



# THE OBSERVER

## East Valley Astronomy Club



ARP 159 and NGC 4725  
APOD 2015 September 3 Stephen Leshin

### EVAC This Month

by Don Wrigley

As I write this, I am excited by the fact that our field trip to Lowell Observatory is only one week away. I don't know about the rest of you, but I can't wait to take a gander through that giant refractor. For those of you who wanted to go but weren't at the meeting, I still have a dozen or so tickets left, and I plan to have some with me at the Gilbert Library on the day we leave. If you want to reserve a ticket, just send me an email and I will have it there for you. The details of the trip to Lowell Observatory are:

- Bus travel to Flagstaff
- Pizza dinner at Lowell Observatory
- Tour and viewiing
- Return to Gilbert (estimated arrival 1:30am)

Our speaker this month is Roger Windhorst, who will give us an update on Space Telescopes. The pre-meeting dinner is still being held at the Golden Corral located on the corner of Baseline and Stapley. We plan to be there at 5:30 PM.

Don Wrigley

- Tickets \$25
- Leave from Gilbert Library (Greenfield and Guadalupe) on 09/04 at 04:30 PM

### UPCOMING EVENTS:

- Deep Sky Party - September 3*
  - Lowell Observatory Trip - September 4*
  - Public Star Party - September 9*
  - EVAC Monthly Meeting - September 16*
  - Local Star Party - September 24*
- Check out all of the upcoming club events in the Calendars on page 8.*

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# If It's Clear...

by *Fulton Wright, Jr. Prescott Astronomy Club*

September 2016

Celestial events (from Sky & Telescope magazine, Astronomy magazine, and anywhere else I can find information) customized for Prescott, Arizona. All times are Mountain Standard Time.

On Thursday, September 8, the Moon is at first quarter phase and sets at 11:20 PM.

On Saturday, September 10, from about 8:15 PM till 11:00 PM, the gibbous Moon moves in front of the open star cluster, M 25. Because of the brightness of the Moon, it will be difficult to see the stars. Using a big telescope at high power will increase your chances.

On Friday, September 16, at 6:46 PM, the full Moon rises spoiling any chance of seeing faint fuzzies for the night. The Sun sets at 6:34 PM.

On Thursday, September 22, the Moon is at last quarter phase and rises at 11:23 PM. It is also the first day of Autumn so the days and nights are approximately equal.

On Friday, September 23, about 8:20 PM, Algol is at magnitude 3.4. After about an hour, it begins its climb to magnitude 2.1.

On Friday, September 30, it is new Moon and you have all night to hunt for faint fuzzies.

## The Backyard Astronomer by *Bill Dellinges (September 2016)*

### Double Your Pleasure

This article is about double stars. Hey, wait, why are you running away? Doubles stars are fun! It might be an acquired taste but take your medicine, you might like it. I was a late bloomer myself, only appreciating them in recent years. Let's begin with a couple with historical significance. In Cygnus we find  $\epsilon_1$  Cygni, the first star whose distance was discovered in 1838 by Friedrich Bessel using the parallax principal. This is an easy, wide pair to split. An 8x50 binocular will do it. The AB pair are magnitudes 5.2 and 6.0 with a generous separation of 30" (arc seconds). It resides just above the east "wing" of Cygnus (SAO 70919).

**Delta Cephei** in Cepheus is the prototype of Cepheid variable stars that astronomers use to determine stellar distances. Their period-luminosity relationship was discovered by Henrietta Leavitt in 1912. This is another easy double to split even in binoculars. The AB pair are magnitudes 3.6 to 4.42 (the variable) and 6.3. Separation is a whopping 40.8" (SAO 34508). The stars are blue and yellow.

Speaking of blue and yellow stars, **Albireo** in Cygnus is up next. It needs no introduction, it's pretty much every stargazer's favorite double star and guaranteed to impress the public at star parties. The star also has the Bayer

Greek letter designation Beta Cygni and represents the head of Cygnus the Swan. The stars are striking blue and yellow jewels, perhaps best seen just slightly out of focus to enhance their colors. Magnitudes are 3.1 and 5.1 with a separation of 34". Though one of the finest doubles in the sky, I've always thought it a shame it wasn't brighter and easier to find, especially in light polluted skies (SAO 87301). But then, that's why we have GOTO telescopes!

