

Moon Festival – July 25th, 2015

Photo Credit: Dave Kube



Crowd gathering to get a glimpse of the Moon.

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Another Satisfied Customer

The EAS newsletter, Observer, is published monthly. Anyone wishing to contribute articles or photos may mail them to the club's PO Box: EAS, PO Box 3474, Evansville, IN 47733, or e-mail them to the editor at:

dasiceman@yahoo.com

The **Evansville Astronomical Society (EAS)** is a non-profit organization fully incorporated in the state of Indiana. It has, as its primary goal, the advancement of amateur astronomy. Founded in 1952, the society seeks to:

- 1... maintain adequate facilities for its members and the public in order to extensively study the skies and
- 2... promote an educational program for those who wish to learn more about the science of Astronomy.

Meetings are held the third Friday of each month, except June, when the annual EAS picnic is held. The society also sponsors monthly Open House events during the warmer seasons that afford the public an opportunity to tour the observatory.

EAS 2014 Officers and Contacts

President – Scott Conner
812-.604.7164
ssconner24@gmail.com

Vice President – Tony Bryan

Secretary – Charleen Kaelin
812.303.1711

Treasurer – Ted Ubelhor

Counselors
Michael Borman
Kent Brenton
Ken Harris

Webmaster – Michael Borman

Program Director
Tony Bryan

News editor – David Kube
dasiceman@yahoo.com

For more information about the EAS or directions to the Observatory, please visit the club's web page:

www.evansvilleastro.org



Local Events and Information

EAS Schedule Update:

Please Note that the regular meeting for Friday August 21st, 2015 will be held at the museum beginning at 7:00pm.

EAS Update:

Please Note there will be a PSW held at the Museum on Friday, September 4th, 2015. Scheduled start time is 7:30pm.

EAS Update:

Please Note that the regular meeting for Friday September 18th, 2015 will be held at the observatory beginning at 7:30pm.

EAS Update:

Please note that we are participating in the Ferdinand Folk Festival held at Ferdinand City Park on Saturday September 19th, 2015. This is an 11am EDT event start and will require setup time before hand.

EAS Update:

Please Note there will be a PSW held at the Observatory on Saturday, September 19th, 2015. Scheduled start time is 7:30pm.

EAS Update:

Telescopes and accessories for sale...

As mentioned in last month's issue, Mike Borman still has some excellent telescope equipment and imaging accessories for sale. Some of the gear has already been sold. If interested, go to Mike's web page. Here is the link: <http://www.mborman.org/forsale.htm>

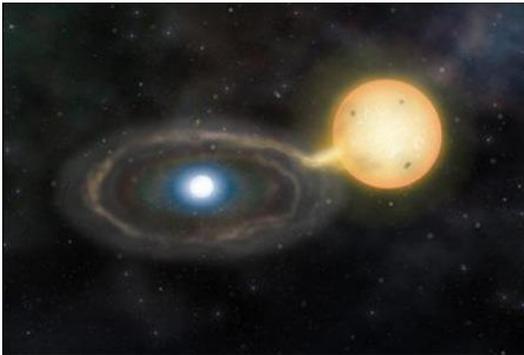
Perfect conditions for summer's top meteor shower.



John A. Davis

If you ask most skygazers to name their favorite meteor shower, the odds are good that “Perseid” will be the first word out of their mouths. This annual shower seemingly has it all: It offers a consistently high rate of meteors year after year; it produces a higher percentage of bright ones than most other showers; it occurs in August when many people take summer vacation; and it happens at a time when nice weather and reasonable nighttime temperatures are common. No other major shower can boast all four of these attributes. And 2015 promises one more significant advantage: The shower peaks on the night of August 12/13, just one day before New Moon. With the Moon absent from the sky, observers under clear, dark skies can expect to see up to 100 “shooting stars” per hour, the maximum rate possible. Conditions haven’t been this good since 2010.

