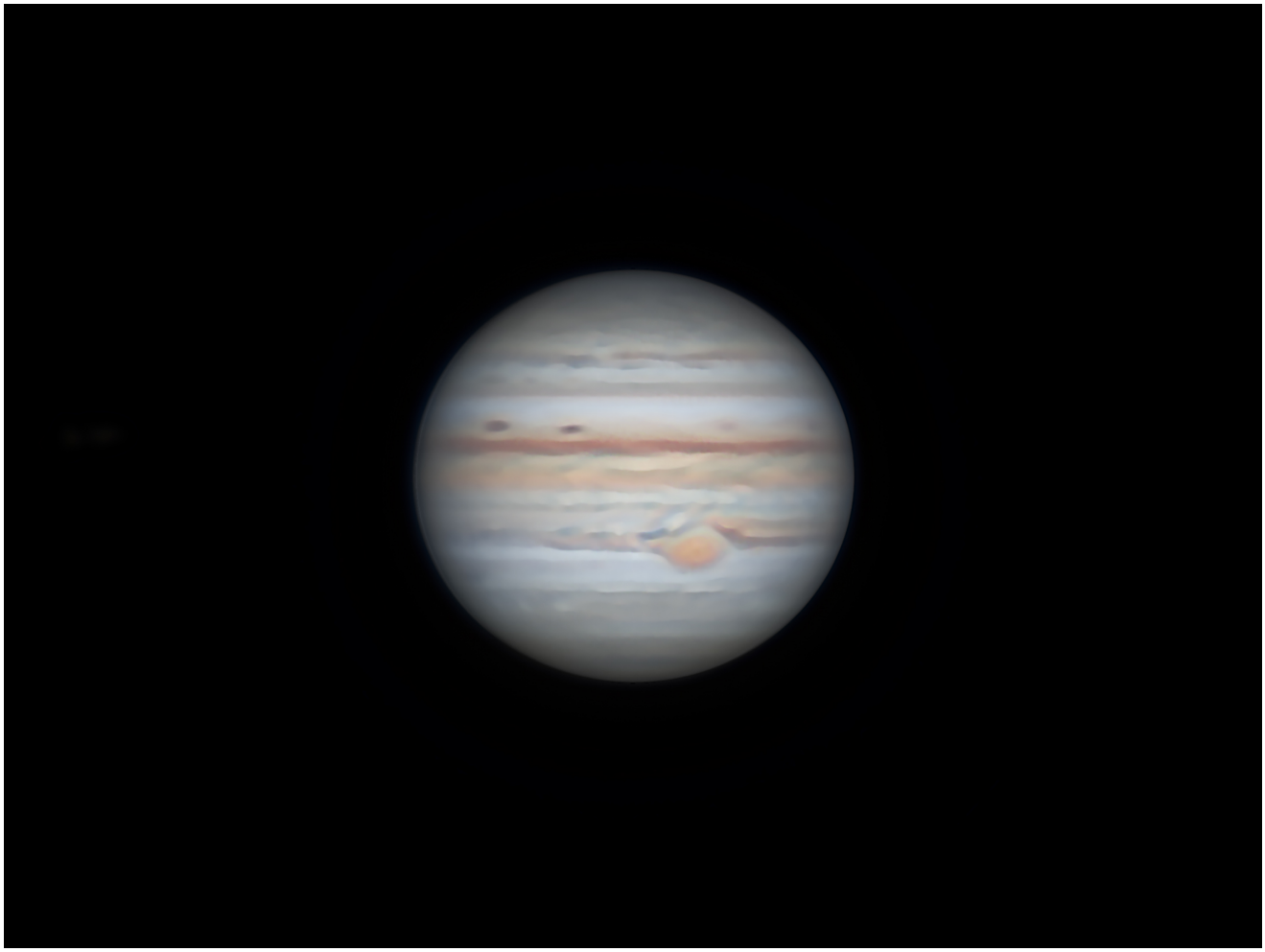
Eugene Astronomical Society
www.eugeneastro.org

Io

October, 2021

PO Box 591 Lowell, OR 97452

www.eugeneastro.org



[1] Jupiter

Mark Wetzel

[2] Moon Dave Horton

October Meeting - October 21, 2021 7PM

PLEASE NOTE THAT ALL MEETINGS ARE CURRENTLY VIRTUAL

To be announced

September Meeting

We had a general discussion and open talk this month. There was no particular topic and there was no video. Stay tuned for more!

TIME TO WELCOME FALL

By Randy Beiderwell

(Orion is up) and EAS DUES ARE DUE!

