



# The New Syzygy

The Newsletter of the Kern Astronomical Society

number 611

2026

Our regular monthly meeting will be held at

## Round Table Pizza

4200 Gosford Rd, Bakersfield, CA 93313

# September 4

Social Hour @ 6:00p

Meeting @ 7:00p



[facebook.com/groups/syzygy](https://facebook.com/groups/syzygy)



[kernastro.org](http://kernastro.org)



[kernastronomicalsociety@gmail.com](mailto:kernastronomicalsociety@gmail.com)

## CLUB OFFICER NOMINATIONS!

### WE NEED YOU

Our yearly elections are coming up and we need club members to be nominated for club officer positions! Please see the back of this newsletter for details.

### EVENTS

This month's Star Party is going back to our usual Frazier Park site.

[Click here for the map.](#)

September 11-13: Dark Sky Festival. [Click here](#) to get all the details at [SequoiaParksConservancy.org](http://SequoiaParksConservancy.org)



## Rotational Dynamics, Milankovitch Cycles, and Planetary Glaciation

Presented by Rod Guice, KAS Club Member

We live in a Universe where literally every object we see or know of rotates on its own and orbits something else. One of the most counterintuitive outcomes of our Universe is the behavior of rotating objects. This same counterintuitive behavior applies to rotating objects on a planetary, stellar, or galactic scale. As early as 490 BC astronomers recognized that Earth's rotational axis was tilted relative to the ecliptic and that the tilt remained constant throughout Earth's orbit around the Sun. By the mid-19th century, this tilt was understood to cause Earth's seasons. It was also accepted based on observation that massive ice sheets had covered much of Europe during the Pleistocene Epoch.

However, in 1911 Dr. Milutin Milankovitch discovered that Earth's rotation and orbit had three specific irregular characteristics that each occurred over different time periods. He recognized that the irregularities could change the amount of sunlight reaching Earth's surface and might be related to past ice ages. He then made careful and detailed rotational and orbital calculations, estimated their temperature results, ran them back spanning the Pleistocene, and developed a complete astronomical theory of planetary glaciation.

His theory predicted that there had been long periods of glaciation separated by shorter interglacial warm periods. His charts and tables are still in use today. Starting in 1998, a multi-national Ice Core project at Vostok, Antarctica confirmed his work. Earth's irregular rotation and orbit have indeed caused planetary glaciation in repetitive cycles, which has an immense impact on our understanding of the past and what's to come.

## ROD GUICE

Rod Guice is a 50-year practicing Petroleum Engineer who has been fascinated by the night skies from his earliest memories, when he laid out in the grass on summer nights at his childhood home in north Louisiana and marveled at the Stars. After accidentally channel-surfing onto a mid-1980's PBS episode of "Cosmos", by Dr. Carl Sagan, Rod began reading books on Astronomy (Dr. Sagan will always be one of Rod's Heroes)! However, Rod's real Astronomical joyride began one fall evening in 2007 when he was walking across a parking lot into a bookstore and encountered a Star-Party being hosted by the Kern Astronomical Society; the telescopes were everywhere, and the Universe quickly became up-close and personal. He immediately joined the Society! 18 years later, he is a past President, Vice-President, Secretary, and Board Member of the Society.

## UPCOMING SPEAKERS

- |       |                                             |
|-------|---------------------------------------------|
| Oct 2 | Tim Elam<br>Roadside Geology of Kern County |
| Nov 6 | Tom Mason<br>Mt. Wilson Observatory         |
| Dec 4 | CHRISTMAS POTLUCK!                          |

# IN THE SKY

## THINGS TO LOOK FOR IN SEPTEMBER

-  **Sept 6 – Moon near Mars.** Before dawn, in the eastern sky, a waning crescent moon passes close to Mars. A good photo opportunity!
-  **Sept 10 – New Moon.** Dark sky opportunities from Sept 9 – Sept 12 for Milky Way and deep sky observing.
-  **Mid September – Summer finale.** Sagittarius and Scorpius are setting earlier so this is a good “last call” for the Lagoon Nebula, Trifid, M22, Eagle, Swan, and other summer favorites.
-  **Late September – Saturn nears opposition.** Saturn’s actual opposition is Oct. 4, so by late September it’s basically an all-night show and near its best for the year!
-  **SEPTEMBER CHALLENGE** – Neptune is at opposition on September 26. Can you catch it?

Look for more events at the back of this newsletter!