**Epsilon Lyrae** in Lyra the Harp is an intriguing four component multiple star. Known as the "Double-Double," these two pairs of stars revolve around each other. The pairs are separated by 208.5" (3.5') and can be split naked eye by those with excellent eyesight. Each of the pairs however have separations of only 2.3" and 2.6" and require about 100x to split in telescopes. They are often used to test the quality and performance of amateur astronomer's telescopes. To the naked eye, the star has an apparent magnitude of 4.5. Each pair have periods of revolution of 600 and 1200 years respectively. The two pairs orbit one another in something less than a million years. Distances: The system is 160 light years away. Each of the pairs are separated by 155 and 165 Astronomical Units (AU) respectively. The two pairs are 13,000 AU's apart (SAO 67310).

Many amateurs are familiar with our North Star **Polaris** if for no other reason than to align their German Equatorial Mounts. Too many are unaware Polaris is a double star. An 8" SCT will

# The Backyard Astronomer

*Continued from page 2*

do a nice job picking out Polaris's 9th magnitude companion 18.4" from the primary. So will my Televue 85mm (3.3") refractor at 66x. You have to love those refractors for splitting double stars.

Thank God **8 Lacerta** has an SAO number (72509), otherwise trying to find this bugger would be a star hopping nightmare. If you don't have a GOTO telescope, attack it when it rises in the east or sets in the west when you get a better angle on it. It's never fun chasing your quarry when it's overhead. The 5 star multiple star system resembles a small, sparse open star cluster with stellar magnitudes ranging from 5.7 to 10.4. The tightest separation in

the group is 22.4". The C component is an optical member meaning it's not a true member of the cluster, just a background star. Try not to dwell on that fact and enjoy the view of these scattered diamonds in the darkness of space.

Observing double stars has opened a whole new chapter of observing for me. I enjoy observing the ones I read about in the astronomy magazines and try a few during every stargazing session. It's fun to see their colors, relative positions to each other, separations and the challenge of splitting the tighter pairs. Maybe best of all, you don't require a perfectly transparent sky. What's not to like?

**NEW MOON ON SEPTEMBER 1 AT 05:03**

**FIRST QUARTER MOON ON SEPTEMBER 9 AT 07:49**

**\*FULL MOON ON SEPTEMBER 16 AT 15:05**

**LAST QUARTER MOON ON SEPTEMBER 23 AT 05:56**

**NEW MOON ON SEPTEMBER 30 AT 20:11**

## 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.

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

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

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

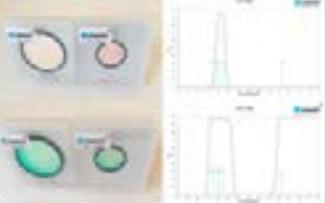
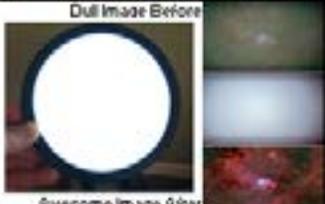
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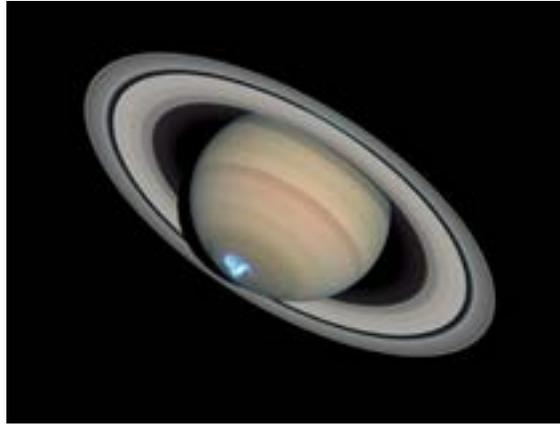
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# Upcoming Meetings

