



the Skyscraper

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September 2018

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

In This Issue:

- 2 President's Message
- 3 Kent Cameron Memorial Sky Gaze at River Bend Farm
- 4 Sagittarius, the Archer
- 6 NGC 6818: Planetary Nebula in Sagittarius
- 7 A Trip Through the Milky Way
- 8 The Sun, Moon & Planets in September
- 10 Proposed Changes to Constitution & Bylaws
- 11 AstroAssembly 2018

Friday, September 7, 7:00pm at Seagrave Observatory

A Half Century of Astronomical Spectacles: My Personal Top 10 List by Richard Sanderson

Richard Sanderson will present, "A Half Century of Astronomical Spectacles: My Personal Top-10 List," a talk that was inspired by the recent 50th anniversary of his first eclipse. Rich reviewed dozens of astronomical events he has witnessed over the past 50 years and narrowed them down to his ten favorite. They include eclipses, transits, great comets, fireballs and more, and are illustrated by his own astronomical photographs.

Rich recently retired from a 19-year tenure as Curator of Physical Science at

the Springfield Science Museum in Massachusetts, where he managed Museum's observatory and Seymour Planetarium. Specializing in astronomy education and historical astronomy, he wrote a newspaper astronomy column for many years and has been published in various astronomy magazines and journals. Together with Phil Harrington, he co-authored the 2006 book, "Illustrated Timeline of the Universe." Rich has been a member of the Springfield Stars Club since 1973.

**Skyscrapers
Board Meeting**
Monday, September 17, 7pm
All Members Welcome

Phases of the Moon

Last Quarter Moon
September 3 02:37

New Moon
September 9 18:01

First Quarter Moon
September 16 23:15

Full Harvest Moon
September 25 02:52



Seagrave Memorial
Observatory
Open Nights

Saturdays at 8:00 pm
weather permitting

President's Message

by Steve Hubbard

There have been some exciting things going on Seagrave Observatory!

First of all, I want to send out a HUGE thank you to the Trustees! They spent a large portion of a recent steamy, hot weekend installing a new attic fan system in our meeting hall. I was there on a recent Saturday and the hall was noticeably cooler even without the A/C units going. This should make our warm weather meetings much more enjoyable.

Secondly, we had another great star party at Seagrave on Saturday, August 25. Unfortunately it wasn't all that clear, but we did get a good amount of members and their telescopes out to compliment the society in-

struments also in use. In addition, we ended up with 35 to 40 enthusiastic members of the public who were treated to views of Jupiter, Saturn and Mars.

Speaking of star parties, we are going to hold additional ones over the next 3 months at the observatory.

The dates for these will be: Saturday September 15, Saturday October 20 (Which is also International Observe the Moon night) and Saturday November 17.

These are a great time to get a chance to look through a number of telescopes, enjoy time with fellow enthusiasts and also introduce the glories of the night sky to members of the public.

Finally, there are just a couple of other things I want to mention. First of all, thanks to Tracy Prell, we are collecting money from Amazon on a regular basis whenever anyone buys through Amazon using their "Amazon Smiles" program. This is a simple, easy way to donate to a charitable group (us!) and doesn't cost you a dime. Next time you're on Amazon, check it out!

At every meeting we will also be collecting canned food stuffs to donate to the local food bank on behalf of Skyscrapers. Please try to remember to bring something and place it in the collection box in the meeting hall.

See you at the meeting and... be sure to sign up for Astroassembly!!

Skyscrapers Food Basket

Skyscrapers has now started a food donation program! Just simply bring a caned good or two each time you visit the meeting hall or observatory; place it in the Food Donation box in the hall and they will be donated to our local food bank on a monthly basis.



<https://smile.amazon.com/ch/05-0382371>

Skyscrapers Library Borrowing Procedure

The catalog of available items to borrow is available at <http://www.theskyscrapers.org/library-procedures>, as well as in the meeting hall in proximity to the bookcases.

To borrow an item a member can: 1) review the list online before coming to a meeting 2) review a hard copy of the list on a meeting night.

Once a member chooses an item they can ask **Dave Huestis** or **Weston Ambrose** to retrieve it from the bookcase. The member will then sign the item out. This check out procedure will occur only between 7:00pm and 7:30pm on monthly meeting nights held at Seagrave.

Borrowed items should be returned at the next meeting unless other arrangements are made.



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 **September 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.

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Friday, September 14: Enjoy the Wonders of the World at the University of Rhode Island Planetarium!

University of Rhode Island Planetarium
Kingston Campus
Upper College Road
Friday, September 14th, 6:00 P.M.