## 2025-26 KERN COUNTY ASTRONOMICAL SOCIETY SCHEDULE

**REMINDER** – Below is a list of our upcoming meetings for the '25-2026 club year. Monthly club meetings will be held at the Round Table Pizza at 4200 Gosford Rd. from 6pm to roughly 9pm. Monthly board member meetings are held the Thursday of the week before the monthly club meeting at 5060 California Ave #600 from 6pm to 7pm. We would like to remind everyone that club members are welcome to join our board meetings!

### BOARD MEETINGS

November 20 \*

December 18 \*

January 29

February 26

March 26

April 23

May 28

June – no meeting

July 30

August 27

September 24

October 24

\* Moved one week early due to holidays

### CLUB MEETINGS

December 5

January 9

February 6

March 6

April 3

May 1

June 5

July – no meeting

August 7

September 4

October 2



**KAS**  
KERNASTRO.ORG

## KAS Information

Since 1956, the Kern County Astronomical Society has promoted community awareness of current events in astronomy and provides a forum for sharing of knowledge and experiences among amateur astronomers. Annual membership is \$35.00 which also provides membership in the Amateur Astronomical League, access to their newsletter (Reflector Magazine), and participation in observational programs.

## Star Parties & Outreach

The Kern County Astronomical Society typically has two Club Star Parties each month depending on the weather. Our Club Parties are held on Saturdays nearest the New Moon. We also host Public Star Parties at various locations around town during April - October. These parties are held on Saturdays nearest the first quarter Moon. In addition, we also host Lunar, Solar, and Planetary viewing for public schools. Requests may be directed to our Star Party Coordinator.

## Club Equipment

The Kern County Astronomical Society has telescopes and accessories (listed below) available for loan to Club Members in good standing. Members are encouraged to borrow the different types of telescopes in stock (especially if you are considering purchasing one). Trying out different sizes and types of telescopes can help you make an informed decision about purchases. If you have a Club telescope in your possession, you will be expected to participate in at least one public star party.

- **6" f/6, 8" f/6, 10" f/5.6, 13" f/4.5 Dobsonian Telescopes**
- **Parks Jovian 90**
- **3½" f/13 Maksukov-Cassegrain**
- **4" f/15 Unitron Refractor**
- **8" Solar Filter**
- **Assorted Eyepieces**

# The Evening Sky Map

FREE\* EACH MONTH FOR YOU TO EXPLORE, LEARN & ENJOY THE NIGHT SKY

## Sky Calendar – September 2026



Follow us on Bluesky  
skymaps.com/bsky/

- 2 **Venus** 1.5° SSW of Spica at 1h UT (evening sky). Mags. -4.5 and 1.0.
- 3 **Moon** near the Pleiades at 13h UT (morning sky).
- 4 **Last Quarter Moon** at 7:51 UT.
- 5 **Moon** near M35 Cluster at 20h UT (morning sky).
- 6 **Moon** near Mars at 20h UT (morning sky). Mag. 1.2.
- 6 **Moon** at perigee (closest to Earth) at 20:44 UT (distance 368,259km; angular size 32.4').
- 7 **Moon** near Castor at 1h UT (morning sky).
- 7 **Moon** near Pollux at 6h UT (morning sky).
- 8 **Moon** near Beehive Cluster (M44) at 7h UT (morning sky).
- 8 **Moon** near Jupiter at 20h UT (morning sky). Mag. -1.8.
- 9 **Moon** near Regulus at 21h UT (morning sky).
- 11 **New Moon** at 3:26 UT. Start of lunation 1283.
- 13 **Moon** near Spica at 20h UT (evening sky).
- 14 **Moon** near Venus at 12h UT (evening sky). Mag. -4.5.
- 17 **Moon** near Antares at 14h UT (evening sky).
- 18 **First Quarter Moon** at 20:43 UT.
- 18 **Venus** shows greatest illuminated extent (318 square arc-seconds) at 23h UT. Mag. -4.5.
- 19 **Moon** at apogee (farthest from Earth) at 3h UT (distance 404,221km; angular size 29.6').
- 22 **Venus** at its brightest at 18h UT (37.2° from Sun, evening sky). Mag. -4.56.
- 23 **September equinox** at 00:07 UT. The time when the Sun reaches the point along the ecliptic where it crosses into the southern celestial hemisphere marking the start of autumn in the Northern Hemisphere and spring in the Southern Hemisphere.
- 26 **Mercury** 0.9° NNE of Spica at 9h UT (21° from Sun, evening sky). Mags. -0.1 and 1.0.
- 26 **Full Moon** at 16:49 UT.
- 27 **Moon** near Saturn at 7h UT (midnight sky). Mag. 0.3.
- 30 **Moon** near the Pleiades at 19h UT (morning sky).

