Issue 2019-04

IO - April 2019

Eugene Astronomical Society
Annual Club Dues $25
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EAS is a proud member of
The Astronomical League

Next Meeting Thursday, April 18th 7:00 p.m.

What's in a Name?

by Andy Edelen

What do Rasalgethi, Alpha Herculis, 64 Hercules, HR 6406, HD 156014, SAO 102680, BD +14 3207, HIP 84345, STF 2140, ADS 10418, WDS 17146+1423, and TYC 0990-2133-1 have in common? They're all the same star! But why such a huge list of names? What's the point in giving a single object so many catalogue entries? At April's meeting, we'll talk about the various catalogues for stars of all types, what significance each of these catalogues has, and how each of them developed. What's in a name? Quite a lot, as we'll see!

Club meetings are held at the Eugene Science Center planetarium, 2300 Leo Harris Parkway in Eugene (behind Autzen Stadium). Meetings start at 7:00 sharp. Come early to visit and get a seat.

Next First Quarter Friday: April 12th

Our March 15th star party was a success despite clouds that kept all but three of us from bringing telescopes. That proved just enough for the people who showed up for a look through the sucker holes, so we were in good shape. The Moon was a little past first quarter, which gave us plenty of surface features to look at, and the hazy sky also provided a nice 22-degree ice halo around it. The Orion Nebula peeked through occasional gaps, and the seeing was steady enough to let us see the E and F stars in the Trapezium. The M-Thirty-Somethings running from Gemini into Auriga were nice targets, and we split Castor, which was the highlight of the night for one of our guests.

People were very interested in not just the visuals but the concepts behind them, so we had a lot of fun discussion. We'll probably see some of these folks again, maybe even as club members.

Our next star party will be April 12th. 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 the year. Star parties start at dusk or 6:00, whichever is later. (8:00 in April.)

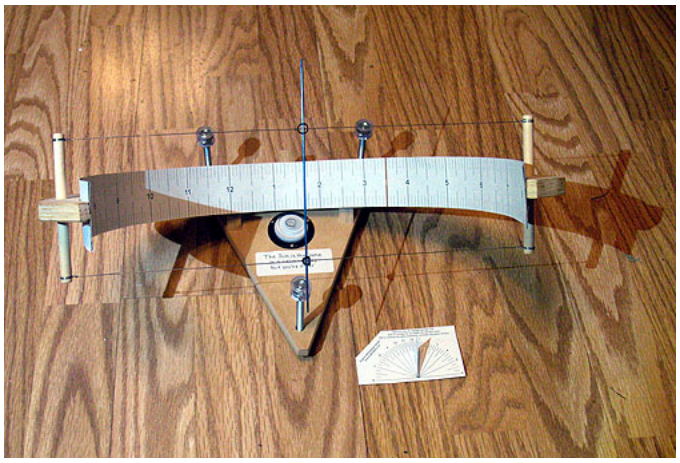
April 12 (54% lit)
May 10 (34% lit)
June 7 (27% lit)
July 12 (86% lit)
August 9, (75% lit)
September 6 (61% lit)
October 4 (44% lit)
November 1 (28% lit)
December 6 (76% lit)

March 21st Meeting Report

Sundials, by Jerry Oltion

At our March 21st meeting, Jerry Oltion gave a talk about sundials. He had several dials on hand, plus other props like a world globe and a "north pole," so he spent most of his time in the front of the planetarium while Kathy ran the slide show and moved around the room with a bright flashlight simulating the Sun. It was a fun interactive talk as Jerry explained how sundials work and how to read them.

Sundials tell solar time, which is different from clock time. Solar time is a variable thing as the Earth speeds up and slows down in its elliptical orbit around the Sun, plus time zones are an artificial construct that ignore the fact that it takes the Sun an hour to cross from one edge of the zone to the other, so corrections must be added or subtracted from solar time to come up with clock time. Jerry showed how to use the "analemma," a graphical representation of these corrections (called the "equation of time"), to adjust sundial time to clock time.