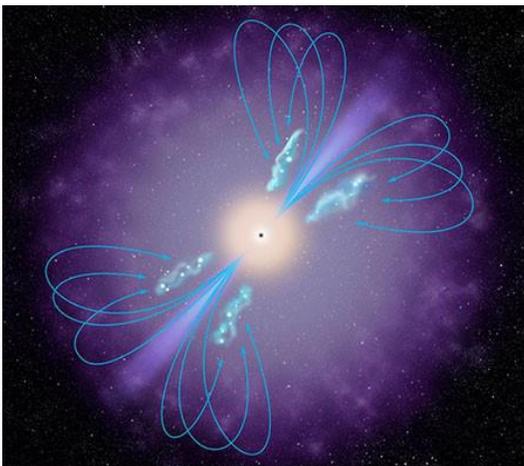
Gaia satellite and amateur astronomers spot one in a billion star.



Marisa Grove/Institute of Astronomy

An international team of researchers, with the assistance of amateur astronomers, has discovered a unique binary star system — the first known such system where one star completely eclipses the other. It is a type of a two-star system known as a cataclysmic variable, where one super dense white dwarf star is stealing gas from its companion star, effectively “cannibalizing” it. The system could also be an important laboratory for studying ultra-bright supernova explosions, which are a vital tool for measuring the expansion of the universe. The system, named Gaia14aae, is located about 730 light-years away in the Draco constellation. It was discovered by the European Space Agency’s Gaia satellite in August 2014 when it suddenly became five times brighter over the course of a single day.

Hubble finds evidence of galaxy star birth regulated by black hole fountain.



NASA/ESA/P. Jeffries (STScI)

Astronomers have uncovered a unique process for how the universe's largest elliptical galaxies continue making stars long after their peak years of star birth. NASA's Hubble Space Telescope's exquisite high resolution and ultraviolet-light sensitivity allowed the astronomers to see brilliant knots of hot blue stars forming along the jets of active black holes found in the centers of giant elliptical galaxies. Combining Hubble data with observations from a suite of ground-based and space telescopes, two independent teams found that the black hole, jets, and newborn stars are all parts of a self-regulating cycle. High-energy jets shooting from the black hole heat a halo of surrounding gas, controlling the rate at which the gas cools and falls into the galaxy.

September 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4 PSW Saturn-Watch 7:30pm @Museum	5
6	7	8	9	10	11	12
13	14	15	16	17	18 Reg. Mtg 7:30pm	19 Folk Festival 11am EDT PSW-7:30p
20	21	22	23	24	25	26
27	28	29	30			

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Up and Coming Events 2015

Regular Meeting and Show – Friday, August 21st @ 7:00pm @ Museum

PSW – Friday, September 4th @ 7:30pm @ Museum

Regular Meeting – Friday, September 18th, @ 7:30pm @ Observatory

Ferdinand Folk Festival – Saturday, September 19th, @ 11am EDT @ Ferdinand City Park

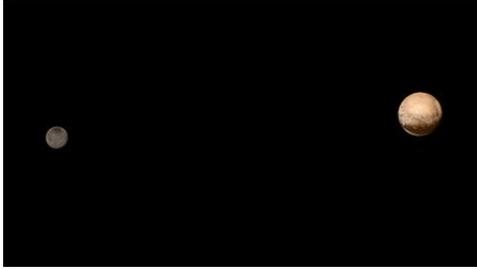
PSW – Saturday, September 19th @ 7:30pm @ Observatory

Moon Phases

First Quarter	Full Moon	Third Quarter	New Moon
September 21 st , 2015	September 27 th , 2015	September 5 th , 2015	September 13 th , 2015

[Moon Phases courtesy of Time and Date.com](http://Time and Date.com)