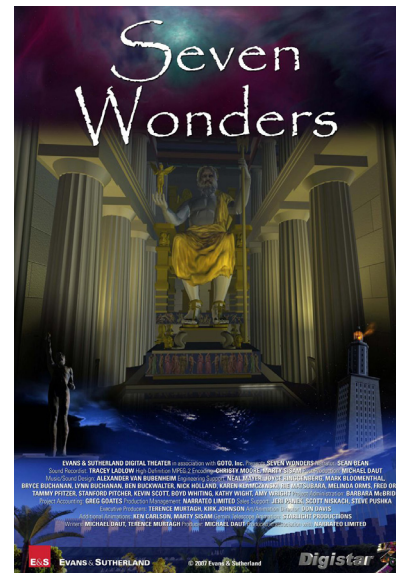
Contact: Francine Jackson 401-527-5558

Come enjoy a tour of the Seven Wonders of the Ancient World! These incredible features were built before modern-day equipment was even a thought, and yet, today, one of these is still a major feature. Why were these made? How? Come learn of the beauty and majesty of the Seven Wonders of the Ancient World. In addition, learn what are considered the Seven Wonders of the Universe, through the beauty of 21st century technology.

In addition to the featured presentation, *Losing the Dark*, a short introduction to light and its problems in our society will be given, as well as a tour of The Skies above the URI campus.

Admission to this presentation is \$5.00, to benefit the URI Planetarium Fund. The URI Planetarium is on Upper College Road, at the end of Engineering Row and across the parking lot from East Hall.

The University of Rhode Island Planetarium is available for programs of many varied topics of astronomical interest. For more information, please call 401-527-5558.



Friday, September 21: Kent Cameron Memorial Sky Gaze at River Bend Farm

Ranger Joshua Bell from the Blackstone River Valley National Historical Park has asked Francine Jackson and Jim Hendrickson to help with summer Friday Night Sky Programs at River Bend Farm once again for summer 2018. The park has partnered with local Civil Air Patrol Squadrons to run the program. They'll be explaining basic stuff to visitors like how telescopes work and what it is that they'll be looking at. They'll have some beginner telescopes, but folks should feel free to bring their own. The following tentative dates have been suggested. All dates are Fridays and there are no rain dates. In the event of inclement weather, an indoor presentation will be given.

September 21 - Blackstone Valley GO Event - Kent Cameron Memorial Sky Gaze - start at 18:30; Sunset at 18:44; Waxing gibbous Moon occults delta Cap (3rd magnitude star) beginning at 19:06; Venus sets early; Jupiter, Saturn & Mars visible.

October 5 - start at 19:00; Sunset at 18:20; Waning crescent Moon not visible in evening; Jupiter sets early; Saturn & Mars visible; dark night for deep sky; best night for Milky Way viewing.

These events have been a lot of fun for us in past years and River Bend Farm is an ideal location with a large, open field away from lights which is ideal for observing.

Additionally, we will be dedicating the September 21 night in memory of Kent Cameron, who had hosted night sky events at River Bend Farm for over 20 years. For more information, contact Jim Hendrickson at hendrickson.jim@gmail.com, Francine Jackson at Francine.Jackson@brown.edu

or Josh Bell at joshua_bell@nps.gov
River Bend Farm Visitor Center
287 Oak Street, Uxbridge MA 01569





Sagittarius, the Archer

by Dave Huestis

The last few months have been an observing bonanza for amateur astronomers and casual stargazers alike. Jupiter returned to a late evening sky, followed by Saturn and then more recently Mars. The local observatories have provided great views of these distant worlds when the skies were clear, and those of us fortunate to own even small to modest sized telescopes have been able to explore this parade of planets from the convenience of our backyards. If you haven't found the time to observe this planetary "line-up" yet, the opportunity to do so is still possible.

At the beginning of September after sunset if you look towards the west southwest you'll spot brilliant Venus. Venus will soon disappear as it moves closer to the Sun in our sky and sinks below the horizon. Jupiter will be the bright object up and to the

left of Venus. Following a low arc east across the sky you'll find Saturn, located above the teapot lid of Sagittarius. And finally, if you continue along that arc to the east you'll have no difficulty finding pumpkin-colored Mars (see last month's column).

Make Jupiter your observing priority, as he'll be difficult to view by mid-October, depending on your horizon view. You'll have a couple of more months to view Saturn, and Mars will be visible through the rest of the year (though this "Red Planet's" size through a telescope will shrink as the Earth pulls out ahead of Mars in our respective orbits. During Mars' close encounter with the Earth back on July 31 our two worlds were only 35.8 million miles apart. By December 31 that distance will have grown to 117.1 million miles.

While you may be concentrating on this

beautiful display of planets, you can't help but notice the patch of milky nebulosity stretching across the sky from north to south. It's our own Milky Way galaxy. And the constellation I wish to introduce you to is Sagittarius.

I can't believe I have not written specifically about Sagittarius in the past, but I checked my column archives and only found it mentioned in my exploration of the Milky Way.

Sagittarius is an easy constellation to identify, but not in the guise of classical Greek mythology where the star pattern represents a centaur (half-human, half horse) archer, whose poisoned tipped arrow is pointed towards the scorpion's heart (Antares) in nearby Scorpius. However, today we describe this star pattern as a teapot with the handle to the left and the spout to

the right. The Milky Way appears to pour like steam up into the sky from the spout.

After sunset on September 1 look due south about 22 degrees above the horizon to find Sagittarius. Use the accompanying star map to help you identify this star pattern.

