



the Skyscraper

vol. 49 no. 3
March 2022

AMATEUR ASTRONOMICAL SOCIETY OF RHODE ISLAND * 47 PEEPTOAD ROAD * NORTH SCITUATE, RHODE ISLAND 02857 * WWW.THESKYSCRAPERS.ORG

In This Issue:

- 2 Astronomical Activities for 2022
- 3 Skylights: March 2022
- 4 Book Review: Vera Rubin: A Life
- 4 NASA Night Sky Notes: Embracing the Equinox
- 6 Planetary Nebula in Gemini: Medusa Nebula (Abell 21)
- 7 The Sun, Moon & Planets in March
- 8 February Reports

Replacing the Frosty Drew Observatory Telescope

An Online Presentation by Scott MacNeill
Saturday, March 5, 5:30pm EST at North Scituate
Community House & via Zoom

Contact Linda Bergemann (L.Bergemann@aol.com)
for Zoom Meeting link and information.

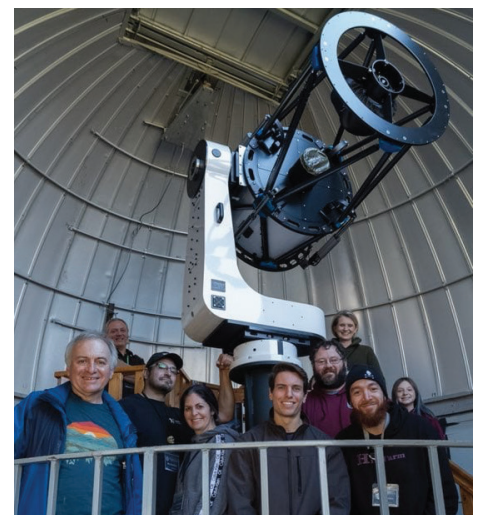
Over the month of October 2021, the Frosty Drew Observatory replaced its aging primary observatory telescope, a 16" Meade LX200 EMC SCT, with a new 24" PlaneWave CDK600. The installation culminated two years of development, planning, grant writing, and site upgrades, bringing Frosty Drew's mission into its next generation.

Scott MacNeill is the project lead for the installation of the new telescope, which was carried out by the Frosty Drew Astronomy Team. He developed the project road map, wrote the grant, assembled the installation team, led the installation, performed campus network integration and device calibration, and developed operational documentation as well as team training procedures. The telescope replacement process was heavily documented and all images and video were archived.

Join Scott as he shares anecdotes of the planning, site upgrades, and installation of the new PlaneWave CDK600 alongside video and photos of the process. He'll discuss the direction that Frosty Drew is moving towards, including future plans for the new telescope, imaging and visual configurations, and of course, show off some of the first astronomical images captured with the new telescope.

Scott MacNeill is the current Director of the Frosty Drew Observatory and Science Center. Scott develops all Frosty Drew campus and telescope automation, remote presentation frameworks, the frostydraw.

org website, and writes about astronomy, including a weekly newsletter on astronomical happenings for the Frosty Drew community. At Brown University's Ladd Observatory Scott performs the duties of assistant astronomer and operates telescopes, supervises student staff, writes astronomy imaging lab manuals, and presents the night sky to visitors. In 2020, Scott took on the role of Astronomy Labs professor at Bryant University, and is a partner in the Rhode Island Sidewalk Astronomers. He is a professional Systems and Software Engineer with roots in the open source community. In addition, Scott serves as the current CEO and Chairs the Frosty Drew Memorial Fund Board of Directors, and is a periodic astronomy correspondent to NPR, WJAR, and The Weather Channel."



Seagrave Memorial
Observatory
Open Nights

Saturday, March 12
Saturday, March 26

Astronomical Activities for 2022

by Linda Bergemann

Last Fall, Skyscrapers formed a Program Committee aimed at scheduling, planning and coordinating events around astronomical activities for our members and for the general public. Our “charter” is broad, encompassing routine open nights, off-site star parties, workshops, special events, field trips and more. Basically, anything we can think of that will promote an interest in astronomy.

We recently completed a workshop on astrophotography, led by Conrad Cardano, that was well attended, and a lunar observing program is underway and also well attended.

Thanks to Francine Jackson, Jim Hendrickson and others, we have managed to conduct some off-site star parties. But, our track record on public open nights has been dismal. We’ll keep trying.

Going forward this year, we are planning for more member events and several public-facing events focused on notable astronomical events.

First up will be Spring Astronomy Day on May 7. Skyscrapers is planning separate day and evening events for our membership and the general public. During the day, we are partnering with the RI Museum of Natural History to provide planetarium shows, solar observing, educational exhibits, and a speaker. This event will take place rain or shine in the museum and on the grounds of Roger Williams Park, Providence. In the

evening, we are planning an event at Seagrave Observatory. Weather permitting, we will have our telescopes open for both members and the general public and hope to have member telescopes onsite. Short video presentations and general Q&A will be held in the meeting hall.

With this date fast approaching, we are putting a call out to our members for volunteers. The breadth of what we will be able to do will depend on the support we get from our members. We are looking for volunteers for the following:

1. Greeters for both day and night events
2. Bring and operate solar telescopes
3. Bring and operate evening telescopes
4. Exhibit design and demonstration (although we have some ideas, any ideas are welcome!)
5. Welcome table staff (at the museum)
6. A speaker for a general astronomy topic presentation (approx. 30 minutes)
7. Video and Q&A guide
8. Someone skilled in graphic design for brochures, flyers, etc.

This will be a wonderful opportunity to share our passion with the general public while building camaraderie within the membership. Michael Corvese is coordinating this event. Please reach out to Michael corvesemichael@gmail.com with any questions about the event or to discuss volunteer opportunities.

