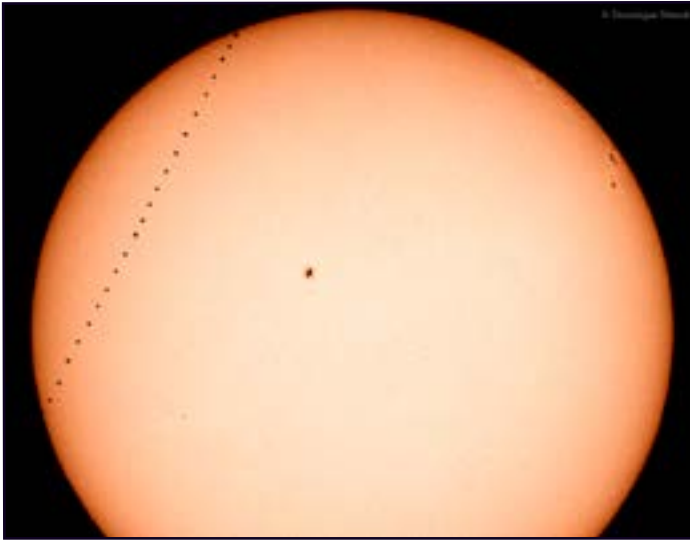


# THE OBSERVER



A Mercury Transit Sequence  
Image Credit & Copyright: Dominique Dierick

## UPCOMING EVENTS:

- EVAC Public Star Party - November 8*
  - EVAC Meeting - November 15*
  - EVAC Star Party - November 16*
  - Evac Star Party - November 23*
- Check out all of the upcoming club events in the Calendars on page 11.*

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## From the Desk of the President by Tom Mozdzen

The highlight of the month is the long awaited modernized EVAC website [www.evaconline.org](http://www.evaconline.org). Many thanks to Marty and Heather who led the effort and several EVAC members who gave guidance and assisted the movement of data from the old site to the new site. Please check it out, I'm sure you will enjoy the experience.

The All Arizona Star Party was another successful outing. The weather was nearly perfect with mild temperatures and very little wind. We had 60 or so for dinner on Saturday night, and a very healthy interest in our raffle items. There were some

first-timers and there were some people we hadn't seen in years, and it was enjoyable chatting with them all. Our farthest visitor came all the way from Germany for his very first star party. It will be hard to top the 2019 AASP.

On November 11th, a Monday and the Veteran's Day holiday, Mercury will transit the Sun. The Observatory will be open from 7 am to 10 am. The transit will be in progress at sunrise. Come by for a visit if you'd like a view of the transit.

The November trip to the Mirror Lab at the University of Arizona takes place on November 8th and the trip

# From the Desk of the President

*Continued from page 1*

has been sold out to capacity. Look for future notices from Ken Milward regarding the next trip in the Spring and sign up before that one sells out.

Elections: We need to fill several positions: President, Vice President, Secretary, and 3 Board member at large positions. We still need someone to run for Vice President – that position has no names beside it. The other positions have at least one person on the slate, but the VP position needs someone to raise their hand to help out the Club. This job is made more easy since Arizona has an abundance of potential speakers; both the SAC and EVAC sites show past speakers who may be candidates to do future presentations.

We will hold our annual Christmas Party in place of our December Monthly Meeting and it will be on Thursday

December 19th. We will hold it at our usual meeting room. Contact Janet Evelyn at [janpog48@gmail.com](mailto:janpog48@gmail.com) if you are able to provide support. She did a wonderful job organizing it last year and this year will be just as good if not better.

Our November speaker will be Dr. Alan Strauss who is the Director of the Mt. Lemmon SkyCenter and UA Sky School. He will give a presentation about the Richard F. Caris Mirror Lab as well as information on the current research, education and outreach taking place at the Mount Lemmon Observatory and SkyCenter.

See you at the November meeting,

Tom Mozdzen

## EVAC General Meeting Notes for October 2019 by Martin Pieczonka

The October meeting was attended by about 80 people. After guest and officer/board introductions, it was announced that EVAC will be needing to fill three offices and three Board positions in 2020. The three offices are President, Vice President, and Secretary. Please contact any of the officers if you are interested in offering your services. Tom displayed the url of the club's redesigned Web site and announced that it will go live on October 27th.