An equatorial sundial and a sundial on a business card

Jerry also showed other types of sundials that can be corrected mechanically, which allows us to read the time directly on the scale. Equatorial sundials, as they are called, are often more visually appealing as well as more accurate. Jerry has constructed a couple of them that are accurate to within about 30 seconds.

Jerry also demonstrated an equatorial sundial that can be folded up from a single sheet of paper, requiring a pencil for a gnomon (the pointy bit). He had 25 of those on hand and they all disappeared at the end of the meeting. He also had a stack of his business-card sundials, and most of those went home with people, too. Perhaps these sundials will adorn window sills around town as people take off their wristwatches and begin telling time the old-fashioned way.

International Dark Sky Week March 31 – April 7

March 31st through April 7th is International Dark Sky Week. This is a good time to change out that porch light that shines beyond your property line, and encourage your neighbors to do the same. Write a letter to the newspaper about light pollution, or talk to the owners of any of the many businesses that blast way too much light into the sky. Be polite and educational rather than confrontational, but do something this week to help combat light pollution. The only way to fix it is to get out there and make a difference.

STORAGE JUNCTION

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

Trivia Night Report

Our March 18th trivia night benefit for the Eugene Science Center went off very well. EAS president Andy Edelen emceed the event, and 34 people participated in teams of 5 and 6. We raised over $600 for the Science Center, not counting the donation from Roaring Rapids Pizza for the percentage of the food ordered during the event.

Andy prepared a great set of questions. There were ten categories, and ten questions per category. We did ten rounds, with each round having one question per category. Some of the questions were easy, some were hard, and most made us think a while before we got them (or didn't).

Each player received a raffle ticket, and between rounds Cheryl handed out door prizes to people with winning tickets. Prizes included free planetarium passes, gift cards to Sweet Life, Regal Cinemas, and Roaring Rapids Pizza, and two pairs of astronomy-themed socks. There was also a last-place consolation prize of Milky Way, Starburst, and Smarties candies, which Nikki's team won. (Bob and Jerry's team was neck-and-neck with Nikki's for last place.)

The EAS was really under-represented. We only had four players in the competition. Next time we do this (and everybody there felt that we should do it again) more of us should join in. It's fun, and it's a good way to make money for a good cause.

Andy Edelen emcees the trivia event at Roaring Rapids Pizza.

Earth Hour Saturday, March 30, 8:30-9:30

Earth Hour is an annual worldwide movement designed to increase awareness of the many excesses we subject our poor planet to. One such excess is excess lighting. During Earth Hour, we encourage individuals, communities, households and businesses to turn off their non-essential lights for one hour as a symbol for their commitment to the planet. Earth Hour was started as a lights-off event in Sydney, Australia in 2007, and has since grown to become a worldwide phenomenon. Today, Earth Hour is just part of a massive mainstream effort to address a broad range of environmental issues.

Earth Hour 2019 will be on Saturday, March 30, from 8:30 p.m. to 9:30 p.m. local time wherever you are. Join millions of like-minded people in switching off excess lights, parking our gas-guzzlers, and reading books instead of watching TV.

EAS Receives Gift from "Imaging the Sky"

About twenty years ago, when digital imaging was first getting its start, EAS's Rick Kang and Jim Girard of Beaverton worked together to bring pioneering digital imaging expert Richard Berry to Oregon to conduct workshops about the new technology. Richard gave presentations to the Rose City Astronomers in Portland and then for EAS in Eugene. Following the great success of that first workshop, several local amateur astronomers interested in the technology joined the newly formed Imaging the Sky conference committee to help organize future events. Mel Bartels was a charter member of the ITS group. When Richard and Ele Berry moved to Oregon from Wisconsin, Richard was welcomed onto the committee he had founded. Annual conferences were organized at Willamette University and featured internationally known amateur imaging experts as keynote speakers plus presentations by well respected professionals and amateurs from around the country. A small admission fee was charged to cover speaker, facility, and administrative costs.

