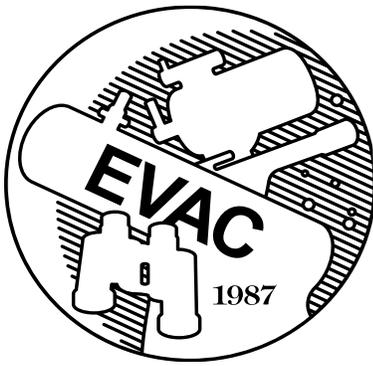


# THE OBSERVER

VOLUME 36 ISSUE 10



The Horsehead Nebula in Infrared from Hubble (APOD 09/21/2022)  
Image Credit: NASA, ESA, Hubble; Processing: [Alexandra Nachman](#)

## From the Desk of the President by Claude Haynes

October – this is the month we have all been looking forward to for months. A month that is cool, calm and clear; well usually. With the “unusual weather we’re havin’ ain’t it” quote from Bert Lahr, it is hard to tell what normal weather is nowadays.

Lots of fun things this month. We start with Astronomy Day on Saturday, October 1. The observatory will be open from 9 – 2 for solar viewing. We will also have volunteers downtown at the AZ Science Center that Sunday. Come, stare at the Sun.

Our school and community activities are picking up. If you have a telescope, we set up on the athletic field (or their closest to dark spot) and kids get to look through the eyepiece – sometimes for their first time. The same is true for parents and their siblings who are with them. You don’t have to be an expert on all things in the sky. We only look at bright objects, and unless you run into the 11 year old majoring in astrophysics the questions are easy to answer and the impact is HUGE. Contact Alexandra Nachman at [events@evaonline.org](mailto:events@evaonline.org) if you are interested in volunteering.

## UPCOMING EVENTS:

The October 21st EVAC Meeting will be held both online via Zoom and in person at the Gilbert Library. The speaker will be Brooks Scofield.

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# From the Desk of the President

by Claude Haynes

*Continued from page 1*

We are also happy to announce the return of the All Arizona Star Party, with some minor changes. The site is the Antennas field off Hovatter Rd (see web site for map). The old airfield site was transferred to La Paz county, and we don't have legal access. The event is one day, Saturday October 22. Our club meeting is the night before, so we hope to see you there and then the following night at the star party. We will have a raffle and dinner. See the announcement on page 6 of this newsletter.

The meeting on Friday, October 21 will feature a presentation by Brooks Scofield on a new meteorite display for the observatory. We will also have a presentation by a

local Gold Canyon group working on a dark sky initiative for Pinal and northern Pima county.

Finally – we need you! Officer elections are in November. We are looking for individuals who will volunteer to help move the club forward. All positions are available for individuals to run for office. Please contact me at [president@evaconline.org](mailto:president@evaconline.org) if you are interested. Please see the information on page 5 for more information.

Stay cool – keep looking up.

Your President  
Claude Haynes

## EVAC Zoom Meeting Notes for 2022 September 16th, at 07:30 P.M. AZ Time

by Club Secretary Gordon Rosner

Greetings from your club Secretary.

We continue normal club operations with in-person monthly meetings with a Zoom simulcast. For this month's meeting we had 27 physically in attendance.

First, and again, the standard monthly stuff for you first time readers. For those who are regular readers, you can skip this paragraph. The following are my notes from our 16 September General Membership Meeting. All our monthly meetings are recorded and are available to watch via links in our club's website and on our YouTube Channel 'EVAC Meetings'. If you missed this meeting, or want to watch again, you can watch the recording online. My notes published here are only a summary and certainly do not replace watching the actual video presentation. Hopefully I will provide just enough to spark a drive for our members and potential members to watch the recording.

On with this meeting's notes.

As is now customary, the meeting started at 7:30PM with a 15 minute social gathering for in-person attendees. Water, ice, and cookies were provided. At 7:45PM club President Claude Haynes welcomed those in attendance and our Zoom viewers. He then recognized our new visitors in the audience and showed a list of current club officers. He then described our upcoming club officer election process starting in our November General Membership Meeting.