Gilbert Riparian Centennial Observatory manager Claude Haynes gave a status report on the observatory. Please take a look at the GRCO Facebook page (<https://www.facebook.com/pg/GilbertRiparianPreserve/about/>),

and "Like" it. Claude also talked about the All-Arizona Star Party and announced that GRCO would be open for the November 11, transit of Mercury. Events Coordinator Ken Milward spoke about the upcoming school star parties and the planned EVAC/SAC trip to Tucson to visit the Mirror Lab and both telescope shops. He did a raffle for those in the audience who had name badges.

After the break, the main speaker of the night was Dr. Dennis Zaritsky a Professor in the Department of Astronomy at the University of Arizona in Tucson, and the Deputy Director of the Steward Observatory. Dr. Zaritsky's talk covered the design, current status and planned science of the Giant Magellan Telescope.

**FIRST QUARTER MOON ON NOVEMBER 4 AT 05:23**

**FULL MOON ON NOVEMBER 12 AT 08:34**

**LAST QUARTER MOON ON NOVEMBER 19 AT 16:11**

**NEW MOON ON NOVEMBER 26 AT 10:06**

# The Backyard Astronomer

by Bill Dellinges (November 2019)

## Whoa! Moments

As amateur astronomers, it's fun to share the wonderful objects we see in our telescopes with the public. It might be part of an outreach event with an astronomy club or a solo act in a National Park or on a city street corner.

Wherever we are, we're going to get lots of questions. How far away is it? What's it made of? How long have you been doing this? How much does that telescope cost? I'm usually ready for most questions like that, but one night I was asked a question that caught me by surprise – What's the most impressive thing you've ever seen? Yikes. I didn't see that one coming. After I thought about it for a few seconds, the first thing that came to mind was the 1991 total solar eclipse in Mexico. Six minutes of totality in clear weather. Hard to beat that.

So what other experiences knocked my socks off over the years? Here are a few adventures that were extra special to me.

1955: Accidentally finding Saturn in my 4" reflector. I didn't know the sky that well or where the planets were and was just panning around when a bright object shot by in the eyepiece. I thought whoa, what was that? I swung the scope back to it and wow, that's Saturn!! And I can see the ring! A year or so later I wrote Lick Observatory for tickets to their public Friday night observing program (much to the surprise of my parents). I saw Saturn in the 36" refractor – to this impressionable youngster it looked as big as a basketball!

Mid 1980's: I was observing through my telescope on Mount Hamilton below Lick Observatory, a favorite dark sky observing site of mine. All of a sudden it became daylight. At the moment, my eye was on the eyepiece. I immediately thought - meteor! I quickly looked up to see a huge fireball as bright as the Sun racing downward from the sky. Then it was over in seconds. To this day it was brightest meteor I've ever seen.

April 3, 1989: At a dark sky site, I found the quasar 3C273 with my non Go To C-14 telescope using the star hopping method alone. While this 12.8 magnitude dot 2 billion light years away is not that terribly exciting, the challenge in finding it was.

March-April 1986: My wife and I were on a two week Halley's Comet tour to Australia. The comet wasn't all that great but I had brought along a C-5 telescope which gave me a chance to observe the southern skies for the first time. I was able to see most of those famous southern deep sky objects and learn a bunch of down under constellations. To top things off, the tour leader of our busload of comet seekers was astronomy popularizer Patrick Moore (1923 – 2012). So yes, that was definitely what you'd call an astronomical highlight for a backyard stargazer.