If you explored Saturn after my column two months ago, then you already should recognize Sagittarius. Saturn is still above and to the right of the teapot's lid. But this region of sky contains many objects of interest to stargazers. While my columns on observing the planets required one to use a telescope to appreciate their beauty, a pair of 7x35 or 7x50 binoculars will initially suffice to explore the many star cluster and nebulae within this stellar pictogram.

People often forget that binoculars can be used for stargazing. Once you focus a pair on the Sagittarius region you'll find many intriguing astronomical objects that you will want to explore in greater detail using your own telescope or one at the local observatories.

Following is a short descriptive list of some of those brighter objects. They all have a designation with the prefix of "M". French astronomer Charles Messier (1730-1817) catalogued them while he was hunting for comets

There are a few bright open clusters within Sagittarius. Open clusters are groups

of stars that formed out of vast dust clouds at the same time. There can be hundreds to a few thousands of stars in these clusters. Because they are only loosely gravitationally bound as a group, over millions of years the cluster will disperse. Four notable open clusters in Sagittarius are: M17, M21, M23 and M24. See the star map for their locations within the constellation. Binoculars will help you find them, but once you do be sure to use a telescope to reveal their beauty.

In addition, there is a bright more compact cluster of stars call M22. It is a globular cluster, a spherical group of 70,000+ stars tightly gravitationally bound. Binoculars will only show it as a diffuse, non-stellar patch. A small telescope will definitely enhance the view. If you could speed up time and watch the stars they would look like bees around a hive, their common center of gravity. There are 150 known globular clusters that orbit the Milky Way galaxy in a halo.

And finally, two exquisite emission nebulae await your discovery in Sagittarius. One is the Lagoon Nebula (M8) and the other one is the Trifid Nebula (M20). Binoculars will easily show them, and a telescope under low magnification will reveal them in the same field of view. These nebulae glow due to the gases being ionized by a nearby hot star. While photograph-

ic images show beautiful colors, your eye will see them more as a grayish-green hue. Observing from a dark location will reveal their intricate structure and beauty.

There are many more "deep sky" objects within Sagittarius, but I'll let you discover some of them yourself.

After you've explored Sagittarius and what objects it has to offer, take some time to scan up and down the Milky Way to observe this star rich region of space. You'll be amazed at all the stars you can see, especially if you take a drive out in the country away from interfering light pollution.

Keep in mind that when you are looking at Sagittarius you are looking towards the center of our Milky Way galaxy. While you can't see it, a super massive black hole called Sagittarius A resides there.

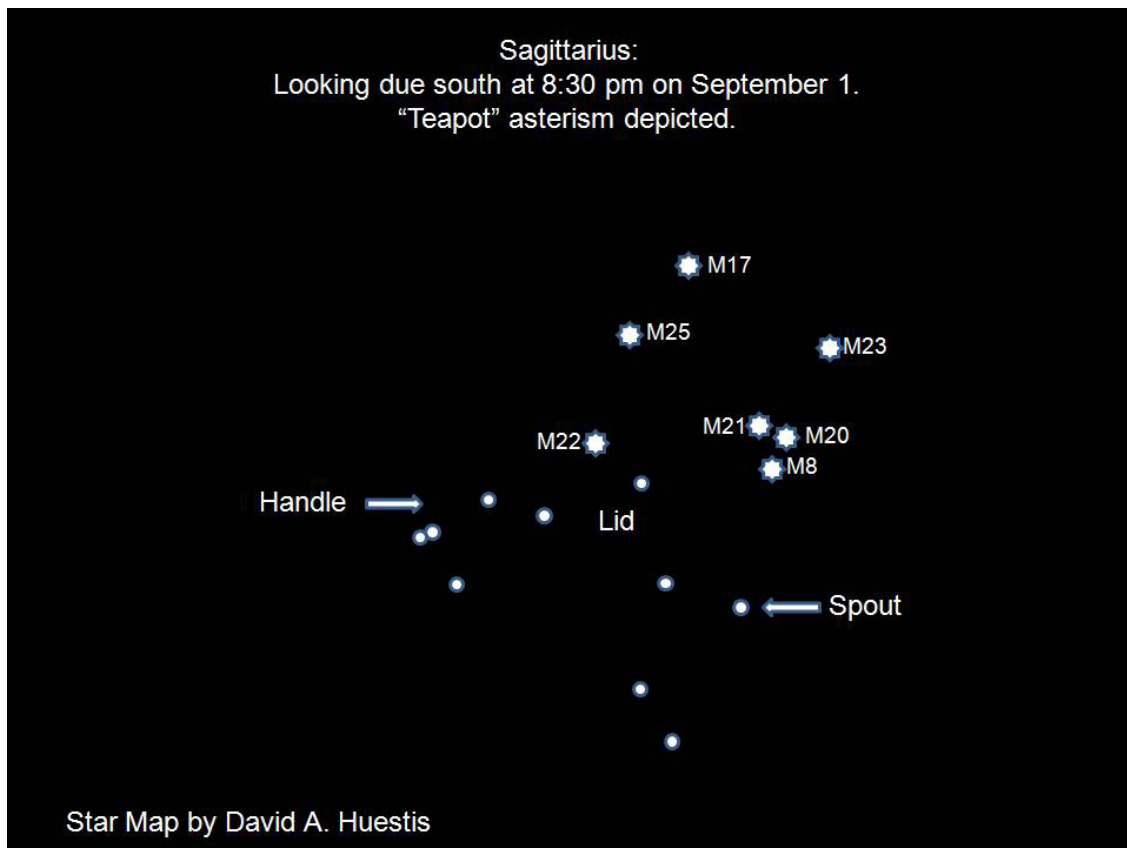
Enjoy the cosmological beauty that city lights obscure by using your binoculars and telescopes to collect starlight, not dust!!