Our club Outreach Administrator, Alex Nachman, then gave a summary of upcoming outreach events. Contact her if you want to volunteer for any of them.

Claude then introduced club member Tony George who presented "Discovering a Moon of Polymele". Polymele is a Trojan Asteroid roughly 17 miles across that was predicted to cross in front of a star resulting in the star "blinking out" for a very short moment. Tony is a member of a group of amateur astronomers who measure and document these "occultations" that enable the combined data to calculate the size and shape of asteroids. Being deeply involved in these, Tony traveled to Salina, KS with his 12" Meade Schmidt-Cassegrain telescope, supporting equipment and software that all fit in his small SUV and set up for the occultation. Tony was successful at capturing the occultation but with all his equipment still running, it notices another "blinking out" of the star six seconds later! Tony checked and re-checked his equipment and all data showed accurate and all was working well. What was that? It turned out to be a moon of the asteroid 125 miles away from Polymele! Everyone should watch Tony's presentation as it shows how there are still discoveries being made by amateur astronomers like us. Thanks, Tony.

Claude then described the club's upcoming "Beginning Telescope Class" created by club member James Yoder. He then gave an update on the club's GRCO observatory operations and on the efforts to revise the All Arizona Star Party hopefully to be held on 22 October. However, he is

# EVAC Zoom Meeting Notes for 2022 September 16th, at 07:30 P.M. AZ Time by Club Secretary Gordon Rosner

*Continued from page 2*

still waiting on BLM approval to use the Antenna Site. Stay tuned for any updates via club media.

Claude then introduced Kevin Schindler for our main presentation. Kevin is the Lowell Observatory Historian and Public Information Officer. His presentation was titled "The View From Mars Hill". No, this was not about images from a Mars rover on top of some hill on Mars. Mars Hill is the earthly location of the Lowell Observatory near Flagstaff, AZ. Kevin gave an excellent history lesson on Lowell which started way back in 1894. He then described the research activities Lowell is involved in such as details of NASA's DART mission which is humanities' first planetary defense mission. Lowell is heavily involved in Dark Sky data gathering and the issues involved with so many orbiting communication satellites. Kevin showed a fascinating video of the 14' mirror surfacing of the Lowell Discovery Telescope, formally known as the Discovery Channel Telescope. Kevin then went into the many educational activities Lowell is involved in such as the Giovale Open Deck Observatory and the current construction of a new visitor center and its capabilities such as an open-air planetarium.

## EVAC Outreach Events by Alexandra Nachman

We have an exciting event coming up on October 17th at the Southeast Regional Library for adults! This event is a presentation all about stars and their lives. Once the presentation is over, the Observatory will be open for viewing. You can register for the event here: [Library Event](#). Registration opens October 3, 2022.

We are also looking for volunteers. We do many amazing and fun outreach events throughout the year at various locations. If you have a telescope and would like to share the night sky, we often host private star parties for schools and other businesses. If you want to share astronomy through presentations or fun activities, we would be more than happy to have you help out! If you are interested in volunteering to help out EVAC, please send an email to our Events Coordinator Alexandra, at [events@evaonline.org](mailto:events@evaonline.org) or sign up for our Event Outreach List: <http://www.freelists.org/list/evac-outreach>.

Kevin then went into a fascinating presentation of Pluto discoverer Clyde Tombaugh's homemade from farm parts telescope that Lowell purchased in an auction. This historical telescope will be on display at Lowell in a few weeks.

This is a must see presentation for those planning a visit to Lowell and also for those who already have, to get caught up on this well known observatory and astronomy education facility. Thanks, Kevin for this presentation on an Arizona astronomy jewel.

Claude thanked our presenters and those in attendance and those on Zoom and reminded everyone that the next meeting will again be in-person and simulcast on Zoom on 21 October opening at 7:30PM. The meeting will again be at the library. Claude closed the meeting at 9:11PM.