September 16

October 21

November 18

December 16

January 20

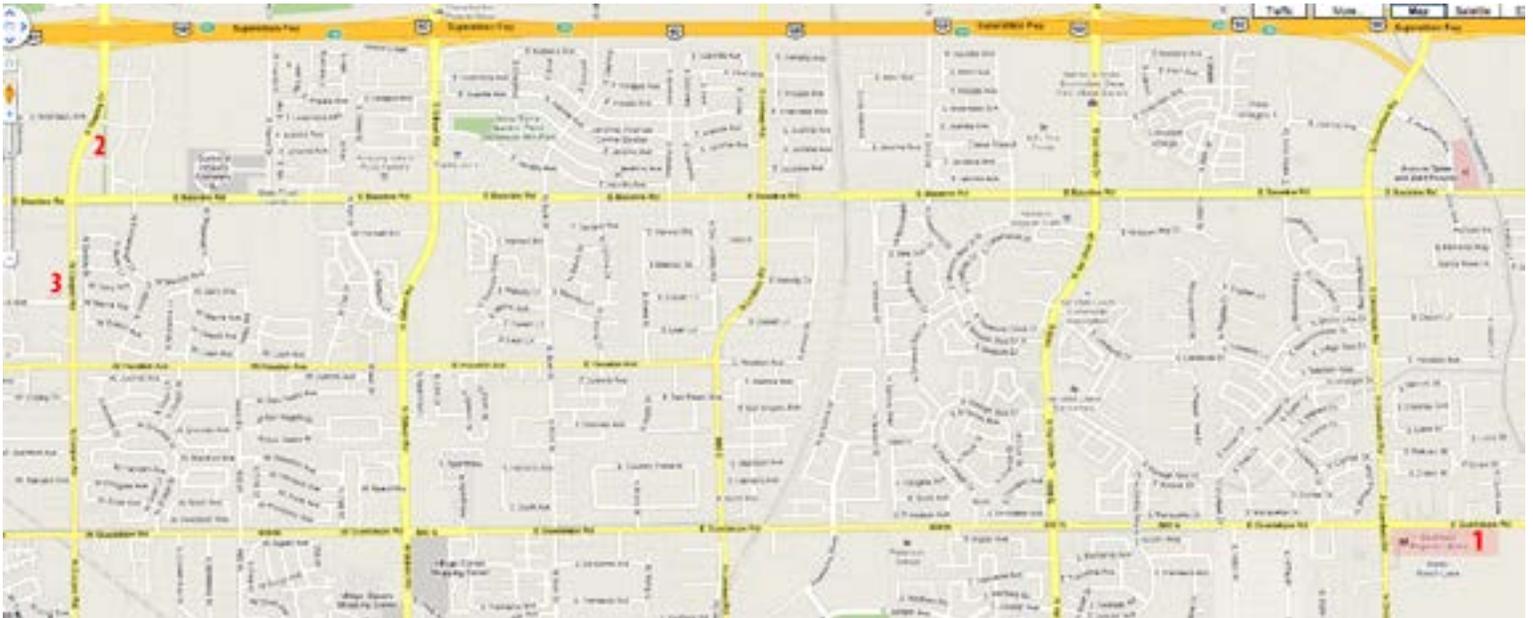
February 17

March 17

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!***



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



## SEPTEMBER 2016

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

**Sept 3** - Deep Sky Party

**Sept 9** - Public Star Party

**Sept 4** - Field Trip to Lowell Observatory

**Sept 16** - EVAC Monthly Meeting

\$25 per person - bus and pizza dinner

~~**Sept 24**~~ - Local Star Party

Leave from Gilbert Library at 4:00 PM

(sharp)

## OCTOBER 2016

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

**Oct 1** - Deep Sky Party

**Oct 21** - EVAC Monthly Meeting

**Oct 8** - National Astronomy Day

~~**Oct 22**~~ - Local Star Party

**Oct 14** - Public Star Party

~~**Oct 28/29**~~ - All Arizona Star Party

# East Valley Astronomy Club -- 2016 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:

- New Member
  Renewal
  Change of Address

**New Member Dues** (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     |
- Includes dues for the following year*

**Renewal** (current members only):

- \$30.00 Individual**
 **\$35.00 Family**

**Name Badges:**

- \$10.00** 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:

- Publish email address on website

URL:

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?

**PO Box 2202**  
**Mesa, AZ 85214-2202**  
[www.evaonline.org](http://www.evaonline.org)

All members are required to have a liability release form (waiver) on file. Please complete one and forward to the Treasurer with your membership application or renewal.

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

East Valley Astronomy Club  
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