Alas, the event eventually became impractical to stage and lost attendance to momentum gained by other conferences around the country founded along the lines of ITS. The ITS had some funds left, held in anticipation as seed money for a restart, but the committee conferred last January and decided on a different way to use the funds to further the original mission goals of the ITS group. Those goals include promoting high quality digital astrophysical imaging by amateur astronomers, assisting them in doing authentic research, and helping them to produce aesthetic digital portraits of deep space objects.

To further those goals, the ITS has given EAS and the Salem astronomy club, Night Sky 45, each a digital camera for the express use of club members. The ITS Committee experts who currently image the sky all recommended the Atik Infinity Sony ICX825 Color CCD Video Camera, which the ITS has purchased and presented to the EAS.

This camera is similar to the Revolution 2 Imager that we bought a few months ago, except it operates at higher resolution and can take much longer exposures. It requires a computer to run it, and additional software (all of it provided or free online) to process the images it takes, but the software is relatively easy to learn.

Jeff Phillips is currently checking out the camera and learning how to use it. When he has had his turn with it, we plan to loan it out to other club members who are interested in trying it out. It's our hope (and the ITS's hope) that this camera will inspire many of our club members to get into astrophotography without the necessity of a large up-front expenditure on equipment.

And your *Io* editor hopes to see many great astrophotos taken with the camera in times to come.

Many thanks to the ITS for their generosity!

The ATIK Infinity camera and accessories

New EAS Web Site

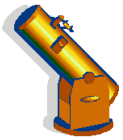
Robert Asumendi has completely rebuilt our web site. Check out the new version at the same URL as before: www.eugeneastro.org. The new site looks great and adapts to whatever device you're using, so it looks good on a home computer or a phone. It's easier to keep updated, so it should provide more timely information than our old site did.

Thanks, Robert, for doing such a great job on the update!

Gallery: March offered few opportunities for astrophotography, but Dave Horton had a clear night on the 9th out at Bandon and caught the Moon setting, and a few minutes later he was able to capture the entire arch of the Milky Way overhead, with the angled triangle of the zodiacal light under the arch. Way to go, Dave! Both images are beautiful. Zoom in to 200% to really get the full effect.

Moonset at Bandon beach 3/9/19. © by Dave Horton

Milky Way and Zodiacal light at Bandon beach 3/9/19. © by Dave Horton



Observing in April

New 1st Q Full Last Q

April 5, 1:50 AM	April 12, 12:06 PM	April 19, 4:12 AM	April 26, 3:18 PM
Mercury Rise: 5:57 AM	Mercury Rise: 5:47 AM	Mercury Rise: 5:40 AM	Mercury Rise: 5:34 AM
Venus Rise: 5:41 AM	Venus Rise: 5:33 AM	Venus Rise: 5:25 AM	Venus Rise: 5:16 AM
Mars Set: 12:00 Mid.	Mars Set: 11:54 AM	Mars Set: 11:49 AM	Mars Set: 11:44 AM
Jupiter Rise: 1:26 AM	Jupiter Rise: 00:59 AM	Jupiter Rise: 00:31 AM	Jupiter Rise: 00:02 AM
Saturn Rise: 3:11 AM	Saturn Rise: 2:45 AM	Saturn Rise: 2:18 AM	Saturn Rise: 1:50 AM
Uranus Set: 9:03 PM	Uranus Set: 8:38 PM	Uranus lost in Sun	Uranus lost in Sun
Neptune Rise: 5:53 AM	Neptune Rise: 5:26 AM	Neptune Rise: 4:59 AM	Neptune Rise: 4:32 AM
Pluto Rise: 3:25 AM	Pluto Rise: 2:58 AM	Pluto Rise: 2:31 AM	Pluto Rise: 2:03 AM

