

# THE OBSERVER



Rubin's Galaxy (APOD 09/18/2021)

Image Credit: NASA, ESA, B. Holwerda University of Louisville

## UPCOMING EVENTS:

*The September 16th EVAC Meeting will be held both online via Zoom and in person at the Gilbert Library. The speaker will be Kevin Schindler of Lowell Observatory.*

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## From the Desk of the President by Claude Haynes

"Oh it's a long, long while from May 'till December. And the days grow short when you reach September". Sing along to the Maxwell Anderson poem, set to music by Kurt Weill. Or you could boogie to Earth, Wind and Fire's hit (vastly different lyrics and tempo). The nights are getting longer, and hopefully better conditions for observing. On the last Saturday of August, we caught our first nighttime glimpse of Jupiter at GRCO. It was a little low and shimmering, but fun to see after the clouds cleared.

There is lots to see and do at EVAC. The GRCO 2nd Friday Star Party

was clouded out, but we had a few folks at the lecture, and it was fun to add one more thing back to our regular events. Alex is getting requests for school star parties and public events this fall. Let her know if you are interested in providing a telescope at [eventscoordinator@evaonline.org](mailto:eventscoordinator@evaonline.org). These parties are greatly appreciated by those who attend and are a great way to share our knowledge and passion for astronomy.

We will be doing solar viewing on Astronomy Day. The date is Saturday, October 1. You might think about holding your own private

# From the Desk of the President

by Claude Haynes

*Continued from page 1*

gathering in your neighborhood. I often pull a scope out of the garage and set it up in the driveway. It isn't a great observing site, but with cooler weather people walking by have fun looking at the Moon or a planet – a great way to meet your neighbors. You could even throw a party – be sure to play Earth, Wind and Fire. Weill is a bit of a downer.

Our guest speaker for the September meeting is Kevin Schindler, who is the Historian of Lowell Observatory. They are constructing a new visitor's center and the Giova-

le Open Deck Observatory contains numerous telescopes for public viewing. It will be a great chance to learn about the fun things available in Flagstaff. We also have a member presentation by Tony George on his participation in a great research project.

"These precious days I'll spend with you" – Keep looking up!

Your President  
Claude Haynes

## EVAC Zoom Meeting Notes for 2022 August 19th, 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 33 physically in attendance and 28 on Zoom.

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 19 August 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.

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 three new visitors in the audience and gave a GRCO update that unfortunately was slim because of our monsoon season weather. He mentioned to check our Facebook page prior to going to the observatory to check opening status due to weather conditions. He then gave a summary of upcoming outreach events.

Claude presented the proposed club dues revision to those members in attendance for a vote of their approval. The revision did not change the yearly dues rate, but simplified the mid-year joining rate and included a discount for teachers and students. The revision was unanimously approved by those members in attendance. Claude then gave an update of the meteorite display in work.

James Yoder, our club's Property Administrator, presented his work in developing a beginning telescope class. It was very detailed with sessions outlined and hands-on lab activities. James will continue to work on this with the goal of having a final class available for those interested.

Claude then introduced EVAC club member Steve Bradshaw for his member presentation titled 'Lagrange Points: Parking Lots in Space'. This was very timely as we all heard that the James Webb Space Telescope is in one of the four Lagrange Points that's almost a million miles from earth. But what is a Lagrange Point? Where are they and why? What is so special about them? Steve did a fantastic job of explaining all this. He started by saying these are not really points, but actually areas with objects in them having 'Halo' orbits. Although some call those orbits stable, they actually need some form of occasional small propulsion to remain in the orbits. Steve then explained what those orbits actually are using three body orbital mechanics math and Barycenter calculations to explain why they exist. MATH... OH NO! But Steve explained that very well breaking down the math problems in easily understood terms that had everyone glued to the slides and made all of us feel a little like a rocket scientist. Steve then gave

# EVAC Zoom Meeting Notes for 2022 August 19th, at 07:30 P.M. AZ Time

by Club Secretary Gordon Rosner

*Continued from page 2*

examples of satellites currently in the Lagrange Points and answered questions from the audience.