The nights are getting cooler, trees are displaying their autumn colors, the stars crisper looking and you can help my EAS Membership Roster by paying your Membership Dues now.
Yes, another year has come and gone already! I am starting my second year as your EAS club Secretary/ Treasurer and Board Member. I want to express my gratitude and appreciation and say it is an honor to serve! This is by far the secretary's busiest time of the year! **Dues are due** on October 1st every year. If you have a telescope from our lending library you must be in good standing (paid membership) to continue using it.

The great news is our club dues are still **ONLY $25** per year for General Membership and $25 per year for an entire Family Membership (all participating family members must fill out a Membership Application), what a BARGIN! Pro-rated membership is for new members only.

I want to extend a huge THANK YOU to those amazing members who marked their calendar's and have already sent in their dues checks. THANK YOU VERY MUCH!

As a reminder your $25 makes you a member of not only EAS but the Astronomical League also! $5 of your dues goes to the AL. They have so much to offer us. There is a ton of great information on their website, contests and you get their quarterly "Reflector" magazine! Plus, this year you had the opportunity to WIN really cool door prizes during their FREE virtual annual convention!

Plus, as a paid EAS member you are entitled to check out ANY telescope or items like astro cameras, sky quality meters, etc. from our plentiful Lending Library, for up to 3 months at a time! Many thanks to Dan Beacham for his hard work as Lending Library Coordinator!

As a paid club member, you are also entitled to discounts on "Sky and Telescope" (our very own Jerry Oltion is a contributing author/editor) and "Astronomy" magazines. You can access your discounts through the magazines on line web sites. Search for "Club Discounts" in their Subscription areas. This used to go through the club secretary but now you get to do it.

If that is not enough to entice you to re-up your dues **NOW**, wait there is more. By being a paid member, you are entitled to VOTE on EAS Officers and Board Members. This month's meeting held on Thursday October 21st at 7pm (via Zoom once again) is our annual Business Meeting (very short part of our FUN and informative meeting). Yes, your dues also pay for our monthly Zoom meetings! I know we are all looking forward to the day when we can all gather safely again for in person meetings. For now, we are very fortunate to have Amy Baker volunteering as our Zoom Meeting Coordinator. Thank you so much Amy!!

I wish to extend a huge thank you to Bruce Sackett for never missing a month of this club's great Newsletter! Bruce is our unsung hero for producing our monthly "Io" that we all look forward to. Thank you, Bruce!

I hope you have all had the time to take a look at our very cool club website: **eugeneastro.org** The new look is all thanks to Robert Asumendi, EAS Webmaster. Thank you Robert! What an amazing job! I especially enjoy the look of the "Lending Library" area.

TIME TO WELCOME FALL (cont.)

(Orion is up) and EAS DUES ARE DUE!

I also want to take a moment (thank you for your time!) and give a shout out of thanks to our club President and (and NGC expert) Andy Edelen and Board members, Jerry Oltion, Ken Martin and Oggie Golub! Together we have had a challenging year, made many tough decisions and helped guide EAS through the stars and Covid virus together. Thank you all for helping keep us all safe and at the same time keeping us all together. We have an incredible group of dedicated officers!

Your membership makes EAS a CLUB!! We have a WONDERFUL CLUB made of even more AMAZING MEMBERS - **YOU**! I want to thank you in advance for taking a moment to **send in your $25 check** (no cash please) to:

Eugene Astronomical Society (EAS)

P.O. Box 591

Lowell, OR 97452

Do you have something for the newsletter?

If you have an article, photo, meeting notes, stories, etc. that you would like to share with the members, please contact me, I'd be happy to add them to the newsletter. If you have photos you would like to submit, I'm trying to include more information about the process and equipment used.

Astrophotographers: I want to offer these pages as a way to not only show off your terrific photos, but to provide us with information on how they are taken and processed. Seeing the amount of work that goes into these amazing images is always fascinating, and makes us appreciate them even more!

Bruce Sackett - bruce@busymind.net

Our PO Box has changed!
PO Box 591
Lowell, OR 97452

Annual Club Dues $25

EAS is a proud member of The Astronomical League.