Next up will be a Total Lunar Eclipse

on May 15/16, 10:27 PM – 1:55AM. We are looking for a member of the Observatory Crew to open the observatory for this members-only event. Contact Steve Siok ssiok@cox.net or Linda Bergemann lbergemann@aol.com to volunteer.

Other events in the planning stages are:

Solar Observing Day at Seagrave on Saturday, June 18. Contact Steve ssiok@cox.net or Kathy Siok kathys5@cox.net to help.

Summer Picnic, tentatively set for July 9. We need a coordinator for this event.

International Observe the Moon Night on Friday, September 30. Contact Michael Corvese corvesemichael@gmail.com to help with this event.

AstroAssembly 2022 on Saturday, October 1.

Members of the Program Committee are Michael Corvese, Bob Horton, Francine Jackson, Bob Janus, Laura Landen, Steve Siok and Linda Bergemann. Contact any or all of us with ideas for programs that interest you.



The Skyscraper is published monthly by Skyscrapers, Inc. Meetings are held monthly, usually on the first or second Friday or Saturday of the month. Seagrave Memorial Observatory is open every Saturday night, weather permitting.

Directions

Directions to Seagrave Memorial Observatory are located on the back page of this newsletter.

Submissions

Submissions to *The Skyscraper* are always welcome. Please submit items for the newsletter no later than **March 15** to Jim Hendrickson, 1 Sunflower Circle, North Providence, RI 02911 or e-mail to jim@distantgalaxy.com.

E-mail subscriptions

To receive *The Skyscraper* by e-mail, send e-mail with your name and address to jim@distantgalaxy.com. Note that you will no longer receive the newsletter by postal mail.

President

Steve Siok

1st Vice President

Steve Hubbard

2nd Vice President

Jim Hendrickson

Secretary

Sue Hubbard

Treasurer

Kathy Siok

Members at Large

Francine Jackson

Laura Landen

Matt Ouellette

Trustees

Bob Janus

Jeff Padell

Outreach Chairperson

Linda Bergemann

Observatory Committee Chairperson

Jim Crawford

New Member Steward

Tracy Prell

Librarian

Dave Huestis

Assistant Librarian

Weston Ambrose

Historian

Dave Huestis

Editor

Jim Hendrickson

Astronomical League Correspondent (ALCor)

Jeff Padell

Skylights: March 2022

by Jim Hendrickson

March is said to come “in like a lion, out like a lamb,” as this familiar phrase indicates the position of the zodiacal constellations as they appear in the evening sky, which undergoes some fairly significant changes over the course of the month.

At the start of March, we see **Leo**, one of the few constellations that resembles its namesake, fully risen in the east.

At the conclusion of March, with twilight extending well into the 8 o'clock hour, **Aries**, the Ram, which can also be classified as a lamb, descends towards the western horizon, giving us “out like a lamb.”

And with Aries goes our only planet in the evening sky, **Uranus**. Easily visible with binoculars even under bright sky conditions, Uranus can be found about midway between the stars Hamal (Alpha Arietis) and Menkar (Alpha Ceti), although it has moved slightly east of the line connecting the two 2nd magnitude stars. The waxing crescent Moon is within 4 degrees, just below Uranus, on the 8th.

Jupiter, which has been the beacon of the evening sky for the past several months, reaches conjunction on the 5th, and returns as a morning planet thereafter, becoming visible low in morning twilight by the end of the month.

The remainder of the planets can all be seen in the morning sky.

Mercury is a morning planet during March, though it approaches inferior conjunction on April 2, so it is best observed early in the month. There are two notable planetary conjunctions involving Mercury. Mercury passes just $3/4^\circ$ from Saturn on the 3rd, and a more challenging pass 1° from Jupiter on the 21st through bright twilight.

Venus and **Mars**, which have been moving in parallel through Sagittarius over the past month, continue their eastward motion together through the early part of the month, with Mars crossing into Capricornus on the 5th, followed by Venus on the 6th.

As Venus approaches its greatest elongation, 46° west of the Sun on the 20th, Mars appears to pull away from Venus. Note that due to the geometry of the Sun-Venus-Earth angle, the times of maximum elongation of Venus (and Mercury) coincide with the time that the planet is 50% illuminated, appearing as a “quarter Moon” phase.

By mid-month, **Saturn** becomes visible

slightly before the onset of twilight, and on the 24th, Venus forms the apex of an 8-degree-wide isosceles triangle with Saturn and Mars. The three planets tighten a bit over the final days of the Month, with Saturn between Venus and Mars on the 31st. The best grouping occurs on the 28th, when the waning crescent Moon passes a few degrees below the planetary triplet.

Neptune reaches conjunction on March 13, and is not in favorable viewing position at any time in March.

With the shift to Daylight Saving Time (UTC-4) occurring on the 13th, post 7pm sunsets begin on the 22nd. The Sun will not set earlier than 7pm again until September 12. This also shifts sunrise an hour later, and we will have one sunrise later than 7am, on the 13th, before the lengthening daylight extends it back to the 6am hour the following day. By the end of the month, sunrise will occur just a few seconds after 6:30am.

The **Sun** passes north of the celestial equator at 11:33 EDT on the 20th, marking the equinox and the start of northern hemisphere spring.

The lunar cycle tracks closely with the dates this month, with new Moon occurring on the 2nd, beginning Lunation Number 1227. With the ecliptic angle having the highest inclination over the western horizon during March evenings, this is the best time of year for observing the waxing crescent Moon with its Earthshine.

First quarter Moon occurs within the Winter Hexagon on March 8.

At 7:53pm on the 15th, the dark limb of the 11-day gibbous **Moon occults 3rd magnitude Eta Leonis**. The star reappears from behind the bright limb near Mare Crisium 76 minutes later.