More sky events and links at <http://Skymaps.com/skycalendar/>

All times in Universal Time (UT). (USA Eastern Summer Time = UT - 4 hours.)



★ Support The Evening Sky Map ★

• Helping curious minds to explore the night sky since January 2000 •  
Recommended Products for Sky Watchers: [skymaps.com/store/](http://skymaps.com/store/)  
All sales support the production of this free resource. Thank you.

## NORTHERN HEMISPHERE SEPTEMBER 2026

SKY MAP SHOWS HOW  
THE NIGHT SKY LOOKS

EARLY SEPT 9 PM

LATE SEPT 8 PM

(Add 1 Hour For Daylight Saving)

SKY MAP DRAWN FOR

A LATITUDE OF 40°

NORTH AND IS

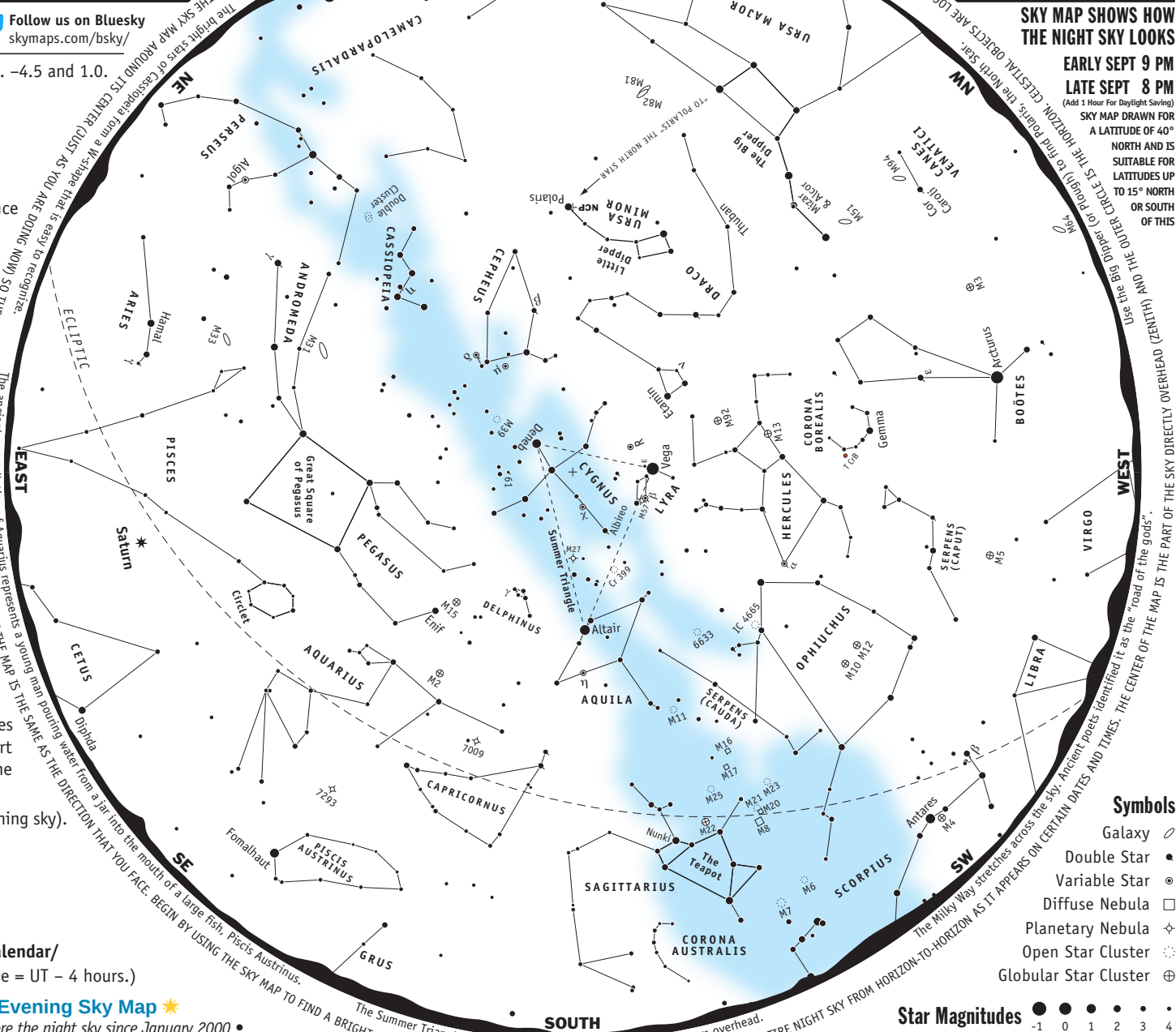
SUITABLE FOR

LATITUDES UP

TO 15° NORTH

OR SOUTH

OF THIS



### Symbols

Galaxy ○

Double Star ●

Variable Star ⊙

Diffuse Nebula □

Planetary Nebula ◇

Open Star Cluster ○

Globular Star Cluster ⊕

Star Magnitudes ● ● ● ● ● ● ● ● ● ●  
-1 0 1 2 3 4

Copyright © 2000–2026 Kym Thalassoudis. All Rights Reserved.

\* TERMS OF USE: FREE FOR NON-COMMERCIAL EDUCATIONAL USE. ASTRONOMY EDUCATION GROUPS  
MAY FREELY DISTRIBUTE PRINTED HANDOUTS. FULL DETAILS AT <http://Skymaps.com/terms.html>

## About the Celestial Objects

Listed on this page are several of the brighter, more interesting celestial objects visible in the evening sky this month (refer to the monthly sky map). The objects are grouped into three categories. Those that can be easily seen with the naked eye (that is, without optical aid), those easily seen with binoculars, and those requiring a telescope to be appreciated. **Note, all of the objects (except single stars) will appear more impressive when viewed through a telescope or very large binoculars.** They are grouped in this way to highlight objects that can be seen using the optical equipment that may be available to the star gazer.

## Tips for Observing the Night Sky

When observing the night sky, and in particular deep-sky objects such as star clusters, nebulae, and galaxies, it's always best to observe from a dark location. Avoid direct light from street lights and other sources. If possible observe from a dark location away from the light pollution that surrounds many of today's large cities.