[3] The Wizard Nebula - NGC 7380 Andy Nowlen

Member Astrophotography in this issue

[1] Jupiter by Mark Wetzel

Monmouth, OR

September 3, 2021

This was my third attempt to capture a planet using the “lucking imaging” technique. I was at a “mini OSP” with several other astrophotographers in Monmouth, Oregon. Having been frustrated with planetary imaging, I returned to deep sky astrophotography with a narrowband target, SH 2-101, the Tulip Nebula. While Jupiter was past opposition, it rose toward the meridian and was shining brilliantly. I could not resist the temptation, so I switched to my updated planetary imaging gear. I used FireCapture to collect SER video files. I shot in Raw 8 mode with 10 ms exposures and a gain of 260. The ZWO ASI 385 color camera ran at 100 fps with a Region of Interest (ROI) set to 800 x 600 pixels. I used the ZWO Atmospheric Dispersion Corrector (ADC) to improve image quality and used the FireCapture ADC tool to adjust the blue and red refraction prisms. I took a series of 60 second videos for about two hours, watching the Great Red Spot (now becoming the great pink spot) sweep across the planet. For each collection of subframes, I used Autostakkert 3 to select the best 10% of the approximately 6000 frames and stack them with a 3X drizzle. Registax 6 was then used to sharpen 24 TIFF images with the Wavelets sharpening tool and to apply an automatic color balance and color alignment. The images were then processed in WinJUPOS to de-rotate the data to produce a sharper image across more of the planet’s surface. Photoshop CC was then used to sharpen the image without enhancing artifacts produced by the Wavelet sharpening step. A final High-pass filter was applied to bring out some subtle details. Color saturation and vibrance were also enhanced. The final image still lacks the details desired. Time to return to deep sky objects…

Jupiter is the largest planet in the solar system. It has a diameter of 142,984 km, about 11.2 Earths across. Its mass is 317.7 Earths, yet the average density is 1.24 gm/cc (water is 1 gm/cc and Earth is about 5 to 6 gm/cc). Jupiter is the first of the gas giants. It consists of about 90% hydrogen, 9% helium and 1% other gases, including methane. Methane gives the clouds in the upper atmosphere their reddish color. The planet may have a rock and ice core surrounded by metallic hydrogen. A day on Jupiter is about 10 hours. You can observe the planet’s fast rotation by imaging it every few minutes for about one to two hours. Jupiter is about 500 million miles from Earth. It was at opposition on August 19, 2021.

Imaging details:

Celestron 9.25" Edge HD SCT

Televue 2” 2x Powermate (FL = 4700mm, f/20)

ZWO Atmospheric Dispersion Corrector (ADC)

ZWO ASI 385MC color planetary imaging camera

Losmandy G11 mount

Member Astrophotography in this issue (cont.)

Software: Losmandy Gemini ASCOM mount control,

SharpCap Pro for polar alignment and initial focusing

FireCapture 2.7 Beta for image acquisition and ADC adjustment

Autostakkert 3, Registax 6, WinJUPOS v12.0.8, and Photoshop CC 2021 for image processing

Exposure 10ms, gain 260, 1x1 binning, 60 second video capture at 100 frames per second, ROI 800x600 pixels

[2] Moon by Dave Horton

Last night's moon just poking out through the clouds. I managed a string of these before the heaviest of the clouds rolled in.

[3] The Wizard Nebula (NGC 7380) by Andy Nowlen

This is my first go at imaging the Wizard Nebula.
August 29,30,31 2021 - Driveway observatory :>)
It certainly took hours and hours for my desktop computer to work through this one!
I like how the colors turned out and reveal the inner details.

Techie-ness
Tak FSQ106n
Ioptron CEM40EC
ES ED 102mm @ 714
Ioptron CEM40
AsiAir Pro x2
88 subframes split between 120 seconds, 240 seconds, and 300 seconds.
Flats, Dark Flat and Dark calibration frames
Astropixel processor stack
Pixinsight and Photoshop to finish
Created starless to massage the nebula
Inserted stars