1977 - 1990: A visit to the Mauna Kea Observatories at 14,000 feet on the Big Island of Hawaii had been high on my list of astronomical adventures. It took four tries, but I made it. 1977: My rental car couldn't make it up the mountain - Strike one. 1980: Lumicon's Jack Marling had an ad in the San Jose Astronomical Association newsletter desiring an assistant to help him do astrophotography with a 24" telescope at a Mauna Kea Observatory. When I called him, he told me he had found someone for the job - Strike two. 1983: I usually attended the Astronomical Society of the Pacific summer meetings back then. That year it would be on the Big Island of Hawaii and there would be a tour to Mauna Kea Observatory! Oh, perfect! Finally, I was going to conquer Mauna Kea. The flight, hotel and car were booked. Then disaster. The night before the flight I felt a pain in my right side. It intensified and I checked into the E.R. where, at 3:00 a.m., I was diagnosed with appendicitis. I had to cancel the trip and was operated on later that day - Strike three. No, I'm not out yet! February, 1990: Wedding anniversary trip to the Big Island and another shot at my elusive mountain. We had seen an ad for a sunset photo op to the top of Mauna Kea and booked it. It did not include an observatory tour but that was OK with me. We finally got to the top of that damn mountain. It was quite exhilarating being on what seemed like the top of the world. Actually, it was. Measured from the sea floor, its elevation is 33,000 feet. A bonus for me was seeing, for the first time, the zodiacal light\* which I had first mistaken for light pollution from Kona. We wore parkas and gloves as it was very cold. As a result of removing my glove to facilitate operating my camera, I incurred minor frostbite on two fingers. [\*A narrow triangular shaped band of light rising vertically from the sunset point; it's dust in the plane of the

# The Backyard Astronomer

*Continued from page 3*

of the solar system illuminated by the Sun].

July 11, 1991: The aforementioned total solar eclipse in San Jose del Cabo, Mexico. A stunning, jaw dropping sight. Yes, it's true, no photograph can do justice to witnessing a total solar eclipse.

July 20, 1994: Observing the impact markings of Comet Shoemaker/Levy on Jupiter. I didn't think we'd be able to see any visible effect. I was wrong. Before I even focused my 5" refractor on Jupiter, I could easily see two fuzzy dark spots near the bottom of the planet. Then I focused the telescope on them and was amazed that I, and no doubt thousands of other stargazers were for the first time witnessing a cosmic collision between two astronomical bodies. This was not an insignificant event. I had not seen anything like that before or since.

March 1997: Comet Hale Bopp was the most impressive comet I've seen in my lifetime. It was so bright that month as it rose over the Superstition Mountains, I could see it through my kitchen window at 4:30 in the morning as I ate breakfast before going to work. I called it the Breakfast Comet after that.

## The November 11 Transit of Mercury

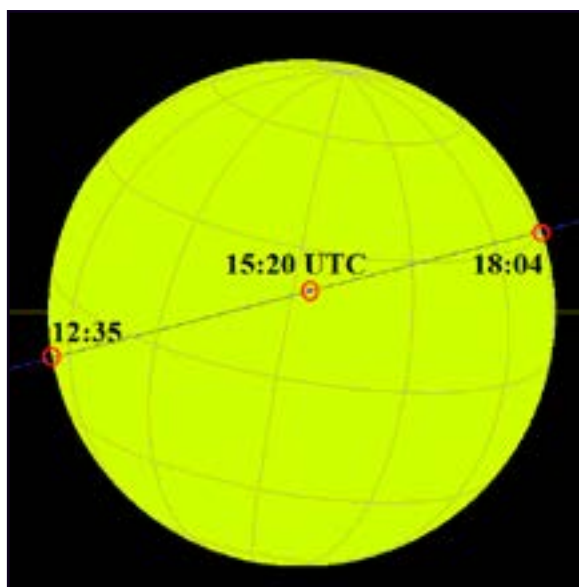
*by Claude Haynes*

On November 11 Mercury will pass directly in front of the Sun as shown in the diagram below. GRCO will be open from 7am – 11:15am for the event. The transit begins at 5:35am, with Mid Transit at 8:19am, and Mercury sliding past the Sun at 11:04am. Sunrise is at 6:54am, so the tran-

October 11, 2007: All-nighter at Kitt Peak. My wife and I had done the early Nightly Observing Program (sharing a 20" with 15 people from 7 to 10 p.m.) at Kitt Peak Observatory a few years earlier, but this night we were signed up for the Overnight Telescope Observing Program in which we had a 16" F/8.4 RC (Ritchey-Chretien) Optical telescope in a roll-off roof observatory all to ourselves. A telescope operator would point the telescope to anything we wanted from 11 p.m. to sunrise. I brought along an observing list of 40 objects I wanted to see. I found the 16" at 6,800 feet was more than adequate to see some of the best views of my favorite deep sky objects. It was a night to remember. Was there one particular object that stood out above the rest that night? Yes. My notes show I was very impressed with M-15, a globular star cluster in Pegasus. The vision of resolved stars at its core is still burned into my brain.