The Full Worm Moon occurs on the 18th, which is unfavorable timing as mid-March is the ideal time for running the annual Messier Marathon, when all 110 objects of Messier's catalog of deep sky objects can be observed in a single night.

Last quarter Moon occurs on the 25th, inside of the teapot asterism of Sagittarius.

Dwarf planet **Ceres**, in Taurus, passes the Davis' Dog asterism as it progresses eastward. At magnitude 9, Ceres should still be easy to track with binoculars or a small telescope.

Asteroid **16 Psyche** reaches opposition this week, in Leo. This is the target aster-

Events in March

- 2 **New Moon**
- 2 Mercury 0.7° S of Saturn
- 3 Mars 1.0° N of Pluto
- 5 Mars 0.5° N of M75
- 5 Jupiter Conjunction
- 10 **First Quarter**
- 13 Daylight Saving Time
- 13 Neptune Conjunction
- 16 Venus 3.9° N Mars
- 18 **Full Moon**
- 20 **Equinox**
- 20 Venus Greatest Elongation West (47°)
- 21 Jupiter 1.2° NW of Mercury
- 25 **Last Quarter**
- 28 Moon, Venus, Mars & Saturn in 8° circle
- 28 Moon, Mercury & Saturn in 10° line

Ephemeris times are in EST (UTC-5) & EDT (UTC-4) for Seagrave Observatory (41.845N, 71.590W)

oid of the NASA Psyche mission, which launches on August 1 and will arrive at 16 Psyche in 2026. The 226km iron-rich asteroid is 2.23 AU away, and shines at magnitude 10.4, so a small telescope is best to spot it.

Comet 19P/Borrelly, at an estimated 9th magnitude, is located just a few degrees west of the Pleiades, and passes within 3° of Bharani (41 Arietis) on the 4th, $1/2^\circ$ from HD 20644 on the 12th, and $1/2^\circ$ from Atik (omicron Persei) on the 19th & 20th.

Looking to the stars beyond, early March is notable as one of the four times of the year when the position of the pointer stars of the Big Dipper align with our clock. At midnight, the pointer stars are aligned directly above Polaris, and although they are partially hidden by twilight, at 6pm they are due east, and at 6am they are due west. If we could see their noontime position, they would be directly below Polaris, just above the northern horizon.

Book Review

Vera Rubin: A Life

by Jacqueline Mitton and Simon Mitton, Cambridge, Mass: Belknap Press of Harvard University Press, 2021, ISBN [9780674919198](#), hardbound, \$29.95 US

Reviewed by Francine Jackson

Last month, Brown Astrophysicist Ian Dell'Antonio, in his observation journey to South America, mentioned that the 8.4 meter Vera Rubin telescope is being constructed on Cerro Pachon, right next door to his observing site on Cerro Tololo. But, exactly, who was Vera Rubin? Simon and Jacqueline Mitton have written the exclusive book on her, which is reviewed below:

In reading this book, I was taken by how close Vera Rubin's life paralleled that of Cecilia Payne-Gaposchkin. Both were very young when they wanted to become a scientist: Payne by observing a flower, Rubin by looking out of her bedroom window and watching the stars. Both worked while married and having children, and both changed the face of astronomy.

Rubin, though, married young, to a man who also wanted to have a science career – in his case, mathematics – and, because of this, they both found ways of doing their best in what they did. With Vera Rubin, it was trying to discern the motion of galaxies. This she accomplished by means of an image tube, which could collect more photons than a photographic plate alone. She, along with the tube's inventor, Kent Ford, then spent decades determining galactic motion, which led to the “discovery” of the

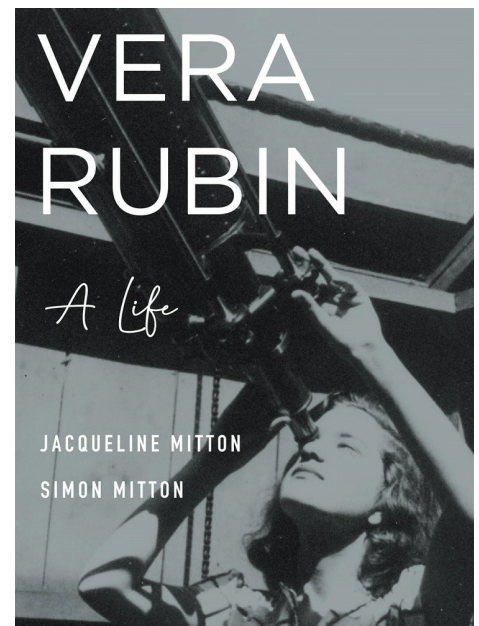
previously theorized dark matter.

Originally hired to teach, Rubin soon found her true calling, using telescopes to determine how galaxies rotate. Her studies, beginning with the observations of M31, the Andromeda Galaxy, created conclusions never before dreamed of. With Ford, she then spent her life applying for time at many observatories, in both North and South America, intending to truly learn what the structure of the universe actually consisted of. Through the years, she interacted with many of the major astronomers of the day; however, her family members were never far away. Even though we think of her major life as that of science, her priority was her family.

The authors, Simon and Jacqueline Mitton, have written a book that shows Rubin at her finest. She, and her colleague Ford, spent decades traveling the world's telescopes, doing the best work on galactic structure. Rubin also was extremely meticulous in her paperwork, sometimes spending more time with her calculations than anyone else would have, just to be sure that what they were observing was true. It is no wonder the world's next major observatory will have her name on it.

My only concern was that Kent Ford,

though he seemed to be with her during all her observatory time, as it was his invention that allowed her to be the best she could be, seemed to be more of a “shadow” person, a follower, than a true scientist. Perhaps someone could delve into his life, to determine how much he contributed in all she did. Rubin does deserve all the accolades she received, but perhaps her colleague deserves a bit more mention.