I personally must say this was an excellent presentation that simplified a complicated subject and everyone who did not see it should watch it online in our club's website or on YouTube. The James Webb Space Telescope will be making many new discoveries and understanding a Lagrange Point further supports understanding the science of this amazing instrument. Claude then said "Happy Birthday to Voyager" as the space probes turned 45.

Claude then introduced EVAC member Don Wrigley giving this month's main presentation titled 'My Favorite Places to Look at on the Moon and Why'. Don started with facts about the Moon which included that we actually see 59% of the surface of the Moon throughout the month due to 'Librations in Longitude and Latitude'. Don't know what those are? Then you must review this presentation as just one of the many fascinating facts about the Moon that Don presented. Don then went on to give a tour of the Moon with fascinating pictures and explanations of such things as maria, rilles, square craters, the Lunar X, scarps, mountain ranges, collapsed lava tubes, crater 'twins', craters within craters, and many more features of the Moon that captured the audience. Don gave us a grand tour of prominent craters stating their names, the origins of their

names, their types, sizes, and how they were formed. Just as we use 'Star Hopping' to find objects in the night sky, Don showed us how 'Crater Hopping' can help us locate the Moon's features. Don explained the 'Lunar 100 Observing Guide' and how we can use that to do our own tour of the Moon. He ended the presentation with some books available for further study and answered audience questions.

We all have some knowledge of the Moon and how it most likely was the first object we wondered about and caused that initial spark in astronomy. Don's presentation dived deep and showed just how fascinating the Moon is and can be. Don most certainly gave the audience a new appreciation and that it is not just a "Cold Hearted Orb That Rules the Night".

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 16 September opening at 7:30PM. The meeting will again be at the library. Claude closed the meeting at 9:32PM.

Gordon Rosner  
EVAC Secretary

## EVAC Outreach Events

by Alexandra Nachman

We are slowly gaining traction with outreach events! We have two upcoming in October that anyone can join, or help with! The first is on October 1, 2022. This will be hosting a booth at the Arizona Science Center. For those who are interested in helping, please contact [eventscoordinator@evaonline.org](mailto:eventscoordinator@evaonline.org).

For those just looking to attend, there will be three days for the AZ Science Center fair. Details have not been solidified, but as more information becomes available, we will keep you posted! The second event is on October 17, 2022. This will be a presentation at the Southeast Regional Library all about stars. This program is for adults only and will include an awesome discussion all about

stars and their amazing lives with a chance to visit the observatory afterwards! Both of these events are still in the planning stages. More information will be released as it comes out.

If you have any interest in volunteering with EVAC, there are many opportunities! You can give presentations, help out with events such as hosting a booth or assisting with a star party, bring a telescope to an event and share the night sky, work with a school and their event, and so much more! If you are interested in volunteering or have questions and want to know more, please email [eventscoordinator@evaonline.org](mailto:eventscoordinator@evaonline.org)!

# The Backyard Astronomer

by Bill Dellinges

## A New Catalog of Stellar Rich-fields for Binocular Users (Part 1)

In the course of observing the night sky over too many decades, I have occasionally run into really impressive star fields with binoculars. Most have no official designation such as NGC (New General Catalog), IC (Index Catalog I and II), Cr (Collinder), St (Stock), etc. I think some stargazers may be spending too much time looking for the farthest thing out there or seeing how much power they can use on Saturn (not that there's anything wrong with that!). But in doing so, they can miss the big picture, namely the beautiful wide fields of stars available around their small high-power fields of view.

To see them at their best you'll need to abandon your telescope and arm yourself with a binocular with the widest possible field of view, because the areas featured in this series are LARGE. For me, this means using my Nikon Monarch HG 8x42 yielding an 8.3 degree field of view. I also prefer to use them mounted on a tripod. This vastly enhances the viewing experience (except when the object is overhead – in that case, hand hold the binocular and view the region from a lawn chair or catch your target rising or setting). If you own an electronically stabilized binocular, you can disregard the tripod recommendation.

