Eugene Astronomical Society
www.eugeneastro.org

Io

July, 2021

PO Box 591 Lowell, OR 97452 www.eugeneastro.org

[1] Cygnus Wall Andy Nowlen

Dexter Star Party Cancelled

It's probably no surprise to anyone, given our discussion of a few weeks ago, but the board of directors has finally made it official: We're going to skip the Dexter dark-sky star party again this year. We just can't see a way to make it safe enough for kids, nor for the unvaccinated adults who are also likely to show up.

There were a lot of good ideas put forth, but in the end we felt that most of them would be unworkable in the more or less chaotic environment of a crowded star party. The board has decided that we're better off waiting until next year when hopefully there won't be any concerns of our star party turning into a superspreader event.

I know this will be a big disappointment to many of us, and I include myself in that group. I was probably the biggest proponent of doing it, and I'm the one who dealt with the State Park Service and secured the permit, but in the end the simple mathematics of getting children vaccinated in time proved to me and to the rest of the board that it wouldn't be safe to be sharing eyepieces and focusers and standing close to one another, even outside, by the end of July.

Many thanks to everyone who volunteered to bring telescopes and to help run the welcome table and even act as Covid protocol police (a thankless job, that). I and the rest of the club very much appreciate your dedication to one of our most cherished traditions. I sincerely hope we can pick up again next year and keep doing these star parties far into the future.

Clear Skies, Jerry

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.

July Meeting - Thursday, July 15 7pm

PLEASE NOTE THAT ALL MEETINGS ARE CURRENTLY VIRTUAL

Neutrino Astronomy

or

Why Spend Time and Big Bucks Looking for (nearly) Massless Subatomic Particles that Hardly Ever Interact with Ordinary Matter??*

Bernie Bopp

Presentation to the Eugene Astronomical Society, July 2021

Neutrino astronomy is BIG astronomy. The telescopes are HUGE – cubic kilometers in volume – and require thousands of detectors. Neutrino telescopes must be located in places where they never see photons from the night sky – all of them are buried kilometers below the surface of the Earth in deep mines or even embedded deep in the Antarctic ice. Of course this means they are frightfully expensive to build and operate. And all of this is done to detect dozens of neutrinos, ghostlike subatomic particles that are electrically neutral, with uncertain mass probably no more than a millionth the mass of the electron. In this talk I'll try to explain why neutrinos are so interesting and important to our understanding of nuclear reactions in stars, supernovae, and even dark matter and galaxy formation. As a special bonus, neutrinos will be readily available throughout this entire talk, with no charge, either monetary or electrical!**

*Special EAS Award for most bloated presentation title

**Extra special EAS Award for worst pun in an abstract

June Meeting

Alan Gillespie gave a terrific talk on milky way photography at the June meeting. You can view the movie below.

Please note: The video is unlisted, so it doesn't show up in a YouTube search, but anyone with the link can view it. Feel free to share with friends via email, but we ask that you please not share the link via social media.

https://youtu.be/Y_4AlLEEYw8

Amy Baker, Above and Beyond

Due to her above and beyond volunteering efforts, I am pleased to announce that the EAS Board of Directors has unanimously voted to grant honorary membership status to Amy Baker. We are all so very grateful to her for all she does for us. We are especially thankful to Amy for stepping up and helping us out during these most unusual Covid times. Because of her dedication and enthusiasm, we have been able to continue our monthly meetings via Zoom and even view them any time after on YouTube. She has also helped at Dexter Dark Sky Parties and her great ideas and suggestions, including linking us up with the Heart of the Valley club for meetings, has not gone unrecognized.

I asked Amy if she wouldn't mind sharing how she found EAS, what inspires her most about astronomy and her favorite aspects of astronomy. This was her reply:

My story:

I had just moved to Eugene from Las Vegas and broken up with the boyfriend I had back then, and I still hadn't found work yet. I was bored and broke. Going to the planetarium for laser and kids' astronomy shows was a fun and a cheap way to spend my free time. When I found out there was an adult night, I was excited and went, but it turns out most everyone there was part of either a group or a couple and wasn't very excited about talking to me. It wasn't long before I wandered outside just to get away from it all. Out on the grass were several telescopes, so I decided to check them out. Jerry, Kathy, Dan, and Andy were very friendly, showing me the moon and not being at all annoyed at my very basic questions. They also told me about their Solar Sun Day event in a few days. I showed up at Alton Baker Park on Sunday, knowing absolutely nothing, and they welcomed me. I kept showing up every Sunday I could, and they started inviting me to Eureka Ridge, sharing the views in their scopes with me and teaching me some of the basics. Ever since then, I've felt like I was in the company of good friends! Even though I moved north to Albany for work, I still think of EAS as family and someplace I belong.