NASA Night Sky Notes:

Embracing the Equinox

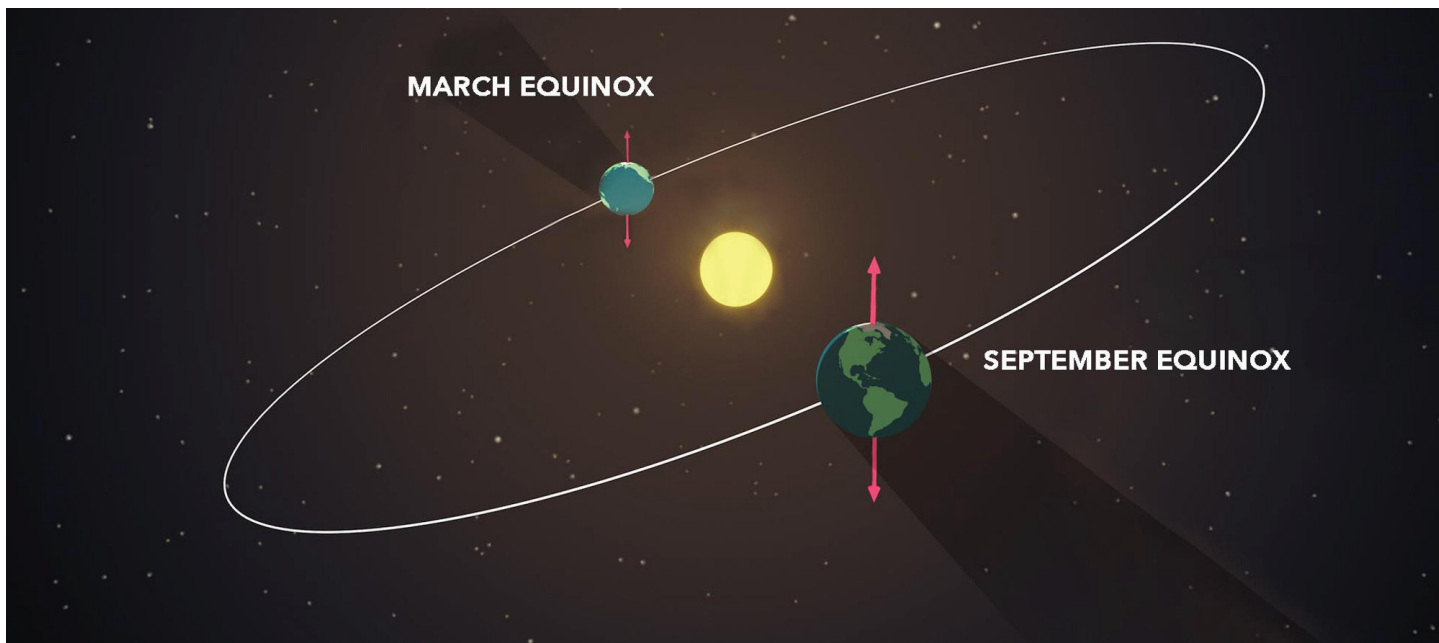
By David Prosper

Depending on your locale, equinoxes can be seen as harbingers of longer nights and gloomy weather, or promising beacons of nicer temperatures and more sunlight. Observing and predicting equinoxes is one of the earliest skills in humanity's astronomical toolkit. Many ancient observatories around the world observed equinoxes along with the more pronounced solstices. These days, you don't need your own observatory to know when an equinox occurs, since you'll see it marked on your calendar twice a year! The word “equinox” originates

from Latin, and translates to equal (equi-) night (-nox). But what exactly is an equinox?

An equinox occurs twice every year, in March and September. In 2022, the equinoxes will occur on March 20, at exactly 15:33 UTC (or 11:33 am EDT), and again on September 23, at 01:04 UTC (or September 22 at 9:04 pm EDT). The equinox marks the exact moment when the center of the Sun crosses the plane of our planet's equator. The day of an equinox, observers at the equator will see the Sun directly overhead

at noon. After the March equinox, observers anywhere on Earth will see the Sun's path in the sky continue its movement further north every day until the June solstice, after which it begins traveling south. The Sun crosses the equatorial plane again during the September equinox, and continues traveling south until the December solstice, when it heads back north once again. This movement is why some refer to the March equinox as the northward equinox, and the September equinox as the southward equinox.



Our Sun shines equally on both the Northern and Southern Hemispheres during equinoxes, which is why they are the only times of the year when the Earth's North and South Poles are simultaneously lit by sunlight. Notably, the length of day and night on the equinox aren't precisely equal; the date for that split depends on your latitude, and may occur a few days earlier or later than the equinox itself. The complicating factors? Our Sun and atmosphere! The Sun itself is a sphere and not a point light source, so its edge is refracted by our atmosphere as it rises and sets, which adds several minutes of light to every day. The Sun doesn't neatly wink on and off at sunrise and sunset like a light bulb, and so there isn't a perfect split of day and night on the equinox - but it's very close.

Equinoxes are associated with the changing seasons. In March, Northern Hemisphere observers welcome the longer, warmer days heralded by their vernal, or spring, equinox, but Southern Hemisphere observers note the shorter days - and longer, cooler nights - signaled by their autumnal, or fall, equinox. Come September, the reverse is true. Discover the reasons for

the seasons, and much more, with NASA at nasa.gov



This article is distributed by NASA Night Sky Network. The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach.

Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

This (not to scale) image shows how our planet receives equal amounts of sunlight during equinoxes. Credit: NASA/GSFC/Genna Duberstein

Solstice

December 21,
2010



Equinox

March 20,
2011



Solstice

June 21,
2011



Equinox

September 20,
2011*



**Image taken a few days early; equinox took place on Sept. 23, 2011*

Scenes of Earth from orbit from season to season, as viewed by EUMETSAT. Notice how the terminator - the line between day and night - touches both the North and South Poles in the equinox images. See how the shadow is lopsided for each solstice, too: sunlight pours over the Northern Hemisphere for the June solstice, while the sunlight dramatically favors the Southern Hemisphere for the December solstice. Source: bit.ly/earthequinox Images: NASA/Robert Simmon

Planetary Nebula in Gemini: Medusa Nebula (Abell 21)

by Glenn Chaple for LVAS

(Magnitude 10.3, Size 11.3')

When an Observer's Challenge lacks either a Messier or NGC designation, you know it won't be an easy visual target. Such is the case with our March Challenge, a planetary nebula in Gemini that eluded detection until discovered by American astronomer George Abell in 1955. Bearing the catalog designation Abell 21, it is commonly referred to as the Medusa Nebula.

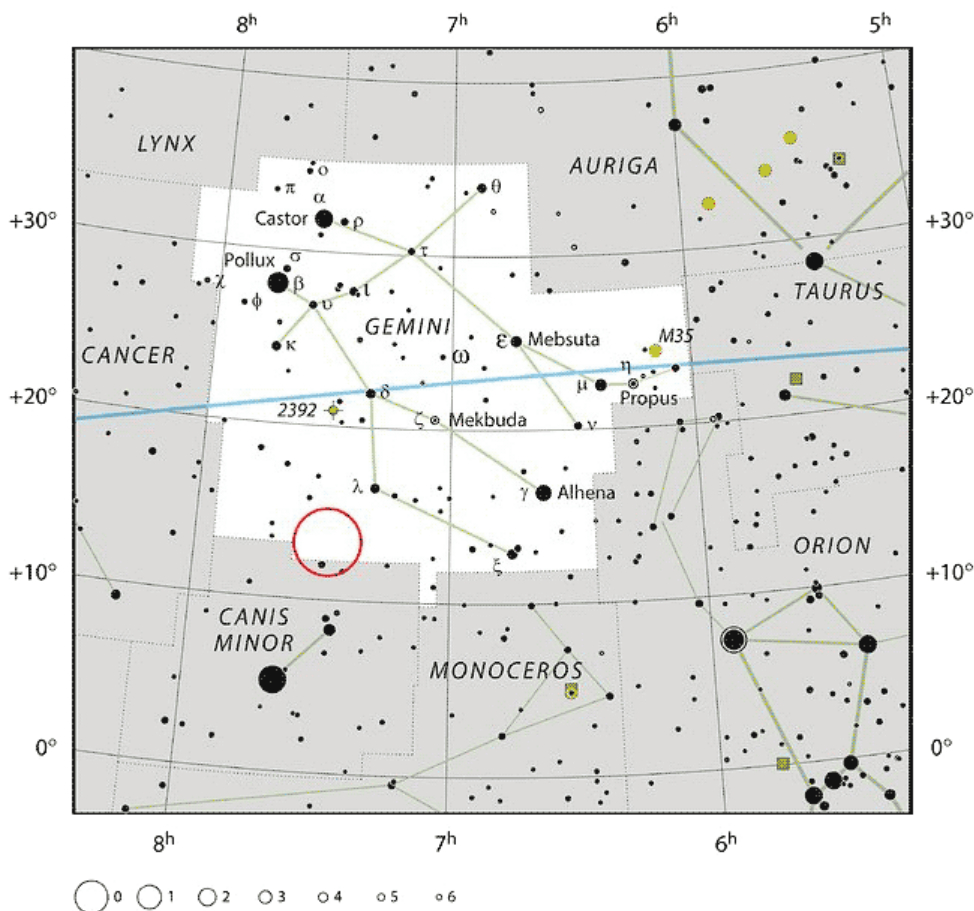
Various sources assign to the Medusa Nebula a visual magnitude of 10.3, bright enough to be detectable in a small-aperture instrument. But unlike the typical young planetary nebula whose apparent dimensions are planetary (40 arc-seconds or less), this oldster spans an area one-third the moon's apparent diameter. Defocus a 10th magnitude star to that size and you'll have a truly faint object. To capture the Medusa Nebula visually, you'll need a large-aperture scope (8 to 10 inches and up), dark skies (mag-6, if possible), an eyepiece that provides a one-degree field of view, and a nebula filter (OIII or narrowband).

The Medusa Nebula is located at RA 7h29m2.7s, Dec +13o14'48.4". Star-hoppers can find their way using Charts A through C below. It lies some 1500 light years away and is estimated to be 4 light years across.

The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It is open to everyone who is interested. If you'd like to contribute notes, drawings, or photographs, we'll be happy to include them in our monthly summary. Submit your observing notes, sketches, and/or images to Roger Ivester (rogerivester@me.com). To find out more about the Observer's Challenge or access past reports, log on to rogerivester.com/category/observers-challenge-reports-complete.



Abell 21 (Medusa Nebula) Image by Mario Motta, MD (ATMoB)
32 inch scope, and ZWO 6200 camera, 2 hours Ha, 1 hour each S2 and O3.



(Star at lower part of circle is 6 Canis Minoris). Image credit: ESO, IAU and Sky & Telescope

The Sun, Moon & Planets in March

This table contains the ephemeris of the objects in the Solar System for each Saturday night in March 2022. Times in Eastern Standard Time (UTC-5) through March 12 & Eastern Daylight Time (UTC-4) from March 13. Ephemeris times are for Seagrave Observatory (41.845N, 71.590W).