With all this in mind, may I be so bold as to introduce the Dellinges Catalog of Rich Stellar Fields (A work in progress). Requirements: 1) A binocular with a generous field of view. 2) The stellar fields in question must not already be claimed with a catalog name/number. For each object I will note the RA and DEC of the object's approximate center and the chart numbers from three popular star atlases as references for the appropriate constellations. In the interest of brevity, Part One here will feature only three objects due to the space taken up by the above introduction.

Dellinges 1 (Henceforth, Del 1, Del 2, etc.): **Del 1:** (RA 19h DEC -5 degrees) My personal Bracelet with a Chain asterism in the tail of Aquila and northeast Scutum (RA 19 h DEC -5 degrees). For many years I used Lambda and 12 Aquilae, its "tail stars" which point to M-11, to find that star cluster. Then I noticed if you included 8, 14, 15 Aquilae, M-11, Eta and Beta Scuti, I saw what looked to me as an oval bracelet with a break in its north side. Additionally, something else caught my eye. At the 4 o'clock position of the Bracelet there's a cute string of faint six 6<sup>th</sup> and

7<sup>th</sup> magnitude stars running southwestward from it. I call them the "Chain." The entire asterism is about 7 degrees in diameter. When you include the background Milky Way stars, this vista is quite pleasing in my Nikon 8x42, which nicely frames the scene. Ever since I discovered my "Bracelet", I can't help but see it in every Milky Way panorama image I see. It just jumps out at me. I can't not see it! This kind of phenomenon is called pareidolia – another example is why some people see the Lady in the Moon and others don't (I can't not see her either!). Reference: Sky Atlas 2000 Chart 16, Bright Star Atlas 2000 Chart 7 and S&T Pocket Sky Atlas Chart 67.

**Del 2:** (RA20h 20m DEC +40 degrees) The star field surrounding Sadr, the center star in the asterism of the Northern Cross (Cygnus the Swan) is truly amazing. With Sadr centered in your field, you'll see a carpet of thousands of fainter Milky Way stars around it. Take a minute to think about how each dot you're looking at is a Sun in its own right. Feeling insignificant?

There's a popular saying currently in TV and movie dramas, "Follow the money." There's a nice bonus awaiting you if you're in no hurry and feeling adventurous. I say follow the stars! Move one binocular field southeast (you're now sliding along the Cross's axis, away from Sadr). Notice on the west side of the axis, there is a clump of bright foreground stars (Cygni 15, 19, 22, 25, 27, 28 and Eta Cygni) superimposed against myriad background Milky Way stars. Groovy! But wait, there's more. I got greedy and kept following stars south through two more binocular fields including stars 12 through 25 Vulpeculae, terminating at the small constellation Sagitta, the Arrow. Sagitta's stars are relatively bright compared to what we've seen since leaving Sadr in Cygnus. Whew, what a ride. You may have noticed M27 and M71, two small nebulous spots in that last field. Note: My Del 2 is only the first stop we made at Sadr. The subsequent three fields on to Sagitta are gravy. Reference: Sky Atlas 2000 Chart 8, Bright Star Atlas 2000 Chart 8 and Pocket Sky Atlas Chart 62, 64.

**Del 3:** (20h 50m DEC +45 degrees) This stunning splash of stellar gems is only seven degrees northwest of Del 2, our previous stop. We just need to get Deneb in our field, so slide one binocular field up the Cross's axis from Sadr. Once you have Deneb centered in your field, move it to the western edge the field and you will be greeted to a binocular field full of stars much brighter than what you saw in Del 2. This gaggle of luminaries is akin to a very

# The Backyard Astronomer

by Bill Dellinges

*Continued from page 4*

sparse, bright open star cluster. Now purists may say, hey, wait a minute, you're looking at NGC 7000, the North American Nebula! Well, yes, but these stars are foreground stars and NGC 7000 is a BNe type nebula much more distant than the stars you're observing. Anyway, unless you have very dark skies, your eyes probably won't detect NGC 7000's gaseous nature. Reference: Sky Atlas

2000 Chart 9, Bright Star Atlas 2000 Chart 8 and Pocket Sky Atlas Chart 62.

I hope you enjoy looking at these objects and I look forward to finding more for my fellow stargazers. It's a dirty job, but somebody's got to do it.