You will see more stars after your eyes adapt to the darkness—usually about 10 to 20 minutes after you go outside. Also, if you need to use a torch to view the sky map, cover the light bulb with red cellophane. This will preserve your dark vision.

Finally, even though the Moon is one of the most stunning objects to view through a telescope, its light is so bright that it brightens the sky and makes many of the fainter objects very difficult to see. So try to observe the evening sky on moonless nights around either New Moon or Last Quarter.

## Astronomical Glossary

- Conjunction** – An alignment of two celestial bodies such that they present the least angular separation as viewed from Earth.
- Constellation** – A defined area of the sky containing a star pattern.
- Diffuse Nebula** – A cloud of gas illuminated by nearby stars.
- Double Star** – Two stars that appear close to each other in the sky; either linked by gravity so that they orbit each other (binary star) or lying at different distances from Earth (optical double). Apparent separation of stars is given in seconds of arc (").
- Ecliptic** – The path of the Sun's center on the celestial sphere as seen from Earth.
- Elongation** – The angular separation of two celestial bodies. For Mercury and Venus the greatest elongation occurs when they are at their most angular distance from the Sun as viewed from Earth.
- Galaxy** – A mass of up to several billion stars held together by gravity.
- Globular Star Cluster** – A ball-shaped group of several thousand old stars.
- Light Year (ly)** – The distance a beam of light travels at 300,000 km/sec in one year.
- Magnitude** – The brightness of a celestial object as it appears in the sky.
- Open Star Cluster** – A group of tens or hundreds of relatively young stars.
- Opposition** – When a celestial body is opposite the Sun in the sky.
- Planetary Nebula** – The remnants of a shell of gas blown off by a star.
- Universal Time (UT)** – A time system used by astronomers. Also known as Greenwich Mean Time. USA Eastern Standard Time (for example, New York) is 5 hours behind UT.
- Variable Star** – A star that changes brightness over a period of time.