Gordon Rosner  
EVAC Secretary

**FIRST QUARTER MOON ON OCTOBER 2 AT 17:14**

**FULL MOON ON OCTOBER 9 AT 13:54**

**LAST QUARTER MOON ON OCTOBER 17 AT 10:15**

**NEW MOON ON OCTOBER 25 AT 03:48**

# The Backyard Astronomer

by Bill Dellinges

## Autumn Goodies for Binoculars

Anytime of the year there will be objects in the night sky best seen with binoculars - autumn is no exception. In theory, every stargazer knows the value of these wonderful instruments for their ability to scoop up large chunks of sky, assist in tracking down elusive targets or comet viewing. But what do you see at star parties? Observers peering into telescopes with one eye. Not a binocular in sight. For shame. These poor souls are doomed to view astronomical objects in a relatively restricted field of view of perhaps only a degree or two at best. And with only one eye! Millions of years of evolution have provided us with two eyes and it's with two eyes that the brain wants to receive information to best produce images. A two eyed view of anything is far superior to that of one eye. When Hans Lippershey invented the telescope in 1608 and tried selling it to his government, the first thing they said after noting it was a pretty cool device, was, "Any chance you can make one these with two eyepieces?" [Stargazer, the Life and Times of the Telescope, P.61. Fred Watson, 2004].

You can try using a binoviewer but they produce even smaller fields. So dust off those binoculars and let's put them to work. They're probably photon starved. One more thing, while you can hand hold binoculars up to powers of about 10x, you'll get much more enjoyment out of them if they're tripod mounted (even at their lower powers). I will use 8x50 and 10x70's to peruse the larger autumn splendors on display these evenings. These mid-sized binoculars are popular and likely to be owned by many amateur astronomers. Let us begin our journey.

**M31, the Andromeda Galaxy:** M31 is our nearest major galactic neighbor about 2.5 million light years away. It can be seen with the naked eye in a dark sky as a small hazy blob in the constellation of Andromeda. Its elongated form covers about 3 degrees of sky. Some wide field scopes can accommodate this monster but most telescopes can't. So the 7 degree field of the Swarovski 8x50 renders a nice overall view. They do not pick out M32 and NGC 205, M31's two satellite galaxies. But the Fujinon 10x70's did, and the galaxy appeared a bit brighter (as you'd expect). This time of year M31 is overhead so you'll need to view it either lying on a lawn chair or by tilting your tripod mounted binoculars way back on two legs as you view straight up - an old trick of the trade

**Perseus OB Association (Mel 20):** Looking towards the northeast midway between the horizon and zenith is Perseus, the Hero. For reference, it's a wishbone shaped string of stars between Cassiopea and the Pleiades. Just under its brightest star, Mirphak, the naked eye perceives a slightly illuminated area. Closer examination with any sized binocular will reveal a lovely large open star cluster with about fifty members. Some of its brightest stars form a serpentine shape or gooseneck like affair. While the wider field of the 8x50's took them all in and then some, I found the 5.18 degree field of the 10x70's did a better job - they still got all the stars in and the image was brighter. Thus, I recommend 10x70's on this splash of diamonds. Amazingly, many amateurs are unaware of this beauty that rivals the Pleiades. Speaking of which...

**M45, the Pleiades:** With the possible exception of a total solar eclipse or possibly the half moon at 50x in a quality refractor, I believe the Pleiades in 10x70 binoculars is the most spectacular sight to behold in the night sky. It never fails to leave even non-astronomically inclined folks flabbergasted with its stunning beauty. This open star cluster in Taurus is comprised of about a hundred stars 380 light years away. These young stars, about 70 million years old, represent the shoulder of the Bull and occupy about 1.5 degrees of sky. Most telescopes have difficulty fitting the cluster into their limited field. While some scopes might be able to squeeze most of M45 in their field at low power, you want more than that to fully appreciate the cluster. For any open star cluster, it's desirable to have a little extra space around the cluster to frame or define it for esthetic purposes. A general rule of thumb is to observe deep sky objects at the highest power that still allows the object to be framed reasonably in your field. Thus I found M45 most appealing with the 10x70's. They gave more magnification and light gathering power than the 8x50's, yet still left plenty of room around this stellar grouping and the binoculars field stop. Both binoculars split the dainty 8th magnitude double star, S 437 Taurii (39.4"), in the middle of the "bowl" of M45 (if you think of the Pleiades as a miniature "Little Dipper").