New Horizons – Looking at our distant Solar System



NASA/JHUAPL/SwRI

Pluto and Charon: New Horizons' Dynamic Duo

They're a fascinating pair: Two icy worlds, spinning around their common center of gravity like a pair of figure skaters clasping hands. Scientists believe they were shaped by a cosmic collision billions of years ago, and yet, in many ways, they seem more like strangers than siblings. A high-contrast array of bright and dark features covers Pluto's surface, while on Charon, only a dark polar region interrupts a generally more uniform light gray terrain. The reddish materials that color Pluto are absent

on Charon. Pluto has a significant atmosphere; Charon does not. On Pluto, exotic ices like frozen nitrogen, methane, and carbon monoxide have been found, while Charon's surface is made of frozen water and ammonia compounds. The interior of Pluto is mostly rock, while Charon contains equal measures of rock and water ice.



NASA/JHUAPL/SwRI

New Horizons team finds haze, flowing ice on Pluto

Flowing ice and a surprising extended haze are among the newest discoveries from NASA's New Horizons mission, which reveal distant Pluto to be an icy world of wonders.

"We knew that a mission to Pluto would bring some surprises, and now — 10 days after closest approach — we can say that our expectation has been more than surpassed," said John Grunsfeld, NASA's associate

administrator for the Science Mission Directorate. "With flowing ices, exotic surface chemistry, mountain ranges, and vast haze, Pluto is showing a diversity of planetary geology that is truly thrilling."



NASA/JHUAPL/SwRI

Pluto's bright heart and Charon's dark spot revealed in HD

NASA has released the latest batch of images of Pluto and its complex system of moons, revealing the dwarf planet's heart in stunning detail. The white heart shape was Pluto's most prominent feature as the New Horizons spacecraft was still millions of miles away, and for that reason astronomers have named it after the planet's discoverer, Clyde Tombaugh. What's more, the region has incredible and complex geology. "There are mountains in the Kuiper Belt," New Horizons Principal Investigator Alan Stern said at a 3 p.m. EDT press conference Wednesday.

Astronomers expect these mountains are as much as 11,000 feet (3,300 meters) high. And those towering features are very likely made of water ice — a substance known to occupy Pluto's interior but yet to be conclusively detected on the surface. And yet water is the only way to get these mountains, the team thinks.

EAS MEETING for July 17th, 2015

The meeting was CALLED TO ORDER by President Scott Conner @ 7:31 PM. There were 9 in attendance. It was moved & seconded to approve the Revised May, 2015, MINUTES as seen on the EAS Internet page.

Scott Conner announced the UPCOMING EVENTS: MOON FESTIVAL, Saturday, July 26 @ Evansville Museum 1:00 PM

There were no visitors.

Ted Ubelhor presented a BALANCE SHEET for this month indicating that all accounts are in the black which also provided a list of payments. Another list indicated a list of members indicating those who paid, & those who were late in paying. He plans to send out letters.

OLD BUSINESS

The PSW was held on May 16 in conjunction with Occustock Music Festival that had terrible weather with thunderstorms & heavy rain. There were 5 visitors & a tour was provided.

The ANNUAL PICNIC was held on June 13 at 6:30 PM. It went well with about 15 in attendance. Training took place with 3 taking part.

The 20" TELESCOPE needs a box to hold the mirror in place. This scope could be used for PSW.

The 24th PATOKA LAKE "Stars on the Beach" had good weather with a good turn-out from the 3 clubs with about 20 viewing.

NEW BUSINESS

A MOON FESTIVAL is scheduled for Saturday, July 26 to be held at the Evansville Museum beginning with solar observing from 1:00 PM. This is expected to be an annual event. A ROCKETRY display will be held from 1:00 - 5:00 PM. There will also be hands-on activities.

There will be MEMBER OBSERVING session held on AUGUST 15. This is a time for telescope training.

It's DUES TIME with Family membership of \$40 & Single membership of \$35.

Next, Charleen Kaelin gave an MONTHLY ASTRONOMY REPORT.

The meeting was adjourned @ 8:10 PM.

Respectfully submitted, Charleen Kaelin