When it comes to astronomy, what most inspires me is the vastness of it all. How can you think of planets so far away that the light you see was given off thousands or millions of years ago and not be in awe? Since my knowledge of the technical aspects is still back in those planetarium kiddie shows (it's really embarrassing to be shown up by a 5-year-old during the lecture), I'm mostly focused on the beauty of what I see in the sky and just how tiny it makes me feel, in a good way. I can't imagine ever looking up at the night sky without at least lingering for a bit.

Amy-

Please join myself and the Board in extending a warm thank you to Amy for all her hard work and great ideas. Thank you so much Amy for ALL you do for us!!

[2] M106 Mark Wetzel

Member Astrophotography in this issue

[1] Cygnus Wall by Andy Nowlen

Captured May 30-31 at my backyard
40x300 seconds (over two nights since it is dark so late) plus calibration frames
Asi533mcpro
AsiAir
iOptron CEM40
ES ED 102 @ 714mm
Optolong L-enhance filter

Sadly, happily, a tree in our front yard died. When it was recently removed, it opened up a much better view of the north and northeast sky. Previously I was limited to a narrow slice about 40degrees in the east to 35 degrees in the west, and about 30 degrees wide. After I rearrange the vehicles to block some of the neighbor's lighting, I am happy to have a new view and some new targets.

Member Astrophotography in this issue (cont.)

[1] Cygnus Wall by Andy Nowlen (continued)

A followup: *The new view from my driveway is proving to be very nice. I have a great view to the north and northeast and much improved views to the east and south, although the south view is into the light dome of Eugene. Using narrowband filters makes that tolerable. So, the loss of our tree has proven to be a very pleasant gain for my astrophotography!*

[2] M106 by Mark Wetzel

Linslaw Point, Walton, OR

March 11-12 and May 12, 2021

I imaged the M106 Galaxy in the constellation Canes Venatici (the hunting dogs). I captured Luminance, Red, Green and Blue filter subframes over three nights. Having neglected to check collimation, I had to discard most of the first night of imaging data.

M106 is a spiral galaxy, type Sbc, with a tightly wound structure. This galaxy is about 25 Mly from Earth, and it has a diameter of almost 123,000 kly. M106 may be a part of the Ursa Major cloud, a loose “agglomeration” of galaxies. The barred spiral galaxy NGC 4248 is located in the lower right part of the image. It is about 36 Mly away. To the left of M106 is the irregular galaxy, UGC 7365 (PGC 39615). It has a magnitude of +16 and is about 24 Mly distant. There are also several other very faint galaxies in the image, including PGC 166129 and PGC 4002249 (SkySafari 6 Pro).

Like my M63 project, color processing in PixInsight was a challenge for this galaxy. Up to this point, I have used local normalization or adaptive normalization with good success. However, the red, green, and blue channel images were altered significantly when adaptive normalization was used in the Integration tool. I could not get the colors correct and there were color artifacts in the combined RGB image. When I integrated the color stacks without normalization, the color calibration produced a better result. However, I could not get the saturation where I wanted it, especially near the core.

Imaging details:

Celestron 9.25" Edge HD SCT with off-axis guider

Celestron 0.7x focal reducer (FL = 1645mm, f/7)

Celestron CGEM II mount

ZWO ASI 1600MM Pro cooled monochrome camera (-15oC)

ZWO 36mm Luminance, Red, Green and Blue filters

Member Astrophotography in this issue (cont.)

Software: Sequence Generator Pro, PHD2 guiding, Celestron CPWI mount control, PixInsight and Photoshop CC 2021

Luminance 2 min x 102 subframes (204 min), Gain 139, Offset 21, 1x1 binning

Red 4 min x 42 subframes (168 min), Gain 139, Offset 21, 1x1 binning

Green 4 min x 41 subframes (164 min), Gain 139, Offset 21, 1x1 binning

Blue 4 min x 41 subframes (164 min), Gain 139, Offset 21, 1x1 binning