**The Hyades in Taurus:** The "V" shaped pattern of stars representing Taurus' face is actually an open star cluster about 120 light years away, making it the closest star cluster to us (excepting the Ursa Major Moving Cluster - mainly the five central stars of the Big Dipper - not much

# The Backyard Astronomer

by Bill Dellinges

of a cluster!). The Hyades is huge, requiring the 8x50's 7 degree field to contain all of its stars. As mentioned above, a little extra framing space is nice, so I broke out my 7x42, eight degree binoculars to give the grouping some breathing space. That did the trick. So for this object, you'll want to use a binocular with an eight to ten degree field. The Hyades' lucida is Aldebaran, a magnitude 0.86 orange giant forty times the Sun's diameter and not a member of the cluster but a foreground star 67 light years distant. Check out the neat little arrangement of stars just west of Aldebaran, a unique looking triangle of three wide double stars. Adding 75 Taurii north of them, I create an asterism I call "Little Cepheus", a likeness to that constellation.

**The Double Cluster, NGC 869 and 884, in Perseus:** The Double Cluster is a glorious deep sky object for stargazers. It doesn't hurt that the clusters are also imbedded in the Milky Way, adding myriad other stars to the stellar panoply. No doubt the best view is in a telescope where its large aperture can pull in light from thousands of stars. But you'll need at least one degree of field to see both clusters - two degrees is better. If you can't swing that, revert to your binoculars. As the clusters are some 7000 light years away and a tad dim for smaller binoculars, I

prefer my 20x100's on this object with their 2.5 degree field and light gathering power. The 8x50's render a beautiful view of this region, but the superior aperture of the 10x70's produces brighter star images while their 5.18 degree field is more than enough to encompass the clusters. Follow a string of 5th magnitude stars running about two degrees north from the Double Cluster to Stock 2, a large sparse open star cluster. The 8x50's can get all three in its 7 degree field. This area is a stellar wonderland where one can get joyfully lost.

**32 Camelopardalis:** Our last object is a double star directly south of Polaris this time of the year. At other times you can find it by drawing a line between Polaris and Beta Ursa Majoris, the brightest star in the Bowl of the Little Dipper. A little less than halfway along this line from Polaris (7 degrees) and away from the Dipper, look for a 6th magnitude star. It's the brightest star along this path. The double is comprised of white 5.3 and 5.8 magnitude stars 21.5" apart. The 8x50's barely resolved the pair. 10x70's made the chore easier. I called for backup. My 15x70's left no doubt about its duality. This equal magnitude binary gives the impression of cat's eyes looking back at you from a dark alley. The feline's eyes are 290 light years down that alley.

## EVAC 2023 Elections

We Need You!

Election of officers will be held at the November meeting. Please email Claude at [president@evaonline.org](mailto:president@evaonline.org) if you are interested or have any questions. A slate of nominees will be posted in the November Observer. Nominations will also be accepted during the meeting. There are three positions open on the Board of Directors and the following officer positions are available:

- President
- Vice-president
- Secretary
- Treasurer

The board meets monthly to discuss club business. Duties of the officers and board are listed in section I (line 178) of the Constitution and Bylaws, which can be found at the bottom of the About page on the EVAC website.

# Deep Sky Imaging Target Highlights for October

by James Yoder

The average low [temperatures](#) for October in the Phoenix metro area is 65° F. October 25<sup>th</sup> is a new moon with Astronomical dusk at 7:06pm and Astronomical dawn at 5:17am, giving us 10:11 hours of imaging time.