Funny thing, I did not want to leave Kitt Peak in the morning as I felt I belonged there. If you're into astronomy and live long enough, you're bound to experience some fantastic things. I encourage you to keep your stargazer's logbook handy to record those "Whoa moments."

sit will already be in progress. View this event through safely filtered devices only. Mercury is so small that you may not be able to see it using just eclipse glasses, but never stare at the Sun without eye protection. The next transit of Mercury is in 2032, so don't miss this one.



## 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 on the Contact-Us tab. 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 that may be of interest is AZ-Observering. To subscribe click <http://www.freelists.org/list/az-observing>.

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](#).

***Looking for that perfect weekend activity?***

***Why not resolve to getting involved?***

***Contact Claude Haynes to join the staff at GRCO***

***Email: [grco@evaconline.org](mailto:grco@evaconline.org)***

## Arts Corner

Arizona Theatre Company is presenting a production of the play "Silent Sky" by Lauren Gunderson. It tells the story of the Harvard "Calculators" under the direction of Edward Charles Pickering, chief of the then Harvard College Department of Astronomy. This group of women analyzed and catalogued the stars on the glass photographic plates taken by the male astronomers. There are parallels to "Hidden Figures" as these women toiled to determine the brightness and spectra of thousands of stars. The work was funded by the widow of Dr. Henry Draper, a physician and early amateur astrophotographer. The data resulting from the work of these women is responsible for many discoveries in astronomy, including the Hertzsprung-Russell Diagram, discoveries of variable and binary stars, and the calculation of distance to stars using standard candle brightness. The action of the play focuses on Hen-

rietta Leavitt, a recent graduate of Radcliffe College, as she joins Williamina Fleming and Annie Jump Cannon in the research project. The play has received glowing reviews as it analyzes scientific process to discover new relationships, while also challenging the relationship of men and women doing equally valuable work without comparable accolades. For those who want to explore the story more fully I would recommend the book "Glass Universe" by Dava Sobel. While the play compresses the story and players for dramatic effect, the book chronicles the complete story of the Harvard Calculators and their analysis of over 500,000 stars. Silent Sky plays in Tucson from 10/22 – 11/09 and in Phoenix at the Herberger Theatre 11/14 – 12/01. Further information and tickets are available at the ATC website, <https://arizonatheatre.org/show/silent-sky/>.

## Classified Ads

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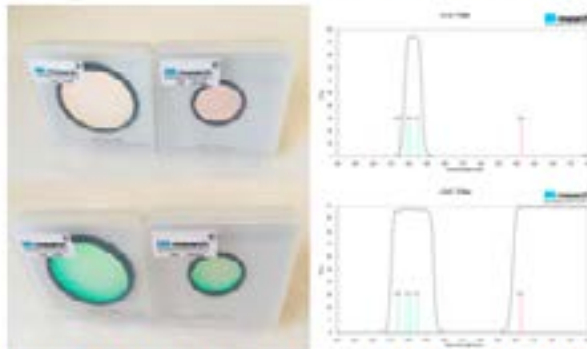
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## Classified Ads



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**From the site: Very Large Array 42mi E, The Astronomical Lyceum 55mi E, MRO Observatory 80mi E**

**IC 405**

**Insight Observatory  
16" ATEO 1 Telescope**

[SkyPi Remote Observatory](#)



For sale Meade LXD75 8-inch Telescope with accessories - \$1250: [LXD75](#)

Bill Musik: [bmusik@cox.net](mailto:bmusik@cox.net)

For sale: a classic LX200 8" telescope with field tripod.  
\$900. 00 cash and carry. No eye pieces with scope.