NORTHERN HEMISPHERE  
SEPTEMBER 2026

CELESTIAL OBJECTS

Sky maps.com

## Easily Seen with the Naked Eye

- |            |     |                                                                                              |
|------------|-----|----------------------------------------------------------------------------------------------|
| Altair     | Aql | • Brightest star in Aquila. Name means "the flying eagle". Dist=16.7 ly.                     |
| Capella    | Aur | • The 6th brightest star. Appears yellowish in color. Spectroscopic binary. Dist=42 ly.      |
| Arcturus   | Boo | • Orange, giant K star. Name means "bear watcher". Dist=36.7 ly.                             |
| δ Cephei   | Cep | • Cepheid prototype. Mag varies between 3.5 & 4.4 over 5.366 days. Mag 6 companion.          |
| Deneb      | Cyg | • Brightest star in Cygnus. One of the greatest known supergiants. Dist=1,400±200 ly.        |
| α Herculis | Her | • Semi-regular variable. Magnitude varies between 3.1 & 3.9 over 90 days. Mag 5.4 companion. |
| Vega       | Lyr | • The 5th brightest star in the sky. A blue-white star. Dist=25.0 ly.                        |
| Algol      | Per | • Famous eclipsing binary star. Magnitude varies between 2.1 & 3.4 over 2.867 days.          |
| Fomalhaut  | PsA | • Brightest star in Piscis Austrinus. In Arabic the "fish's mouth". Dist=25 ly.              |
| Antares    | Sco | • Red, supergiant star. Name means "rival of Mars". Dist=135.9 ly.                           |
| Polaris    | UMi | • The North Pole Star. A telescope reveals an unrelated mag 8 companion star. Dist=433 ly.   |

## Easily Seen with Binoculars

- |                |     |                                                                                              |
|----------------|-----|----------------------------------------------------------------------------------------------|
| M31            | And | • The Andromeda Galaxy. Most distant object visible to naked eye. Dist=2.93 million ly.      |
| M2             | Aqr | • Resembles a fuzzy star in binoculars.                                                      |
| η Aquilae      | Aql | • Bright Cepheid variable. Mag varies between 3.6 & 4.5 over 7.166 days. Dist=1,200 ly.      |
| M3             | Cvn | • Easy to find in binoculars. Might be glimpsed with the naked eye.                          |
| μ Cephei       | Cep | • Herschel's Garnet Star. One of the reddest stars. Mag 3.4 to 5.1 over 730 days.            |
| χ Cygni        | Cyg | • Long period pulsating red giant. Magnitude varies between 3.3 & 14.2 over 407 days.        |
| M39            | Cyg | • May be visible to the naked eye under good conditions. Dist=900 ly.                        |
| ν Draconis     | Dra | • Wide pair of white stars. One of the finest binocular pairs in the sky. Dist=100 ly.       |
| M13            | Her | • Best globular in northern skies. Discovered by Halley in 1714. Dist=23,000 ly.             |
| M92            | Her | • Fainter and smaller than M13. Use a telescope to resolve its stars.                        |
| ε Lyrae        | Lyr | • Famous Double Double. Binoculars show a double star. High power reveals each a double.     |
| R Lyrae        | Lyr | • Semi-regular variable. Magnitude varies between 3.9 & 5.0 over 46.0 days.                  |
| M10            | Oph | • 3 degrees from the fainter M12. Both may be glimpsed in binoculars. Dist=14,000 ly.        |
| IC 4665        | Oph | • Large, scattered open cluster. Visible with binoculars.                                    |
| 6633           | Oph | • Scattered open cluster. Visible with binoculars.                                           |
| M15            | Peg | • Only globular known to contain a planetary nebula (Mag 14, d=1"). Dist=30,000 ly.          |
| Double Cluster | Per | • Double Cluster in Perseus. NGC 869 & 884. Excellent in binoculars. Dist=7,300 ly.          |
| M8             | Sgr | • Lagoon Nebula. Bright nebula bisected by a dark lane. Dist=5,200 ly.                       |
| M25            | Sgr | • Bright cluster located about 6 deg N of "teapot's" lid. Dist=1,900 ly.                     |
| M22            | Sgr | • A spectacular globular star cluster. Telescope will show stars. Dist=10,000 ly.            |
| M6             | Sco | • Butterfly Cluster. 30+ stars in 7x binoculars. Dist=1,960 ly.                              |
| M7             | Sco | • Superb open cluster. Visible to the naked eye. Age=260 million years. Dist=780 ly.         |
| Mizar & Alcor  | UMa | • Good eyesight or binoculars reveals 2 stars. Not a binary. Mizar has a mag 4 companion.    |
| Cr 399         | Vul | • Coathanger asterism or "Brocchi's Cluster". Not a true star cluster. Dist=218 to 1,140 ly. |