In this months list there are over 114 object/configuration combinations provided of just about every class of deep sky object including 5 Globulars, 16 Open Clusters, 12 Planetary Nebulas, 49 Nebula and 7 Dark Nebula, 26 Galaxies/ Galaxy Clusters.

The [Prospective Imaging Objects guide](#) (PDF download) covers objects that reach their highest point in the sky and cross the meridian (aka Transit) sometime between Astronomical Dusk to Dawn. We will be highlighting objects that transit roughly between 10pm and 2am. This ensures maximum imaging time over the month.

Happy Hunting!

## Some Highlighted Targets for August

Configuration	Page	Object	Type	ImageLink
<b>Hyperstar</b>	25	NGC-457 (Firefox nebula and Owl Cluster)	Diffuse Nebula	<a href="#">387 min</a>
<b>Hyperstar</b>	22	NGC-288, NGC-253	Globular and Galaxy	<a href="#">105 min</a>
<b>Focal Reducer</b>	31	IC-1805 (Heart Nebula Core)	Nebula	<a href="#">145 min</a>
<b>Focal Reducer</b>	31	M-77, NGC-1055	Galaxies	<a href="#">205 min</a>
<b>Primary Focus</b>	28	M-76 (Little Dumbell Nebula)	Planetary Nebula	<a href="#">240 min</a>
<b>Primary Focus</b>	22	NGC-247 (Needle's Eye Galaxy)	Galaxy	<a href="#">280 min</a>

Resources:

- [ArtCentrics.com](#) – [October Potential Targets Guide](#) (PDF download)
- [Telescopius](#) – Lookup objects, plan imaging session.
- [Field of View Calculator](#) – Test Different Telescope, camera & eyepiece combinations.
- [Astrometry.net](#) – Solve images captured by your system. Get image RA/DEC, pixel scale, image size, orientation of the image you have taken.

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## Announcing the [All Arizona Star Party\\*](#)

Date: October 22, 2022

Location: Antenna Site off Hovatter Rd

4:30pm – Temperance Union Happy Hour

5:00pm – Raffle (\$1 or \$5 for 6)

5:30pm - Dinner ( still only \$5)

Sunset is 5:44PM.

Please park on the outer edge of the observing field if you will be leaving early.

\*(Click on link. Select menu item EVENTS+MEETINGS/MEMBER STAR PARTY)