## Deep Sky Imaging Target Highlights for September

by James Yoder

The average low [temperatures](#) for September in the Phoenix metro area is 77° F. September 25<sup>th</sup> is a new moon with Astronomical dusk at 7:42pm and Astronomical dawn at 4:55am, giving us 9:13 hours of imaging time.

In this months list there are over 107 object/configuration combinations provided of just about every class of deep sky object including 11 Globulars, 11 Open Clusters, 12 Planetary Nebulas, 40 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
Hyperstar	28	NGC-7822	Diffuse Nebula	<a href="#">105 min</a>
Hyperstar	25	Lobster Claw and Bubble Nebula (SH2157)	Diffuse Nebula	<a href="#">258 min</a>
Focal Reducer	33	NGC-246, 255, PGC-2689	2 Galaxies, Planetary	<a href="#">190 min</a>
Focal Reducer	35	Packman Nebula (NGC-281)	Diffuse Nebula	<a href="#">Image</a>
Primary Focus	20	Cocoon Nebula	Nebula	<a href="#">Image</a>
Primary Focus	25	NGC-147	Dwarf Galaxy	<a href="#">170 min</a>

Resources:

- [ArtCentrics.com](#) – [September 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.

## 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.

### Superstition Mountain Astronomical League

Public Viewing Opportunities at Lost Dutchman State Park:

- Saturday, October 1
- Saturday, October 29
- Saturday, November 26

Contact Bill Shaheen at [SuperMtnAstro@gmail.com](mailto:SuperMtnAstro@gmail.com) if you are interested in participating.

