

EAS Regular Meeting – September 20, 2019 @7:30pm



Photo provided by Chuck Allen

September Presenter SCOTT CONNER

“COMPARATIVE SIZES IN THE UNIVERSE”.

Seventeen-time EAS president and Master Outreach Award recipient Scott Conner will take you on a colorful tour of the Solar System, the solar neighborhood, and the Universe beyond by comparing sizes of familiar objects. Including our planets, natural satellites, apparent sizes viewed from earth, the brightest and most familiar stars, the Local Group, and galaxies beyond. And yes, Joseph, IC 1101 will be in his program!!

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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 2019 Officers and Contacts

President – Tony Bryan
812.827.3234

evansvilleastro@gmail.com

Vice President – Scott Conner

Secretary – David M Kube
740.223.6854

Treasurer – Ted Ubelhor

Counselors
Mitch Luman (2017)
Michael Borman (2018)
Ken Harris (2019)

Webmaster – Michael Borman

Program Director
Chuck Allen

Newsletter editor – Dave 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 Update:

Please Note we have a Regular Meeting scheduled at the Observatory on Friday, September 20th, 2019 @ 7:30pm.

EAS Update:

Please Note we have a PSW scheduled at the Observatory on Saturday, September 28th, 2019 beginning @7:30pm.

EAS Update:

Please Note We have Sciencepalooza / Astronomy Day scheduled at the Museum on Saturday, October 5th, 2019 from 11:00am to 4:00pm.

EAS Update:

Please Note we have our Fall Cleanup scheduled at the Observatory on Saturday, October 12th, 2019 @ 10:00am.

Please Note we have a Regular Meeting scheduled at the Observatory on Friday, October 18th, 2019 @ 7:30pm.

Please Note we have a PSW scheduled at the Observatory on Saturday, October 26th, 2019 beginning @7:30pm. This will be a Halloween Special Event.

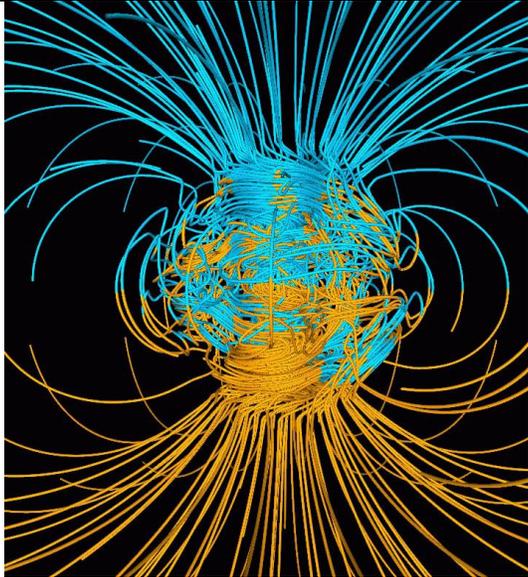
Please Note there is an Astronomical Event on Monday, November 11th – beginning at sunrise. This will be the transit of Mercury across the face of the sun. Please use the necessary eye protection while looking at the sun. Solar eclipse glasses will be great if you have them.

FOR SALE:

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>

Earth's Magnetic Field Flip Could Take Thousands of Years.



A computer model of Earth's magnetic field.
U.S. Department of Energy

North, I was once surprised to learn, is not always north. There's geographic north, "up" on maps toward the North Pole, and then there's magnetic north, which is where compass needles point. Right now the two kind of line up, but that isn't always the case. Earth's magnetic field — which guides compasses, animals and aurorae — likes to wander, and it's reversed entirely in the past: Magnetic north was in the geographic south.

Some geologists had thought the flips could be fairly quick, possibly even taking place within a single human lifetime. That's a big deal, since current fluctuations suggest magnetic north might be gearing up for such a major shift soon. And while it may be a smooth ride, we honestly don't know enough about how Earth reacts to these things to know if we should worry or not. And whatever natural problems arise would pale in comparison to the chaos such a reversal would wreak on our electrical devices.

But a new study August 7 in *Science Advances* says we should probably calm down, since the last magnetic field reversal on Earth took quite a bit longer: at least 22,000 years. It's one more piece in the puzzle of how and why our Planet's magnetic field operates, and slowly but surely researchers are figuring it out.

3 Earth-sized Exoplanets Found Just 12 Light-years Away.



GJ 1061 is a cool red dwarf similar to the star TRAPPIST-1. This artist's concept imagines a view from the surface of one of TRAPPIST-1's multiple exoplanets.

M. Kornmesser/ESO

There is a triplet of Earth-sized planet candidates orbiting a star just 12 light-years away, a new study has found. And one appears to be in the habitable zone.