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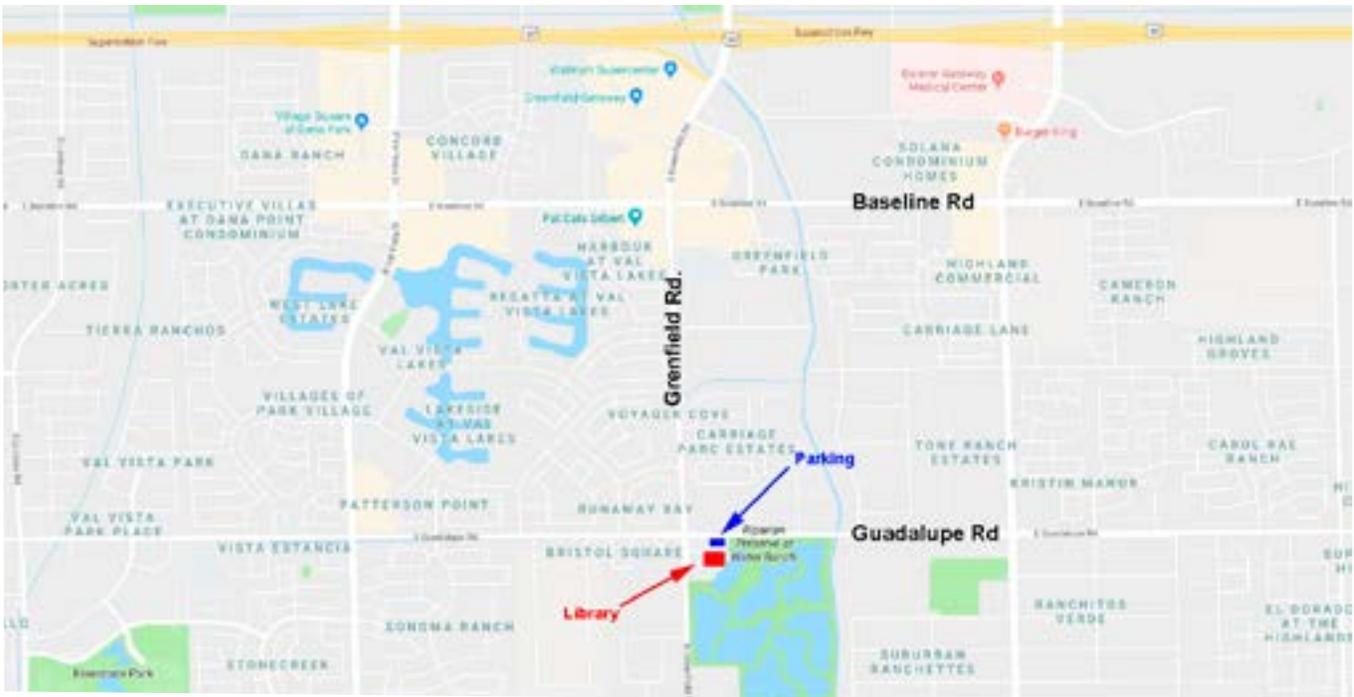
Monthly Meetings will be held in person and also presented live online using Zoom. See the EVAC Website for updates. All other events are on hold until health concerns are resolved.

The monthly general meeting is your chance to find out what other club members are up to, learn about upcoming club events and listen to presentations by professional and well-known amateur astronomers.

**Our normal in-person monthly meetings have resumed. Also, the meetings will continue to be available online via Zoom.**

Our meetings are held on the third Friday of each month at the Southeast Regional Library in Gilbert. The library is located at 775 N. Greenfield Road; on the southeast corner of Greenfield and Guadalupe Roads. Meetings begin at 7:30 pm.

***Visitors are always welcome!***



**Southeast Regional Library  
775 N. Greenfield Road  
Gilbert, Az. 85234**



## Find Out What's Happening – Join EVAC-Announce List

If you would like to receive email announcements about EVAC meetings and activities, please join the EVAC–Announce mailing list. Click on the link below to subscribe. Enter your full email address in the box titled User Options and press OK. You will receive a confirmation email. Your privacy is respected by EVAC and we will never sell your email address, or use it for non-club relevant solicitations. This mailing list is designed for communication from EVAC, and does not enable users to respond to the message. If you wish to contact club officers, please use the list in the Contact-Us area on the Home page of our EVAC website. To subscribe to the EVAC–Announce mail group click: <http://www.freelists.org/list/evac-announce>. To unsubscribe use the same link, enter your email address and select Unsubscribe from the “Choose An Action” list. Another list to consider is AZ-Observing@groups.io, simply click on this link <https://groups.io/g/AZ-Observing> and follow the instructions on the page. EVAC also has a Facebook Group where members may share ideas, photos, and Astronomy related information. To join: [EVAC Facebook Group](#).

The Gilbert Rotary Centennial Observatory (GRCO) also has a Facebook Group where members may share ideas, photos, and Astronomy related information. To visit, please click on [Gilbert Rotary Centennial Observatory - GRCO](#).

Gilbert Rotary Centennial Observatory is open on Friday and Saturday from sunset until 9:30pm. We need volunteers. Training is provided. Help us engage the community in the wonders of the night sky. Email [grco@evaonline.org](mailto:grco@evaonline.org) for information.