Don't forget to visit the local observatories to experience the beauty of the heavens.

Good observing.



Dave Huestis is Skyscrapers Historian and has been contributing monthly columns to local newspapers for nearly 40 years. See more at <http://theskyscrapers.org/dave-huestis>



Planetary Nebula in Sagittarius

NGC 6818

by Glenn Chaple for LVAS

(Mag: 9.3; Size: 15" x 22")

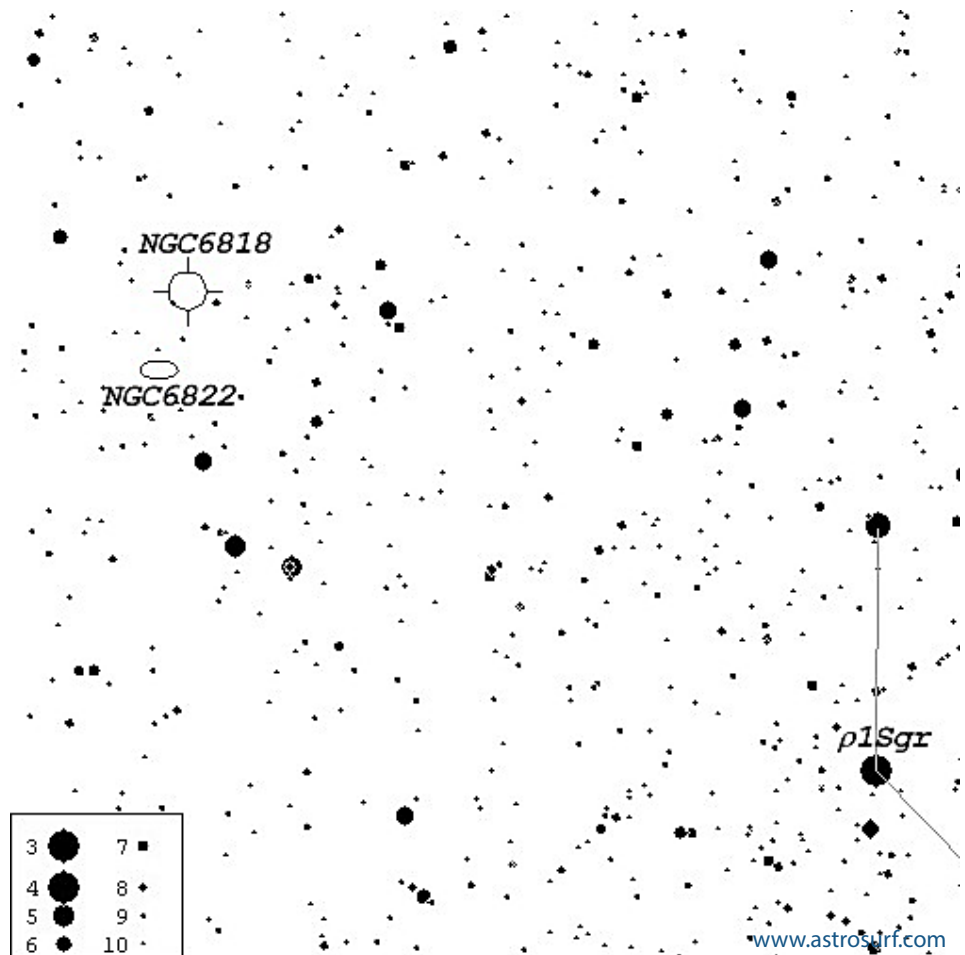
Tucked away in the northeast corner of Sagittarius is the relatively little-known planetary nebula NGC 6818, aka the “Little Gem Nebula.” Its anonymity is understandable when you consider that it competes with the treasure trove of deep-sky wonders that dot the western half of the constellation. Its relatively remote location doesn’t help, either. Your best bet is to star-hop from rho1 Sagittarii, which is shown on both finder charts below.

Although NGC 6818 is within reach of a common 60mm refractor, you’ll want to save it for a dark moonless night. Work with a magnifying power of 100X or more. Can you detect its bluish color with a small-aperture scope? What detail do you see with a large-aperture instrument?

At a distance of approximately 6000 light years, NGC 6818 is about one-half light year in diameter. It was discovered by William Herschel on August 8, 1787.