All three candidates are thought to be at least 1.4 to 1.8 times the mass of Earth, and orbit the star every three to 13 days, which would put the entire system well within Mercury's 88 day orbit of the Sun. The planet orbiting the star every 13 days, dubbed planet d, is most interesting to scientists — it falls within the star's habitable zone where liquid water could exist on the surface .

The planets' host is GJ 1061, a type of low-mass star called an M dwarf that is the 20 nearest star to the Sun. The star is similar to Proxima Centauri, the star closest to Earth, which was discovered to host a planet in 2016. GJ 1061, however, shows less violent stellar activity, suggesting that it might currently provide a safer environment for life than Proxima Centauri.

Using the HARPS instrument on the 3.6-meter telescope at the European Southern Observatory in La Silla, Chile, Astronomers observed the star over 54 nights from July to September in 2018. The star was one target of a larger campaign called the Red Dot project, which since 2017 has surveyed small nearby stars to look for terrestrial planets like Earth.

October 2019

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5 Sciencepalc 11-4 @Museum
6	7	8	9	10	11	12 Fall Cleanup 10:00am
13	14	15	16	17	18 Reg.Mtg. 7:30pm	19
20	21	22	23	24	25	26 PSW- Halloween 7:30pm
27	28	29	30	31		

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Up and Coming Events 2019

Regular Meeting – Friday, September 20th @ Observatory @ 7:30 pm

PSW – Saturday, September 28th @ Observatory @ 7:30 pm

Sciencepalooza/ Astronomy Day – Saturday, October 5th @ Museum @ 11:00 - 4:00 pm

Fall Cleanup – Saturday, October 12th @ Observatory @ 10:00 am

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

PSW – Saturday, October 26th - Halloween Special @ Observatory @ 7:30 pm

Moon Phases

New Moon	First Quarter	Full Moon	Third Quarter
October 27 th , 2019	October 5 th , 2019	October 13 th , 2019	October 21 st , 2019

Moon Phases courtesy of Time and Date.com

*Photos from ISU Museum in New Harmony event,
Girl Scout Night at the Museum event
and EAS August Meeting Presentation*

Photos Provided Bob Flater and Anthony Corn



EAS Meeting Minutes for August – 2019

The August 16, 2019 meeting was called to order at 7:35 pm by President Tony Bryan. There were 27 members and no visitors present including a couple of new members. The officers present were Tony Bryan, Dave Kube. Ken Harris made the motion that the minutes from the July meeting, be accepted as published in the August newsletter. That motion was seconded, and passed unanimously.

Acting V. President Dave Kube mentioned the following upcoming events.

PSW#4	Saturday, August 24	7:30 at the Observatory
Regular Meeting	Friday, September 20	7:30 @ Observatory
PSW#5	Saturday, September 28	7:30 at the Observatory

TREASURER’S REPORT

Treasurer Ted Ubelhor was absent and forwarded his reports to the officers. Dave Kube read that our finances are ok as we have recently begun our fiscal year. We currently have 35 paid members with 19 that have not renewed from last year. Ted urged us to keep using the Amazon smile program. It was suggested from the floor to explain the Smile Program to some of our newer members, so Tony Bryan explained the details to the attending members.

SPECIAL PROJECTS

Tony Bryan reported no significant change in status of any of our special projects or Capital Campaign. The repair parts for our water cooler finally came in this week. It will be back here by the next meeting. He also announced a special note of thanks to Anthony Corn for his mowing of the grass this season.

OLD BUSINESS

Saturn Watch – On August 10th, we had the Saturn Watch at the museum. Mitch, Bob, Randy, Simon, and Tony set up scopes. Scott and Traci dropped by early. There were about 200 people, and several may be coming up the observatory for a future event, or even join our society.

Stars on the Beach- On July 29, we held the 28th Annual “Stars on the Beach” at Patoka Lake. Due to high water the event took place at the upper parking lot this year. Dave Kube reported that we had about 150 guests and a beautiful clear night for observing.

NEW BUSINESS

PSW #4 – Our fourth PSW is scheduled for August 24. We need a lead and at least one other to serve as hosts for the evening. Ken Harris volunteered to take the lead.

Website Renewal – The EAS website has been renewed.

Cub Scout Pack 335 – Tony received an email from Pack 335. They are here this weekend and would like to observe tonight if possible.

ANNOUNCEMENTS

Next Monthly Meeting – Our next regular meeting is scheduled for 7:30 PM on September 20th at the observatory.

The program for tonight is by Chuck Allen entitled Horizons

ADJOURN MEETING

The meeting was adjourned at 7:50 pm by President Tony Bryan

Respectfully Submitted – Dave Kube – Secretary