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### **American Association of Variable Star Observers (AAVSO)**

111th Annual Meeting & Workshop

November 4 – 7

Omni Tucson National Resort – Tucson

Visit [AAVSO.ORG](http://AAVSO.ORG) for more information and registration.

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### **Sign up for our new Introductory Telescope Class**

#### Course Summary

East Valley Astronomy Club (EVAC) is offering an introductory class targeted to persons who are considering purchasing a telescope, or who have a telescope and would like to learn how to use it. The class covers topics such as the different types of telescopes, telescope mounts, accessories and considerations for purchasing a telescope. It also covers the basic concepts useful for amateur astronomers including:

- What to expect from your telescope when viewing objects.
- Understanding the night sky.
- Planning an observing session.
- Techniques used for locating objects.

Classes will be held via ZOOM on Monday evenings and will be recorded. Labs are hands-on and involve utilization of a small telescope (Bring your own, or one will be supplied). The intent of the labs is to ensure students are comfortable with using a telescope and to teach basic techniques used to locate and view various objects. Labs will be scheduled for Friday evenings. In the event of poor weather, Saturday evening will be the fallback lab day followed by Sunday evening as a last resort. Course size will be limited and will be closed once limit have been reached.

# Introductory Telescope Class

## Course Materials

The following documents have been developed for this class. Feel free to download and review them. They are PDF format. Please note that these documents will likely be updated again before the class.

- [Class Material](#)
- [Lab Workbook](#)

## Course Details

- 5 Zoom Classes and 5 hands-on Labs
- \$10 for EVAC Members
- \$25 for EVAC non-members
- Ages 15 and up
- Class size will be limited to 10-15 students based on resources available (IE volunteers & available telescopes)

## Course Schedule

- Weekly ZOOM Class
  - + 5 recorded classes, 90 minutes each
  - + Mondays 7pm – 8:30pm
    - First Class 10/17
    - Last Class 11/14
- Weekly Labs: 5 Labs(Gilbert Rotary Central Observatory)
  - + 5 Labs, 2 hours each
  - + Saturdays 6:30pm – 8:30pm
  - + In the event of clouds on Saturday, we will meet: Sunday 5:30pm
    - First Lab 10/22
    - Last Lab 11/19

## Student Information

The following information will be required from each student for registration:

- Name
- Contact Information
  - + Email Address
  - + Contact Phone Number
- Do you have a telescope you plan on bringing to the labs?
- If you are bringing a telescope would you be willing to share it with a fellow classmate during a lab?

## Contact Information

For more information feel free to email **James Yoder** at [jtyrep2020@ArtCentrics.com](mailto:jtyrep2020@ArtCentrics.com).



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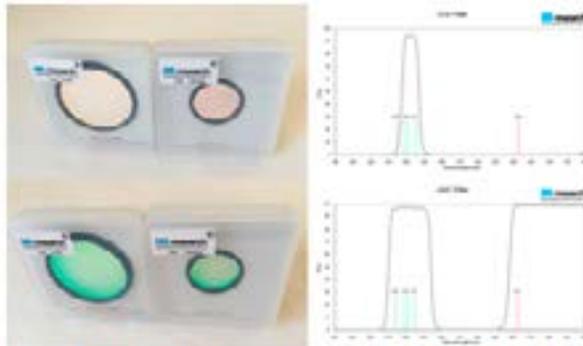
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## OCTOBER 2022

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	<b>14</b>	15
16	17	18	19	20	<b>21</b>	22
23	24	25	26	27	28	29
30	31					

**October 14** - EVAC 2nd Friday Star Party at the Riparian Preserve.

**October 21** - EVAC Monthly Meeting Online via Zoom and in Person at the Gilbert Library.

## NOVEMBER 2022

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	<b>11</b>	12
13	14	15	16	17	<b>18</b>	19
20	21	22	23	24	25	26
27	28	29	30			