(Extra challenge) About a half degree south-southeast of NGC 6818 is the notoriously difficult Barnard’s Galaxy (NGC 6822). This dwarf galaxy was the August, 2014, LVAS Observer’s Challenge. A 9th magnitude galaxy whose light is spread over an area half the size of a full moon, it will require an evening of exceptional darkness. Barnard’s Galaxy is actually better seen with a large binocular or rich-field telescope than with a large aperture scope.

The purpose of the LVAS Observer’s Challenge is to encourage the pursuit of visual observing. It is open to everyone that is interested, and if you are able to contribute notes, drawings, or photographs, the LVAS will be happy to include them in our monthly summary. If you would like to contribute material, submit your observing notes, sketches, and/or images to either Roger Ivester (rogerivester@me.com) or Fred Rayworth (queex@embarqmail.com). To find out more about the LVAS Observer’s Challenge or access past reports, log on to



A Trip Through the Milky Way

By Jane Houston Jones and Jessica Stoller-Conrad

Feeling like you missed out on planning a last vacation of summer? Don't worry—you can still take a late summertime road trip along the Milky Way!

The waning days of summer are upon us, and that means the Sun is setting earlier now. These earlier sunsets reveal a starry sky bisected by the Milky Way. Want to see this view of our home galaxy? Head out to your favorite dark sky getaway or to the darkest city park or urban open space you can find.

While you're out there waiting for a peek at the Milky Way, you'll also have a great view of the planets in our solar system. Keep an eye out right after sunset and you can catch a look at Venus. If you have binoculars or a telescope, you'll see Venus's phase change dramatically during September—from nearly half phase to a larger, thinner crescent.

Jupiter, Saturn and reddish Mars are next in the sky, as they continue their brilliant appearances this month. To see them, look southwest after sunset. If you're in a dark sky and you look above and below Saturn, you can't miss the summer Milky

Way spanning the sky from southwest to northeast.

You can also use the summer constellations to help you trace a path across the Milky Way. For example, there's Sagittarius, where stars and some brighter clumps appear as steam from a teapot. Then there is Aquila, where the Eagle's bright Star Altair combined with Cygnus's Deneb and Lyra's Vega mark what's called the "summer triangle." The familiar W-shaped constellation Cassiopeia completes the constellation trail through the summer Milky Way. Binoculars will reveal double stars, clusters and nebulae all along the Milky Way.

Between Sept. 12 and 20, watch the Moon pass from near Venus, above Jupiter, to the left of Saturn and finally above Mars!

This month, both Neptune and brighter Uranus can also be spotted with some help from a telescope. To see them, look in the southeastern sky at 1 a.m. or later. If you stay awake, you can also find Mercury just above Earth's eastern horizon shortly before sunrise. Use the Moon as a guide on Sept. 7 and 8.

Although there are no major meteor

showers in September, cometary dust appears in another late summer sight, the morning zodiacal light. Zodiacal light looks like a cone of soft light in the night sky. It is produced when sunlight is scattered by dust in our solar system. Try looking for it in the east right before sunrise on the moonless mornings of Sept. 8 through Sept 23.

You can catch up on all of NASA's current—and future—missions at www.nasa.gov



This article is provided by NASA Space Place. With articles, activities, crafts, games, and lesson plans, NASA Space Place encourages everyone to get excited about science and technology. Visit spaceplace.nasa.gov to explore space and Earth science!