## Telescopic Objects

- |               |     |                                                                                               |
|---------------|-----|-----------------------------------------------------------------------------------------------|
| γ Andromedae  | And | • Attractive double star. Bright orange star with mag 5 blue companion. Sep=9.8".             |
| 7009          | Aqr | • Saturn Nebula. Requires 8-inch telescope to see Saturn-like appendages.                     |
| 7293          | Aqr | • Helix Nebula. Spans nearly 1/4 deg. Requires dark sky. Dist=300 ly.                         |
| γ Arietis     | Ari | • Impressive looking double blue-white star. Visible in a small telescope. Sep=7.8".          |
| ε Boötis      | Boo | • Red giant star (mag 2.5) with a blue-green mag 4.9 companion. Sep=2.8". Difficult to split. |
| M51           | Cvn | • Whirlpool Galaxy. First recognised to have spiral structure. Dist=25 million ly.            |
| η Cassiopeiae | Cas | • Yellow star mag 3.4 & orange star mag 7.5. Dist=19 ly. Orbit=480 years. Sep=12".            |
| Albireo       | Cyg | • Beautiful double star. Contrasting colours of orange and blue-green. Sep=34.4".             |
| 61 Cygni      | Cyg | • Attractive double star. Mags 5.2 & 6.1 orange dwarfs. Dist=11.4 ly. Sep=28.4".              |
| γ Delphini    | Del | • Appear yellow & white. Mags 4.3 & 5.2. Dist=100 ly. Struve 2725 double in same field.       |
| β Lyrae       | Lyr | • Eclipsing binary. Mag varies between 3.3 & 4.3 over 12.940 days. Fainter mag 7.2 blue star. |
| M57           | Lyr | • Ring Nebula. Magnificent object. Smoke-ring shape. Dist=4,100 ly.                           |
| M20           | Sgr | • Trifid Nebula. A telescope shows 3 dust lanes trisecting nebula. Dist=5,200 ly.             |
| M17           | Sgr | • Omega Nebula. Contains the star cluster NGC 6618. Dist=4,900 ly.                            |
| M11           | Sct | • Wild Duck Cluster. Resembles a globular through binoculars. V-shaped. Dist=5,600 ly.        |
| M16           | Ser | • Eagle Nebula. Requires a telescope of large aperture. Dist=8,150 ly.                        |
| M33           | Tri | • Fine face-on spiral galaxy. Requires a large aperture telescope. Dist=2.3 million ly.       |
| M27           | Vul | • Dumbbell Nebula. Large, twin-lobed shape. Most spectacular planetary. Dist=975 ly.          |

Hello, fellow KAS members,

Please plan on attending our September club meeting for club officer nominations. This year, we are holding our nominations in September and holding the elections in October.

All five positions are open for nominations every year. They are:

1. President
2. Vice-President
3. Treasurer
4. Secretary
5. Star Party/Events Coordinator

Self-nominations are perfectly acceptable, and those in the current roles of President, Vice-President, and Treasurer have self-nominated to continue to serve the club.

### **BUT WE STILL NEED YOU!**

The roles of **Secretary** and **Star Party/Events Coordinator** need nominations from you, our members!

If you are interested in serving as either the Secretary or Events Coordinator, please reach out to our President Scott Herrick at [sherrick@nexstar.tv](mailto:sherrick@nexstar.tv), our Vice President Diane Franco at [dianef02@yahoo.com](mailto:dianef02@yahoo.com)

Or, plan on raising your hand at the meeting! We'd love to hear from you!

As per the club's by-laws (Article 1, sections 1-6), below are the positions and duties of our officers:

#### **President – Scott Herrick, self-nominated**

The President shall preside at all meetings of the Society and Board of Directors and shall perform all such duties incidental and properly required of the office. The President shall appoint two Directors at Large.

#### **Vice President – Diane Franco, self-nominated**

The Vice President shall, in the absence of the President, exercise all functions of the President and shall exercise all of the powers and duties of that office. The Vice President shall assist the President in coordinating programs for the regular meetings and shall assist the Star Party/Events Coordinator with field trips.

**Secretary – OPEN**

The Secretary shall keep records, submit notices, and make reports to the members and Board of Directors, and perform such duties as are incidental to the office. The Secretary must assist the Treasurer in record keeping of the KAS membership list updated by administering sign in sheets at all meetings.

**Treasurer – Cathy Jones, self-nominated**

The Treasurer shall have charge of the funds of the Society, shall conduct banking business and the Treasurer shall keep a record of all earmarked donations. The Treasurer must hold an official updated membership list, and report on a yearly basis to the U.S. Astronomical League. The Treasurer shall also pay the annual expenses of the Society.

**Star Party/Events Coordinator – OPEN**

The Star Party/Events Coordinator shall arrange and coordinate the astronomical events of the Society including membership outings, public outreach events, and educational events such as for schools and special groups with the consent of the Board of Directors and/or general membership.