Object	Date	RA	Dec	Const	Mag	Size	Elong	Phase(%)	Dist(S)	Dist(E)	Rise	Transit	Set
Sun	5	23 02.5	-6 08.9	Aqr	-26.8	1935.3	-	-	-	0.99	06:14	11:57	17:41
	12	23 28.4	-3 25.0	Aqr	-26.8	1931.8	-	-	-	0.99	06:02	11:56	17:49
	19	23 54.0	-0 39.2	Psc	-26.8	1928.2	-	-	-	1.00	06:51	12:54	18:57
	26	0 19.5	2 06.5	Psc	-26.8	1924.3	-	-	-	1.00	06:39	12:51	19:05
Moon	5	0 49.7	1 18.9	Cet	-9.6	1868.6	29° E	6	-	-	07:53	14:22	21:03
	12	6 36.7	26 26.2	Gem	-12.1	1806.1	107° E	65	-	-	11:54	19:55	04:53
	19	12 34.9	-0 03.5	Vir	-12.7	1900.6	170° W	99	-	-	20:40	02:30	08:09
	26	19 09.0	-26 48.9	Sgr	-11.8	1904.4	80° W	41	-	-	03:45	08:11	12:40
Mercury	5	21 41.1	-15 44.1	Cap	-0.1	5.6	22° W	80	0.46	1.19	05:31	10:37	15:44
	12	22 23.2	-12 23.8	Aqr	-0.2	5.3	18° W	86	0.45	1.26	05:33	10:52	16:12
	19	23 07.4	-8 03.0	Aqr	-0.6	5.1	14° W	91	0.42	1.32	06:33	12:09	17:46
	26	23 53.8	-2 45.0	Psc	-1.1	5.0	8° W	97	0.39	1.35	06:33	12:28	18:25
Venus	5	20 00.9	-16 42.0	Sgr	-4.4	30.3	46° W	41	0.72	0.56	03:55	08:56	13:57
	12	20 27.0	-16 06.3	Cap	-4.3	27.6	46° W	45	0.72	0.61	03:51	08:54	13:58
	19	20 54.6	-15 08.3	Cap	-4.3	25.4	47° W	49	0.72	0.67	04:47	09:54	15:02
	26	21 23.2	-13 47.5	Aqr	-4.2	23.4	46° W	52	0.72	0.72	04:43	09:56	15:09
Mars	5	20 05.6	-21 12.8	Sgr	1.2	4.7	45° W	94	1.46	1.97	04:18	09:00	13:42
	12	20 27.4	-20 07.8	Cap	1.2	4.9	47° W	93	1.45	1.93	04:08	08:54	13:41
	19	20 49.1	-18 53.0	Cap	1.1	5.0	49° W	93	1.44	1.88	04:56	09:48	14:41
	26	21 10.5	-17 29.1	Cap	1.1	5.1	51° W	92	1.43	1.84	04:44	09:42	14:40
1 Ceres	5	4 13.6	22 25.9	Tau	8.7	0.5	81° E	97	2.67	2.64	09:36	17:06	00:36
	12	4 21.5	22 60.0	Tau	8.7	0.5	76° E	97	2.66	2.72	09:14	16:46	00:19
	19	4 30.2	23 33.3	Tau	8.8	0.4	71° E	97	2.66	2.81	09:53	17:28	01:03
	26	4 39.6	24 05.2	Tau	8.8	0.4	66° E	97	2.65	2.89	09:32	17:10	00:47
Jupiter	5	23 05.7	-6 52.6	Aqr	-1.9	32.9	1° E	100	4.98	5.97	06:21	11:58	17:36
	12	23 11.9	-6 13.5	Aqr	-1.9	33.0	5° W	100	4.98	5.97	05:57	11:37	17:17
	19	23 18.2	-5 34.4	Aqr	-1.9	33.0	10° W	100	4.98	5.95	06:33	12:16	17:58
	26	23 24.4	-4 55.6	Aqr	-1.9	33.2	15° W	100	4.98	5.93	06:10	11:55	17:39
Saturn	5	21 27.9	-15 53.6	Cap	0.8	15.3	25° W	100	9.91	10.80	05:17	10:21	15:24
	12	21 30.9	-15 39.7	Cap	0.8	15.4	31° W	100	9.90	10.74	04:52	09:56	15:01
	19	21 33.9	-15 26.4	Cap	0.8	15.5	38° W	100	9.90	10.67	05:26	10:31	15:37
	26	21 36.6	-15 13.6	Cap	0.8	15.6	44° W	100	9.90	10.60	05:01	10:07	15:13
Uranus	5	2 37.5	14 58.9	Ari	5.8	3.5	57° E	100	19.71	20.23	08:32	15:29	22:27
	12	2 38.6	15 04.0	Ari	5.8	3.5	51° E	100	19.71	20.33	08:05	15:03	22:01
	19	2 39.7	15 09.7	Ari	5.8	3.5	44° E	100	19.71	20.42	08:38	15:36	22:35
	26	2 41.0	15 15.8	Ari	5.8	3.4	37° E	100	19.71	20.50	08:11	15:10	22:09
Neptune	5	23 34.4	-3 59.0	Aqr	8.0	2.2	8° E	100	29.92	30.90	06:39	12:27	18:14
	12	23 35.4	-3 52.7	Aqr	8.0	2.2	2° E	100	29.92	30.91	06:12	12:00	17:48
	19	23 36.4	-3 46.5	Aqr	8.0	2.2	5° W	100	29.92	30.91	06:45	12:34	18:22
	26	23 37.3	-3 40.3	Aqr	8.0	2.2	12° W	100	29.92	30.89	06:18	12:07	17:56
Pluto	5	20 01.4	-22 22.9	Sgr	14.5	0.2	47° W	100	34.48	35.15	04:18	08:54	13:30
	12	20 02.1	-22 21.8	Sgr	14.5	0.2	53° W	100	34.48	35.06	03:51	08:27	13:04
	19	20 02.7	-22 20.9	Sgr	14.5	0.2	60° W	100	34.49	34.97	04:24	09:00	13:37
	26	20 03.3	-22 20.3	Sgr	14.4	0.2	67° W	100	34.49	34.87	03:57	08:33	13:10