### 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 basic concepts useful for amateur astronomers including what to expect from your telescope, appropriate objects for viewing, understanding the night sky, planning an observing session and 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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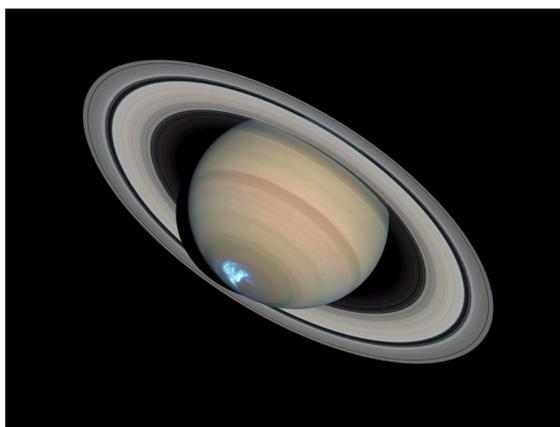
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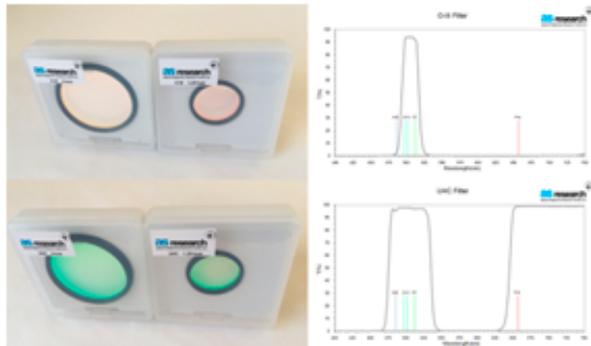
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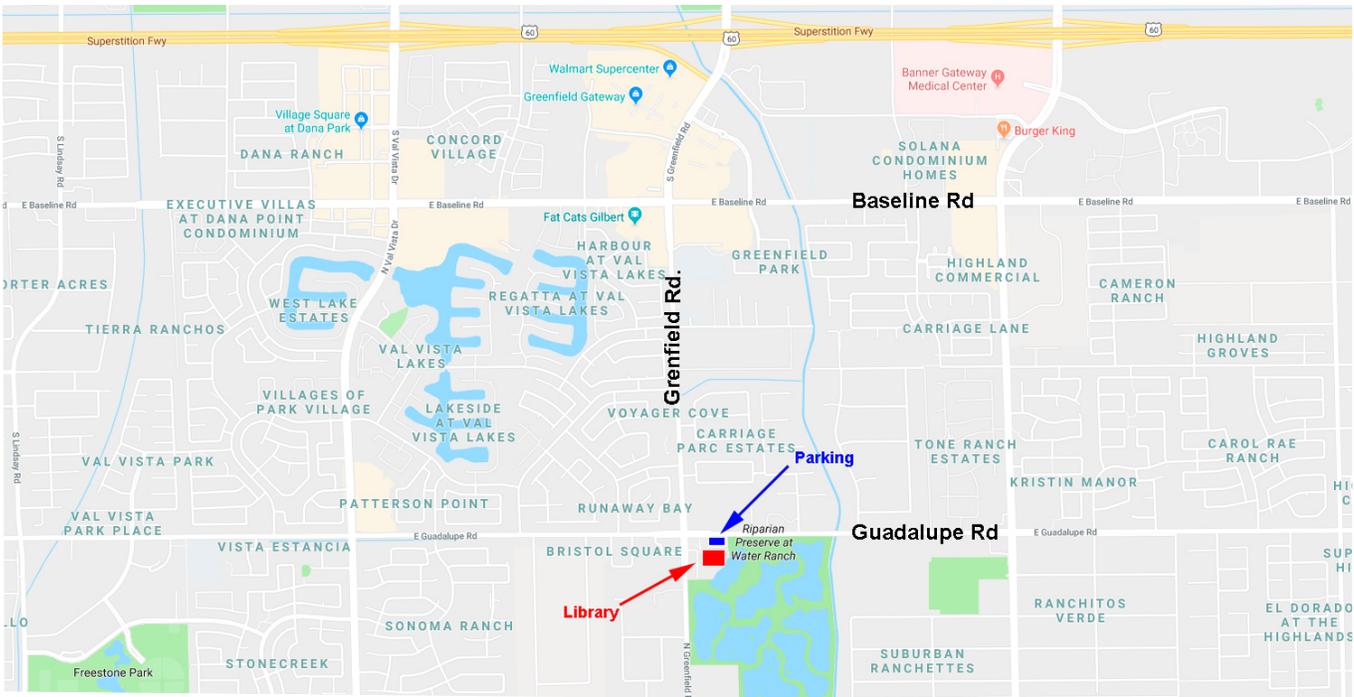
Monthly Meetings will be held in person and also presented live online using Zoom. See the EVAC Website for updates. All other events are on hold until health concerns are resolved.

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**



# SEPTEMBER 2022

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

**September 9** - EVAC Public Star Party

**September 16** - EVAC Monthly Meeting Online via Zoom and in Person at the Gilbert Library.

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 Public Star Party

**October 21** - 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	<b>\$30.00</b>	<b>\$35.00</b>
July - December (Renew in January)	<b>\$15.00</b>	<b>\$20.00</b>

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

January - June	<b>\$20.00</b>	
July - December (Renew in January)	<b>\$10.00</b>	

**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 \_\_\_\_\_

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

East Valley Astronomy Club  
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*President: Claude Haynes*

*Vice President: Open*

*Secretary: Gordon Rosner*

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Thomas*

*AL Representative: Brooks Scofield*

*Newsletter Editor: Marty Pieczonka*

*Webmaster: Marty Pieczonka*

*SkyWatch Coordinator: Claude Haynes*

*Observatory Manager: Claude Haynes*

**FIRST QUARTER MOON ON SEPTEMBER 3 AT 11:07**

**FULL MOON ON SEPTEMBER 10 AT 02:59**

**LAST QUARTER MOON ON SEPTEMBER 14 AT 14:52**

**NEW MOON ON SEPTEMBER 25 AT 14:54**