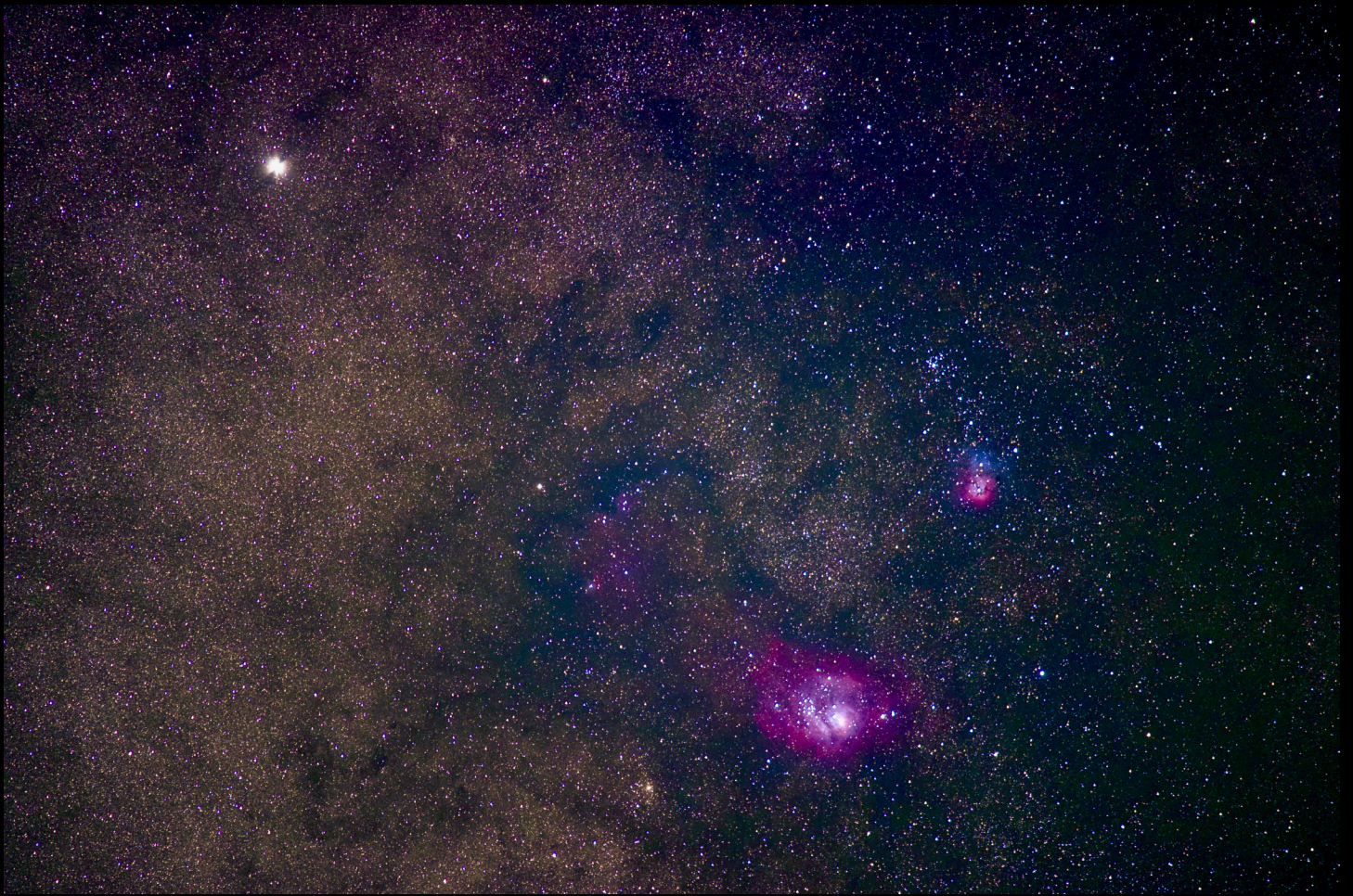


This illustration shows how the summer constellations trace a path across the Milky Way. To get the best views, head out to the darkest sky you can find. Credit: NASA/JPL-Caltech