February Reports

Minutes-Skyscrapers Executive Committee Meeting via Zoom Thursday February 24, 2022 7PM

Meeting Called to Order at 7:04 PM by President Steve Siok

Present: Steve Siok, Kathy Siok, Steve Hubbard, Sue Hubbard, Linda Bergemann, Bob Janus, Ian Dell'Antonio, Angella Johnson, Ed Walsh, Bob Horton, Dave Huestis, Laura Landen, Richard Doherty, Jeff Padell Total:14

Bob Janus reports that Seagrave may not be open for viewing this Saturday February 26 due to weather and ground conditions. Watch your email for updates.

Agenda Items:

1. March 5, 2022 meeting- The speaker is Scott McNeil. EC agreed to have the meeting at the N. Scituate community center as long as the speaker is amenable. The Center will be available at 5PM and the talk will start at 6. Coffee, water and cookies will be served.

2. Member nights-Due to weather, the next members night will be held in April and the port-a-john will be onsite. Public nights will be March 12 and 26th. Watch your email for times.

3. Astronomy Day Sat. May 7-Per Linda Bergemann There will be daytime events both at Ladd Observatory and at Roger Williams Park Museum (in conjunction with the Planetarium). Seagrave will be open in the evening for observing. It was suggested that our monthly meeting be held on May 7 at Seagrave and observing would follow.

Volunteers will be requested in an email to the members.

1. Lunar Eclipse-Monday May 15-16-Due to the day and time, this will be a members only event and perhaps an Eclipse Party gathering.

2. Solar Day Saturday June 18- A few members have offered to bring their solar scopes to Seagrave. This event will be open to members and the public. Jeff Padell and Conrad Cardano will give general talks about the sun.

3. NSN sent an Invitation asking organizations to participate in the celebration of "First Light for the Webb Telescope" in July,2022. There was a discussion concerning the difficulty of planning an event without a more specific date. More information will be sought out and this will be discussed

further.

4. 90th Anniversary of Skyscrapers- October 2022. One item discussed was publishing a 3rd Edition of the 75th Yearbook. We would need to purchase a minimum of 10 copies (@\$40). The EC agreed that we should definitely move forward. Making logo tshirts and other items available was also considered. There could be a special presentation at this year's AstroAssembly to recognize this special celebration.

Announcements:

- The ballot for the new slate of officers will be sent out electronically using the same service as the last election. Kathy Siok and Bob Horton will oversee this process.

- A library telescope was delivered to the North Scituate Library last week by a group of Skyscraper members. The staff was very excited and wanted to collaborate with us in the future. Bob Janus will be the Skyscraper contact. Other libraries have contacted Skyscrapers with an interest in joining our program.

There being no further business, we adjourned at 8PM.

Respectfully submitted, Sue Hubbard
Secretary 2/25/2022



Skyscrapers Presentations on YouTube

Many of our recent monthly presentations on Zoom have been recorded and published, with permission, on the Skyscrapers YouTube channel. Go to the URL below to view recent presentations.

<https://www.youtube.com/c/SeagraveObservatorySkyscrapersInc>



Iceland Trip Rescheduled October 22-29, 2022

[theSkyscrapers.org/iceland-2022](https://www.skyscrapers.org/iceland-2022)



Skyscrapers members night February 20 attended by Bob Horton, Bob Janus, Michael Corvese, Lloyd Merrill, Jim Hendrickson & Mark Munkacsy



STARRY SCOOP

Editor: Kaitlynn Goulette



WHAT'S UP

This month in the evening, Orion the Hunter and his celestial companions continue their apparent crusade across the southwest sky. This region of bright stars will be sinking towards the horizon by midnight at month's end.

Looking to the east, Leo the Lion marks the beginning of spring in the Northern Hemisphere. Its distinctive "Sickle" asterism symbolizes the Lion's head and forequarters. At the bottom of the Sickle lies the 1st magnitude star Regulus, the heart of the lion. Just to the west of Leo, we find the constellation Cancer the Crab. This star pattern is faint, but contains a dazzling galactic star cluster known as the Beehive. To the unaided eye, it appears as a fuzzy patch, but dozens of stars are revealed with binoculars.

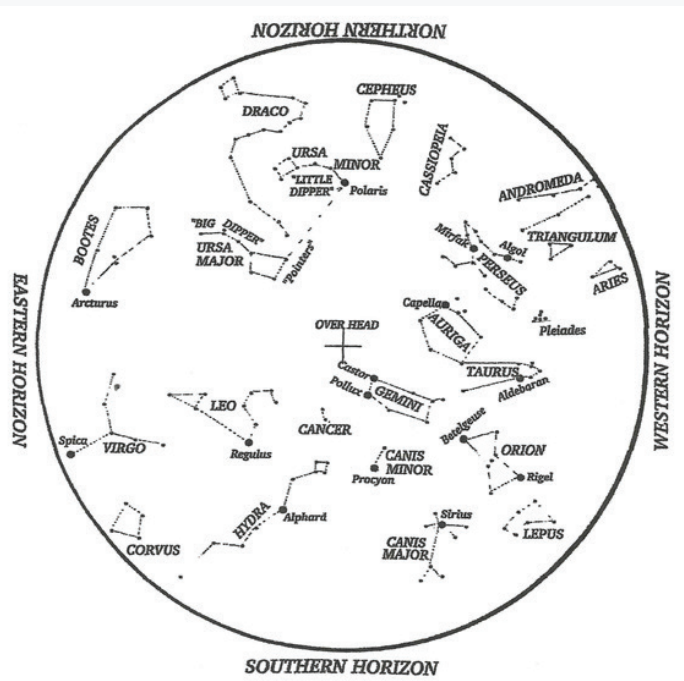
In our morning sky throughout the entire month, Venus shines like a beacon in the southeast, with the reddish-colored Mars close by. During the last week of March, these two planets are joined by Saturn, while the waning crescent moon sweeps by these three worlds on the 27th through the 29th.