Frank Pino. [f.pino@mchsi](mailto:f.pino@mchsi) 480-882-3485



## Classified Ads

### **Celestron Nexstar With Smart Brite**

Celestron Nexstar With Smart Brite XLT electronic SkySync GPS guided Telescope - 6" mirror, & 2 extra scoping lens - 3X Barlow lens, ORION 2 mm lens. Also, Celestron Power Tank (giving you the ability take into the desert away from light sources for clearer views.). Also, to include 3 books, Star Watch by Phillip Harrington, Night Watch by Terence Dickinson, Turn Left At ORION by Guysolmangno & Dan M Davis as well as a 2 sided Planisphere. \$500 message me or 520-840-9931 cash only.

Thank You  
Marion Wallin  
Casa Grande, Arizona



# Upcoming Meetings

November 15

December 19

January 17

February 21

March 20

April 17

May 15

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 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**



# NOVEMBER 2019

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

**November 5** - Patterson Elementary

**November 8** - Public Star Party

**November 15** - EVAC Monthly Meeting

**November 16** - EVAC Star Party

**November 21** - Poston Junior High

**November 16** - Rover Elementary

**November 23** - EVAC Star Party

# DECEMBER 2019

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

**December 13** - Public Star Party

**December 19** - EVAC Holiday Party

**December 21** - EVAC Star Party

**December 28** - EVAC Star Party

## East Valley Astronomy Club -- 2019 Membership Form

Please complete this form and return it to the club Treasurer at the next meeting or mail it to EVAC, PO Box 2202, Mesa, Az, 85214-2202. Please include a check or money order made payable to EVAC for the appropriate amount.

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

Select one of the following:		
<input type="checkbox"/> New Member	<input type="checkbox"/> Renewal	<input type="checkbox"/> Change of Address
<b>New Member Dues</b> (dues are prorated, select according to the month you are joining the club):		
<input type="checkbox"/> <b>\$30.00 Individual</b> January through March	<input type="checkbox"/> <b>\$22.50 Individual</b> April through June	
<input type="checkbox"/> <b>\$35.00 Family</b> January through March	<input type="checkbox"/> <b>\$26.25 Family</b> April through June	
<input type="checkbox"/> <b>\$15.00 Individual</b> July through September	<input type="checkbox"/> <b>\$37.50 Individual</b> October through December	
<input type="checkbox"/> <b>\$17.50 Family</b> July through September	<input type="checkbox"/> <b>\$43.75 Family</b> October through December	
<i>Includes dues for the following year</i>		

<b>Renewal</b> (current members only):
<input type="checkbox"/> <b>\$30.00 Individual</b> <input type="checkbox"/> <b>\$35.00 Family</b>

<b>Name Badges:</b>
<input type="checkbox"/> <b>\$10.00</b> Each (including postage)    Quantity: _____
Name to imprint: _____

**Total amount enclosed:**

*Please make check or money order payable to EVAC*

Payment was remitted separately using PayPal     Payment was remitted separately using my financial institution's online bill payment feature

Name:       Phone:

Address:       Email:

City, State, Zip:

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.

<input type="checkbox"/> General Observing <input type="checkbox"/> Cosmology <input type="checkbox"/> Lunar Observing <input type="checkbox"/> Telescope Making <input type="checkbox"/> Planetary Observing <input type="checkbox"/> Astrophotography <input type="checkbox"/> Deep Sky Observing <input type="checkbox"/> Other	
---	--

Would you be interested in attending a beginner's workshop?     Yes       No

How did you discover East Valley Astronomy Club?

To join via Paypal: <a href="http://evaonline.org/join_evac.htm">http://evaonline.org/join_evac.htm</a>	Joining the club implies you agree to the liability waiver. <a href="http://evaonline.org/join-liability_release_form.htm">http://evaonline.org/join-liability_release_form.htm</a>
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[www.evaonline.org](http://www.evaonline.org)

East Valley Astronomy Club  
PO Box 2202  
Mesa, Az. 85214-2202

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*Secretary: Tom Polakis*

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