The Sun, Moon & Planets in September

This table contains the ephemeris of the objects in the Solar System for each Saturday night in September 2018. Times in Eastern Daylight Time (UTC-4). 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	1	10 40.6	8 22.3	Leo	-26.8	1901.5	-	-	-	1.01	06:11	12:46	19:20
	8	11 05.9	5 47.4	Leo	-26.8	1904.7	-	-	-	1.01	06:19	12:43	19:08
	15	11 31.0	3 07.6	Leo	-26.8	1908.2	-	-	-	1.01	06:26	12:41	18:56
	22	11 56.1	0 25.1	Vir	-26.8	1911.9	-	-	-	1.00	06:33	12:39	18:43
	29	12 21.3	-2 18.3	Vir	-26.8	1915.7	-	-	-	1.00	06:40	12:36	18:31
Moon	1	2 47.6	9 52.1	Cet	-12.3	1853.3	116° W	72	-	-	22:16	05:09	12:11
	8	9 33.2	15 02.1	Leo	-9.4	1975.9	24° W	4	-	-	04:41	11:50	18:49
	15	15 51.7	-16 13.6	Lib	-11.3	1849.3	68° E	31	-	-	12:43	17:47	22:47
	22	21 48.4	-15 54.0	Cap	-12.4	1792.5	145° E	91	-	-	17:54	23:19	04:51
	29	3 28.0	13 02.9	Tau	-12.5	1876.0	133° W	84	-	-	20:51	03:57	11:11
Mercury	1	9 36.7	14 58.7	Leo	-0.8	6.4	17° W	65	0.31	1.06	04:45	11:44	18:42
	8	10 23.8	11 45.5	Leo	-1.2	5.5	12° W	88	0.32	1.22	05:18	12:04	18:49
	15	11 13.8	6 54.1	Leo	-1.5	5.0	6° W	98	0.35	1.34	05:59	12:26	18:52
	22	12 01.3	1 25.3	Vir	-1.7	4.8	2° E	100	0.39	1.39	06:38	12:46	18:52
	29	12 45.5	-4 02.4	Vir	-1.0	4.8	6° E	98	0.43	1.41	07:14	13:02	18:49
Venus	1	13 22.1	-12 06.5	Vir	-4.4	29.6	45° E	40	0.73	0.57	10:09	15:27	20:44
	8	13 41.8	-14 56.2	Vir	-4.4	32.6	44° E	36	0.73	0.52	10:12	15:19	20:25
	15	13 58.9	-17 26.7	Vir	-4.5	36.2	42° E	31	0.73	0.47	10:11	15:08	20:04
	22	14 12.5	-19 32.3	Vir	-4.5	40.5	39° E	25	0.73	0.42	10:05	14:53	19:41
	29	14 21.3	-21 05.4	Vir	-4.5	45.4	35° E	19	0.73	0.37	09:52	14:34	19:15
Mars	1	20 08.6	-25 57.4	Cap	-2.1	20.9	140° E	94	1.38	0.45	17:50	22:10	02:30
	8	20 11.4	-25 24.1	Cap	-1.9	19.6	134° E	93	1.38	0.48	17:23	21:46	02:09
	15	20 16.9	-24 41.4	Cap	-1.7	18.4	129° E	91	1.38	0.51	16:58	21:24	01:50
	22	20 24.6	-23 50.2	Cap	-1.6	17.2	124° E	90	1.38	0.54	16:34	21:04	01:35
	29	20 34.3	-22 51.2	Cap	-1.4	16.1	119° E	89	1.38	0.58	16:12	20:47	01:22
1 Ceres	1	12 03.9	7 48.3	Vir	8.7	0.4	21° E	100	2.59	3.51	07:37	14:08	20:37
	8	12 15.2	6 27.2	Vir	8.7	0.4	17° E	100	2.59	3.53	07:26	13:51	20:16
	15	12 26.6	5 06.3	Vir	8.6	0.3	14° E	100	2.59	3.56	07:15	13:35	19:55
	22	12 38.0	3 46.1	Vir	8.6	0.3	11° E	100	2.59	3.57	07:03	13:19	19:34
	29	12 49.4	2 26.7	Vir	8.5	0.3	8° E	100	2.60	3.58	06:52	13:03	19:13
Jupiter	1	14 59.8	-16 08.5	Lib	-1.8	34.7	69° E	99	5.38	5.67	12:00	17:02	22:05
	8	15 03.8	-16 26.6	Lib	-1.7	34.1	63° E	99	5.38	5.77	11:38	16:39	21:40
	15	15 08.2	-16 45.9	Lib	-1.7	33.6	57° E	99	5.38	5.86	11:16	16:16	21:15
	22	15 12.9	-17 06.1	Lib	-1.7	33.1	52° E	99	5.38	5.94	10:54	15:53	20:51
	29	15 18.0	-17 26.8	Lib	-1.7	32.7	46° E	100	5.38	6.02	10:33	15:30	20:27
Saturn	1	18 11.1	-22 41.6	Sgr	0.4	17.2	114° E	100	10.06	9.61	15:38	20:13	00:47
	8	18 11.0	-22 42.7	Sgr	0.4	17.0	107° E	100	10.06	9.72	15:10	19:45	00:20
	15	18 11.3	-22 43.6	Sgr	0.4	16.8	100° E	100	10.06	9.83	14:43	19:18	23:52
	22	18 11.9	-22 44.5	Sgr	0.5	16.6	94° E	100	10.06	9.95	14:16	18:51	23:25
	29	18 12.8	-22 45.2	Sgr	0.5	16.5	87° E	100	10.06	10.06	13:50	18:24	22:59
Uranus	1	2 01.3	11 45.4	Ari	5.7	3.7	126° W	100	19.88	19.26	21:20	04:05	10:50
	8	2 00.7	11 42.2	Ari	5.7	3.7	133° W	100	19.88	19.17	20:53	03:37	10:22
	15	2 00.0	11 38.3	Ari	5.7	3.7	140° W	100	19.87	19.09	20:25	03:09	09:54
	22	1 59.2	11 33.8	Ari	5.7	3.7	147° W	100	19.87	19.02	19:52	02:37	09:21
	29	1 58.3	11 28.9	Ari	5.7	3.7	154° W	100	19.87	18.97	19:24	02:08	08:52
Neptune	1	23 07.3	-6 43.6	Aqr	7.8	2.4	173° W	100	29.94	28.94	19:30	01:08	06:46
	8	23 06.6	-6 48.1	Aqr	7.8	2.4	179° E	100	29.94	28.93	19:02	00:40	06:17
	15	23 05.9	-6 52.6	Aqr	7.8	2.4	173° E	100	29.94	28.94	18:34	00:11	05:49
	22	23 05.2	-6 57.0	Aqr	7.8	2.4	166° E	100	29.94	28.97	18:06	23:43	05:20
	29	23 04.5	-7 01.2	Aqr	7.8	2.4	159° E	100	29.94	29.00	17:38	23:15	04:52
Pluto	1	19 22.1	-22 00.5	Sgr	14.3	0.2	130° E	100	33.63	32.97	16:46	21:23	02:01
	8	19 21.7	-22 01.9	Sgr	14.3	0.2	124° E	100	33.64	33.07	16:18	20:55	01:33
	15	19 21.5	-22 03.1	Sgr	14.3	0.2	117° E	100	33.64	33.18	15:50	20:28	01:05
	22	19 21.3	-22 04.2	Sgr	14.3	0.2	110° E	100	33.65	33.29	15:22	20:00	00:37
	29	19 21.2	-22 05.0	Sgr	14.3	0.2	103° E	100	33.65	33.41	14:55	19:32	00:10



Saturn in the Milky Way, with M20 & M8 Trifid & Lagoon
Nebulae in Sagittarius. Photo by Bob Horton.