Forty-five years ago on March 10th, the rings of Uranus were discovered. The rings were found with the Kuiper Airborne Observatory's 36-inch telescope. It was almost 200 years earlier that astronomer William Herschel discovered Uranus on March 13th, 1781. Using his telescope, he made this discovery while studying faint stars that were beyond the reach of our unaided eye. He had noticed an object slowly moving against the background stars, which he first took to be a comet, but later realized that he had discovered a new planet!

The Vernal Equinox occurs on the 20th, which marks the start of spring in the northern hemisphere. On this day, the sun passes directly overhead, as seen from the equator, which results in our day and night being of equal length.

MARCH'S SKY

- 2: New Moon**
- 13: Daylight Savings Time Begins**
- 18: Full Moon**
- 20: Vernal Equinox**



Credit: Roger B. Culver

Hold star map above your head and align with compass points.

OBSERVATIONS

I'm excited to report that my Middle School Space and Astronomy Club has been very active recently. We have enjoyed observing the winter sky on clear nights in spite of the cold temperatures. In addition to stargazing, the club has been cleaning the optics of our telescopes, which has been a learning experience for all of us.

We recently hosted an observing event at our school for the student body, which was a big hit. At sunset we had clouds blanketing the sky, but shortly after darkness settled in, the clouds dissipated, allowing for clear views of the universe. Our observations included Jupiter and its Galilean moons, which sparked much discussion of orbital mechanics and historical events, including their discovery.

We also viewed the waxing gibbous moon at both low and high power. The moon's features, especially along the terminator where details are most defined, had many students making a second and third trip to the eyepiece. The highlight of the evening was observing the Great Orion Nebula. Viewing it at high power revealed many details in this star-forming region, including wispy cloudlike features and even a hint of greenish color. It was the first time viewing a nebula for most of the participants, and I remember hearing many exclamations of "wow" and "oh my gosh."

Using printed star maps as a guide, attendees enjoyed a naked-eye tour of the winter sky. It included the winter hexagon and surrounding region, and also a few tricks on navigating this part of the sky.

On another evening, the Space and Astronomy Club set up its telescope at the entrance of the Westfield Walmart for an astronomy outreach event. We were joined by Springfield STARS Club President Richard Sanderson, who brought along his telescope. With two telescopes pointed at the moon, the patrons of Walmart enjoyed both a medium and high-power view of the moon and its features.

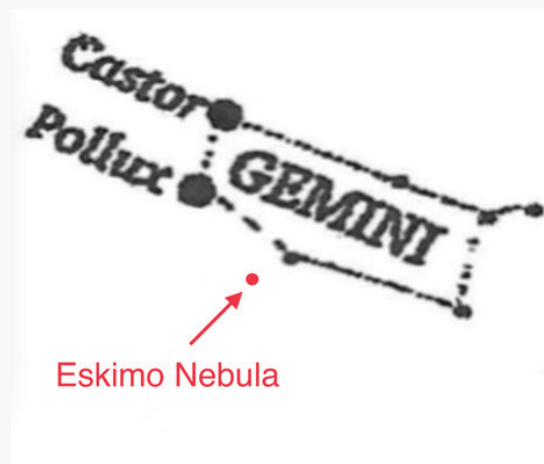
OBJECT OF THE MONTH

The featured object for March is the Eskimo Nebula, designated NGC 2392. This planetary nebula lies about 3,000 light-years away, and was discovered by William Herschel in 1787. It resembles a head in a parka hood when viewed through a telescope.

The Eskimo Nebula can be seen with a small telescope, and is found about 8 degrees southwest of Pollux, a bright star in Gemini. Use the map below to help you find it. Clear skies and good luck!



The purpose of the Starry Scoop is to communicate current astronomy and space events. If you want to share your observations or get digital copies of the Starry Scoop, contact starryscoop@gmail.com. The Starry Scoop is now on Facebook. Clear skies!



Directions to Seagrave Memorial Observatory

From the Providence area:

Take Rt. 6 West to Interstate 295 in Johnston and proceed west on Rt. 6 to Scituate. In Scituate bear right off Rt. 6 onto Rt. 101. Turn right onto Rt. 116 North. Peeptoad Road is the first left off Rt. 116.

From Coventry/West Warwick area:

Take Rt. 116 North. Peeptoad Road is the first left after crossing Rt. 101.

From Southern Rhode Island:

Take Interstate 95 North. Exit onto Interstate 295 North in Warwick (left exit.) Exit to Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.

From Northern Rhode Island:

Take Rt. 116 South. Follow Rt. 116 thru Greenville. Turn left at Knight's Farm intersection (Rt. 116 turns left) and follow Rt. 116. Watch for Peeptoad Road on the right.

From Connecticut:

- Take Rt. 44 East to Greenville and turn right on Rt. 116 South. Turn left at Knight's Farm intersection (Rt. 116 turn left) and follow Rt. 116. Watch for Peeptoad Road on the right.
- or • Take Rt. 6 East toward Rhode Island; bear left on Rt. 101 East and continue to intersection with Rt. 116. Turn left; Peeptoad Road is the first left off Rt. 116.

From Massachusetts:

Take Interstate 295 South (off Interstate 95 in Attleboro). Exit onto Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.



47 Peeptoad Road
North Scituate, Rhode Island 02857