**November 11** - EVAC EVAC 2nd Friday Star Party at the Riparian Preserve.

**November 18** - EVAC Monthly Meeting Online via Zoom and in Person at the Gilbert Library.

## East Valley Astronomy Club – 2022 Membership Form.

**IMPORTANT: All memberships expire on December 31 of each year**

**New Member Dues** ( select according to the month you are joining the club)

	Individual	Family
January - June	\$30.00	\$35.00
July - December (Renew in January)	\$15.00	\$20.00

**Education Membership** (18 yr+ with ID)

January - June	\$20.00
July - December (Renew in January)	\$10.00

**Renewal** (current members only):

\$30.00 Individual       \$35.00 Family

Astronomical League: \$7.50 Annually:

**Name Badges:**

Quantity: \_\_\_\_\_

\$10.00 Each

Name to imprint: \_\_\_\_\_

**Total amount enclosed:**

Please make check or money order payable to EVAC  
Payment will be made using PayPal

Name:

Phone:

Address:

Email:

City  
State  
Zip

URL  
For website

Would you be interested in our outreach program?      Yes       No

How did you discover East Valley Astronomy Club?

### Liability Release Form

In consideration of attending any publicized Star Party hosted by the East Valley Astronomy Club (hereinafter referred to as "EVAC"), the receipt and sufficiency of which is hereby acknowledged, I hereby affirm that I and any related entities, predecessors, successors, affiliates, attorneys, guarantors, insurers, transferees, assigns, parents, spouses, children, subsidiaries, accountants, officers, directors, employees, agents, shareholders, members, and trustees, past and present, hereby forever release, acquit and discharge to hold EVAC and its related entities, predecessors, successors, affiliates, attorneys, guarantors, insurers, transferees, assigns, parents, spouses, subsidiaries, accountants, officers, directors, employees, agents, shareholders, members, and trustees, past and present, from any and all causes of action, claims, losses, damages, liabilities, expenses (including attorneys' fees) and demands of any nature whatsoever, known or unknown, that in any way relate to, arise out of, or concern EVAC and/or my presence on the premises of any EVAC Star Party and related areas, whether or not those causes of action, claims, damages, liabilities, and demands are part of the specific subject matter of EVAC or any EVAC Star Party. This release is intended to and does cover all injuries and damages, and the consequences thereof, whether known or unknown at the time of the execution of this release, which have occurred or may hereafter occur or which may hereafter be discovered, and which may have been caused or may be claimed to have been caused by the said incident, and specifically includes, but is not limited to, bodily injuries, mental and emotional injury, pain and suffering, medical treatments, and loss of earnings or income.

My signature upon this form also indicates agreement and acceptance on behalf of all minor children (under 18 years of age) under my care in attendance. EVAC only recognizes those who are members or invitees and who also have a signed Liability Release Form on file as participants at an EVAC Star Party.

Signature \_\_\_\_\_

Date \_\_\_\_\_

*The Observer is the official publication of the East Valley Astronomy Club. It is published monthly and made available electronically as an Adobe PDF document the first week of the month. Please send your contributions, tips, suggestions and comments to the Editor at: [news@evaonline.org](mailto:news@evaonline.org). Contributions may be edited. The views and opinions expressed in this newsletter do not necessarily represent those of the East Valley Astronomy Club, the publisher or editor.*

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[www.evaonline.org](http://www.evaonline.org)

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Mesa, Az. 85214-2202

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*Vice President: Open*

*Secretary: Gordon Rosner*

*Treasurer: Alexandra Nachman*

*Board Members at Large: David Coshow,  
Jon Koester, Bill Peters, Brooks Scofield,  
& Derek Youngson*

*Events Coordinator: Alexandra Nachman*

*Property Director: James Yoder*

*Refreshments: Open*

*Observing Program Coordinator: Wayne  
Thomas*

*AL Representative: Brooks Scofield*

*Newsletter Editor: Marty Pieczonka*

*Webmaster: Marty Pieczonka*

*SkyWatch Coordinator: Claude Haynes*

*Observatory Manager: Claude Haynes*