October 2021

Eugene, Oregon, USA

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 Moonrise: 1:21am Twi A: 5:34am Sunrise: 7:10am Moonset: 5:04pm Sunset: 6:54pm Twi A: 8:31pm	2 Moonrise: 2:29am Twi A: 5:35am Sunrise: 7:11am Moonset: 5:36pm Sunset: 6:53pm Twi A: 8:29pm
3 Moonrise: 3:40am Twi A: 5:36am Sunrise: 7:12am Moonset: 6:03pm Sunset: 6:51pm Twi A: 8:27pm	4 Moonrise: 4:53am Twi A: 5:37am Sunrise: 7:13am Moonset: 6:28pm Sunset: 6:49pm Twi A: 8:25pm	5 Twi A: 5:39am Moonrise: 6:08am Sunrise: 7:15am Sunset: 6:47pm Moonset: 6:51pm Twi A: 8:23pm	6 ● New Moon: 4:06am Twi A: 5:40am Sunrise: 7:16am Moonrise: 7:24am Sunset: 6:45pm Moonset: 7:15pm Twi A: 8:21pm	7 Twi A: 5:41am Sunrise: 7:17am Moonrise: 8:42am Sunset: 6:44pm Moonset: 7:41pm Twi A: 8:20pm	8 Twi A: 5:42am Sunrise: 7:18am Moonrise: 10:02am Sunset: 6:42pm Moonset: 8:11pm Twi A: 8:18pm	9 Twi A: 5:44am Sunrise: 7:19am Moonrise: 11:22am Sunset: 6:40pm Twi A: 8:16pm Moonset: 8:47pm
10 Twi A: 5:45am Sunrise: 7:21am Moonrise: 12:41pm Sunset: 6:38pm Twi A: 8:14pm Moonset: 9:31pm	11 Twi A: 5:46am Sunrise: 7:22am Moonrise: 1:53pm Sunset: 6:37pm Twi A: 8:12pm Moonset: 10:26pm	12 ◐ Twi A: 5:47am Sunrise: 7:23am Moonrise: 2:54pm Sunset: 6:35pm Twi A: 8:11pm First Qtr: 8:26pm Moonset: 11:30pm	13 Twi A: 5:48am Sunrise: 7:24am Moonrise: 3:44pm Sunset: 6:33pm Twi A: 8:09pm Moonset: none	14 Moonset: 12:40am Twi A: 5:50am Sunrise: 7:26am Moonrise: 4:23pm Sunset: 6:31pm Twi A: 8:07pm	15 Moonset: 1:52am Twi A: 5:51am Sunrise: 7:27am Moonrise: 4:54pm Sunset: 6:30pm Twi A: 8:06pm	16 Moonset: 3:04am Twi A: 5:52am Sunrise: 7:28am Moonrise: 5:19pm Sunset: 6:28pm Twi A: 8:04pm
17 Moonset: 4:13am Twi A: 5:53am Sunrise: 7:29am Moonrise: 5:41pm Sunset: 6:26pm Twi A: 8:02pm	18 Moonset: 5:21am Twi A: 5:54am Sunrise: 7:31am Moonrise: 6:01pm Sunset: 6:25pm Twi A: 8:01pm	19 Twi A: 5:56am Moonset: 6:26am Sunrise: 7:32am Moonrise: 6:21pm Sunset: 6:23pm Twi A: 7:59pm	20 ○ Twi A: 5:57am Moonset: 7:31am Sunrise: 7:33am Full Moon: 7:58am Sunset: 6:21pm Moonrise: 6:42pm Twi A: 7:58pm	21 Twi A: 5:58am Sunrise: 7:34am Moonset: 8:35am Sunset: 6:20pm Moonrise: 7:04pm Twi A: 7:56pm	22 Twi A: 5:59am Sunrise: 7:36am Moonset: 9:39am Sunset: 6:18pm Moonrise: 7:29pm Twi A: 7:55pm	23 Twi A: 6:00am Sunrise: 7:37am Moonset: 10:43am Sunset: 6:17pm Twi A: 7:53pm Moonrise: 7:58pm
24 Twi A: 6:02am Sunrise: 7:38am Moonset: 11:45am Sunset: 6:15pm Twi A: 7:52pm Moonrise: 8:34pm	25 Twi A: 6:03am Sunrise: 7:40am Moonset: 12:44pm Sunset: 6:14pm Twi A: 7:50pm Moonrise: 9:17pm	26 Twi A: 6:04am Sunrise: 7:41am Moonset: 1:37pm Sunset: 6:12pm Twi A: 7:49pm Moonrise: 10:08pm	27 Twi A: 6:05am Sunrise: 7:42am Moonset: 2:23pm Sunset: 6:10pm Twi A: 7:48pm Moonrise: 11:06pm	28 ◑ Twi A: 6:06am Sunrise: 7:43am Last Qtr: 1:06pm Moonset: 3:02pm Sunset: 6:09pm Twi A: 7:46pm Moonrise: none	29 Moonrise: 12:10am Twi A: 6:08am Sunrise: 7:45am Moonset: 3:35pm Sunset: 6:08pm Twi A: 7:45pm	30 Moonrise: 1:18am Twi A: 6:09am Sunrise: 7:46am Moonset: 4:03pm Sunset: 6:06pm Twi A: 7:44pm
31 Moonrise: 2:29am Twi A: 6:10am Sunrise: 7:47am Moonset: 4:28pm Sunset: 6:05pm Twi A: 7:42pm						

DST/Summer Time for the entire month.