All times Pacific Daylight Time (March 10 - Nov. 2, 2019 = UT -7 hours) or Pacific Standard Time (November 3, 2019 - March 8, 2020 = UT -8 hours)

Date	Moon Rise	Moon Set	Twilight Begin	Sun Rise	Sun Set	Twilight End
4/1/2019	05:41	16:09	05:14	06:54	19:39	21:20
4/2/2018	06:09	17:09	05:12	06:52	19:41	21:21
4/3/2019	06:35	18:10	05:10	06:50	19:42	21:23
4/4/2019	06:59	19:11	05:08	06:49	19:43	21:24
4/5/2019	07:23	20:14	05:06	06:47	19:44	21:26
4/6/2019	07:49	21:18	05:05:	06:45	19:45	21:27
4/7/2019	08:16	22:23	05:01	06:43	19:47	21:29
4/8/2019	08:47	23:29	04:59	06:41	19:48	21:30
4/9/2019	09:24		04:57	06:40	19:49	21:32
4/10/2019	10:07	00:35	04:55	06:38	19:50	21:34
4/11/2019	10:58	01:38	04:53	06:36	19:52	21:35
4/12/2019	11:58	02:36	04:51	06:34	19:53	21:37
4/13/2019	13:05	03:27	04:49	06:33	19:54	21:39
4/14/2019	14:17	04:12	04:46	06:31	19:55	21:40
4/15/2019	15:32	04:51	04:44	06:29	19:56	21:42
4/16/2019	16:48	05:25	04:42	06:28	19:58	21:44
4/17/2019	18:04	05:56	04:40	06:26	19:59	21:45
4/18/2019	19:19	06:26	04:38	06:24	20:00	21:47
4/19/2019	20:33	06:56	04:36	06:23	20:01	21:49
4/20/2019	21:45	07:27	04:34	06:21	20:02	21:51
4/21/2019	22:54	08:01	04:31	06:19	20:04	21:52
4/22/2019	23:59	08:40	04:29	06:18	20:05	21:54
4/23/2019		09:23	04:27	06:16	20:06	21:56
4/24/2019	00:57	10:11	04:25	06:15	20:07	21:58
4/25/2019	01:49	11:04	04:23	06:13	20:08	21:59
4/26/2019	02:33	12:00	04:21	06:12	20:10	22:01
4/27/2019	03:11	12:58	04:18	06:10	20:11	22:03
4/28/2019	03:44	13:58	04:16	06:08	20:12	22:05
4/29/2019	04:12	14:58	04:14	06:07	20:13	22:07
4/30/2019	04:38	15:58	04:12	06:06	20:14	22:09

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

Items of Interest This Month

All month: Mars passes Aldebaran. Closest approach 6.5° on April 14th

Good month to spot asteroids Pallas and Iris

4/2 Ganymede and Europa pass one another 5:00–6:00 AM.

4/5 Red Spot transits 4:06 AM.

4/7 Red Spot transits 5:44 AM.

4/9 Io shadow transit 2:18–4:30 AM.

4/10 Red Spot transits 3:13 AM.

4/12 First Quarter Friday star party.

4/14 Io and Europa pass one another 2:00–3:00 AM. Callisto crosses over N. pole 3:00–6:00 AM.

4/15 Red Spot transits 2:21 AM.

4/20 Red Spot transits 1:28 AM.

4/21 Io and Europa pass one another 4:00–6:00 AM.

4/22 peak of Lyrid meteor shower, but washed out by nearly full Moon.

4/23 Moon and Jupiter 1/2° apart in early morning. Io shadow transit begins 6:06 AM, still going on after sunrise.

4/25 Io shadow transit 00:34–2:46 AM.

4/25 Moon approaching Saturn in early morning (about 1.5° away at sunrise).

4/26 Europa shadow transit 00:32–2:57 AM