



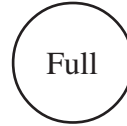
M57, the Ring Nebula. Photo © by Jeff Phillips



Orion rising through the trees. Photo © by Alan Gillespie



Observing in November



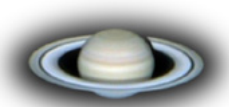
Nov 7, 8:02 AM	Nov 15, 6:54 AM	Nov 23, 9:39 AM	Nov 29, 4:19 PM
Mercury Set: 5:49 PM	Mercury Set: 5:38 PM	Mercury Set: 5:03 PM	Mercury lost in Sun
Venus Rise: 5:31 AM	Venus Rise: 4:47 AM	Venus Rise: 4:16 AM	Venus Rise: 4:02
Mars Set: Midnight	Mars Set: 11:55 PM	Mars Set: 11:50 PM	Mars Set: 11:47 PM
Jupiter Set: 5:39 PM	Jupiter Set: 5:13 PM	Jupiter lost in Sun	Jupiter lost in Sun
Saturn Set: 7:55 PM	Saturn Set: 7:27 PM	Saturn Set: 6:59 PM	Saturn Set: 6:39 PM
Uranus Set: 5:44 AM	Uranus Set: 5:11 AM	Uranus Set: 4:38 AM	Uranus Set: 4:14 AM
Neptune Set: 1:43 AM	Neptune Set: 1:11 AM	Neptune Set: 00:39 AM	Neptune Set: 00:16 AM
Pluto Set: 8:57 PM	Pluto Set: 8:26 PM	Pluto Set: 7:56 PM	Pluto Set: 7:33 PM

All times Pacific Daylight Time (March 11 - Nov. 3, 2018 = UT -7 hours) or Pacific Standard Time (November 4, 2018 - March 9, 2019 =UT -8 hours)

Date	Moon Rise	Moon Set	Twilight Begin	Sun Rise	Sun Set	Twilight End
11/1/2018	00:42	15:21	06:11	07:49	18:02	19:40
11/2/2018	01:53	15:57	06:12	07:50	18:01	19:39
11/3/2018	03:05	16:28	06:14	07:52	18:00	19:38
11/4/2018	03:17	15:58	05:15	06:53	16:58	18:37
11/5/2018	04:27	16:26	05:16	06:54	16:57	18:35
11/6/2018	05:37	16:56	05:17	06:56	16:56	18:34
11/7/2018	06:46	17:27	05:18	06:57	16:55	18:33
11/8/2018	07:52	18:01	05:19	06:58	16:53	18:32
11/9/2018	08:57	18:40	05:21	07:00	16:52	18:31
11/10/2018	09:57	19:23	05:22	07:01	16:51	18:30
11/11/2018	10:51	20:11	05:23	07:02	16:50	18:29
11/12/2018	11:40	21:03	05:24	07:04	16:49	18:29
11/13/2018	12:22	21:58	05:25	07:05	16:48	18:28
11/14/2018	12:59	22:56	05:26	07:06	16:47	18:27
11/15/2018	13:31	23:55	05:27	07:08	16:46	18:26
11/16/2018	14:00		05:29	07:09	16:45	18:25
11/17/2018	14:27	00:56	05:30	07:10	16:44	18:25
11/18/2018	14:53	01:58	05:31	07:12	16:43	18:24
11/19/2018	15:19	03:01	05:32	07:13	16:42	18:23
11/20/2018	15:46	04:06	05:33	07:14	16:42	18:23
11/21/2018	16:16	05:14	05:34	07:15	16:41	18:22
11/22/2018	16:51	06:23	05:35	07:17	16:40	18:22
11/23/2018	17:32	07:35	05:36	07:18	16:39	18:21
11/24/2018	18:20	08:45	05:37	07:19	16:39	18:21
11/25/2018	19:17	09:51	05:38	07:20	16:38	18:20
11/26/2018	20:22	10:50	05:39	07:22	16:38	18:20
11/27/2018	21:32	11:41	05:40	07:23	16:37	18:20
11/28/2018	22:44	12:24	05:41	07:24	16:37	18:19
11/29/2018	23:56	13:01	05:42	07:25	16:36	18:19
11/30/2018		13:33	05:43	07:26	16:36	18:19

Items of Interest This Month

- Good month to spot asteroid Juno (at opposition on November 17th). Should be mag. 7.5, easily spotted even in binoculars.
- Good month for Comet 46P/Wirtanen. Predicted magnitude is 7.5-8.5 at closest approach on December 16, but it's worth looking for it in November.
- 11/3-6 Mars passes Delta Capricorni (only 1/2° apart on 4th).
- 11/4 Daylight Savings Time ends (yay!)
- 11/6 Mercury at greatest eastern elongation (though not particularly high after sunset this time around).
- 11/9 First Quarter Friday star party.**
- 11/14 Venus and Spica within 1° before dawn.
- 11/15 Moon within 1.5° (three Moon diameters) of Mars.
- 11/17 Peak of Leonid meteor shower.
- 11/24 Mag 4.4 Xi1 Orionis reappears from lunar occultation 8:07 PM (16.5° up in the east).
- 11/26 Jupiter in conjunction with Sun.
- 11/27 Mercury in conjunction with Sun.



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