Comet 21P/Giacobini-Zinner on August
24 by Jim Hendrickson. Prime focus
on 30cm SCT with Canon 70D SLR.

Proposed Changes to Constitution & Bylaws

Constitution

ARTICLE IV: MEMBERSHIP

§2. An applicant for Junior, Regular, Family, and Senior shall submit the standard form of Membership application together with noted dues, shall be proposed by an existing member at a regular meeting, and shall become a member upon receiving a favorable majority vote at a subsequent regular meeting of the Society.

§8. Membership Dues in this Society are as listed within the Membership Application.

Bylaws

ARTICLE I: FISCAL YEAR & DUES

§2. Dues are payable on April 1 for the dues year then beginning. The annual dues shall be set out in the Membership Application (revised annually). Persons applying for membership during the months of April through December pay the above stated annual dues for the current fiscal year (April – March). Persons applying for membership during the months of January through March pay the above stated annual dues, but their membership extends through the next fiscal year. Persons making donations over and above their membership dues shall be called Contributing Members. Four distinguished categories of Contributing Members shall be designated: Sponsors (\$60); Supporters (\$100); Patrons (\$250); and Benefactors (\$500).

ARTICLE II: OFFICERS

§7. The Secretary shall:

1. Take the minutes of all meetings, regular, special, Annual and Board of Directors, and submit a written report to be published in the Skyscraper newsletter.
2. Maintain an accurate, classified list of the membership of the Society. Membership Applications shall be submitted to the Secretary who shall transmit the attached dues to the Treasurer.
3. Notify applicants for membership of their election or rejection.
4. If required by the President, notify all additional officers, chairmen and committees of their appointment.
5. Send all required notices to the membership.
6. In general, conduct the correspondence of the Society.
7. Have custody of the records of the Society.

ORIGINAL

Constitution

ARTICLE IV: MEMBERSHIP

§2. An applicant for Junior, Regular, Family, and Senior shall submit a Membership application together with appropriate dues to the Secretary of the Society. Application for membership and payment of dues may also be done on the Society's website.

§8. Membership Dues in this Society are as listed within the Membership Application and on the Society's website.

Bylaws

ARTICLE I: FISCAL YEAR & DUES

§2. Dues are payable on April 1 for the dues year then beginning. The annual dues shall be as stated in the Membership Application and on the Society's website. Persons applying for membership during the months of April through December pay the above stated annual dues for the current fiscal year (April – March). Persons applying for membership during the months of January through March pay the above stated annual dues, but their membership extends through the next fiscal year. Persons making donations over and above their membership dues shall be called Contributing Members. Four distinguished categories of Contributing Members shall be designated: Sponsors (\$60); Supporters (\$100); Patrons (\$250); and Benefactors (\$500).

ARTICLE II: OFFICERS

§7. The Secretary shall:

1. Take the minutes of all meetings, regular, special, Annual and Board of Directors, and submit a written report to be published in the Skyscraper newsletter.
2. Maintain an accurate, classified list of the membership of the Society. Membership Applications and renewals shall be submitted to the Secretary who shall transmit the attached dues to the Treasurer.
3. Notify applicants for membership of receipt of their application and welcome them into the Society. Introduce new members to the general membership at the next regular meeting they attend.
4. If required by the President, notify all additional officers, chairmen and committees of their appointment.
5. Send all required notices to the membership.
6. In general, conduct the correspondence of the Society.
7. Have custody of the records of the Society.

PROPOSED CHANGES - 06/12/18



AstroAssembly 2018

September 28 & 29

47 Peeptoad Road North Scituate, Rhode Island

A Journey of Exploration

Friday Evening Presentation & Stargazing at Seagrave Observatory

Prof. Peter Schultz, Brown University

"A Career of Exploration: My Backyard and Beyond"

All day Saturday at Seagrave Observatory

Poster Session, Swap Table (please bring your own table), Solar Viewing, Astrophotography Contest, Homemade Telescopes (bring yours!), Famous Astro Bake-off Contest.

Steve Hubbard, Skyscrapers, Inc.

"California Dreaming (About Astronomy that is)"

Peter Scherff

"Meteorites 101: What they are, Where they come from & How we find them"

Saturday Evening Banquet & Program at North Scituate Community House: 546 W Greenville Road

**Jonathan McDowell, Harvard-Smithsonian Center
for Astrophysics**

"Space Junk"

For up-to-date program information, see

<http://www.theSkyscrapers.org/astroassembly2018>



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:** 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 through 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.

_____ Registrations x \$25 each = \$ _____

_____ Registrations (Skyscrapers member) x \$20 each = \$ _____

_____ Registrations (children under 12) Free _____

_____ Banquet Tickets x \$25 each = \$ _____

_____ Banquet Tickets (children under 12) x \$10 each = \$ _____

Total = \$ _____

Name _____

Address _____

Email _____

Send completed form and check (Made payable to Skyscrapers Inc.) to:

Linda Bergemann
41 Ross Hill Road
Charlestown, RI 02813-2605

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.

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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.

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47 Peeptoad Road
North Scituate, Rhode Island 02857