

## EAS Meeting @ Museum December 20<sup>th</sup>, 2019 Astronomy Quiz and Snack Time

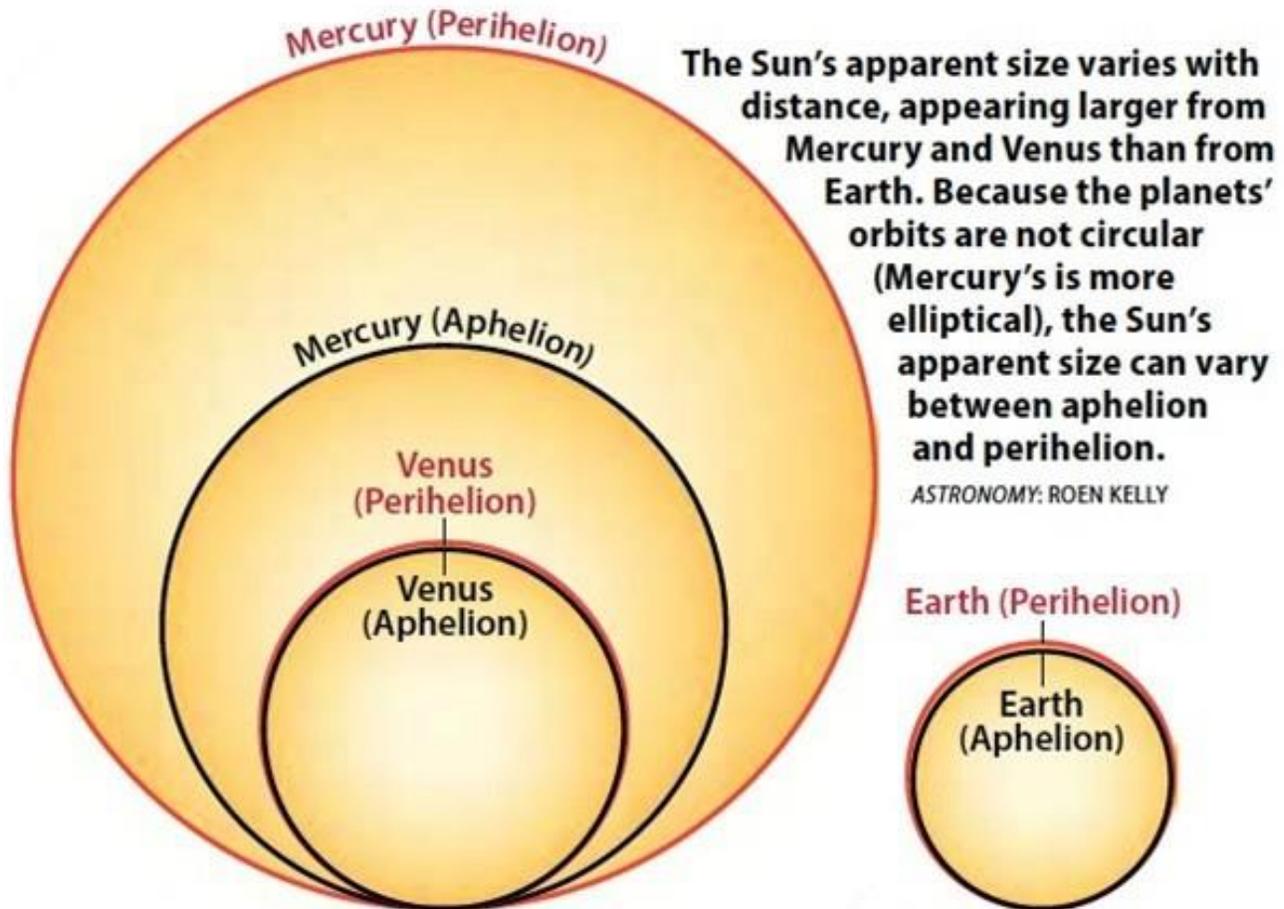


Photo Courtesy of Alison Klesman – Astronomy Magazine

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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](mailto: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 2020 Officers and Contacts**

President – Tony Bryan  
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[evansvilleastro@gmail.com](mailto:evansvilleastro@gmail.com)

Vice President – Scott Conner

Secretary – David M Kube  
740.223.6854

Treasurer – Amy Barrett

Counselors  
Michael Borman (2018)  
Ken Harris (2019)  
Mitch Luman (2020)

Webmaster – Michael Borman

Program Director  
Chuck Allen

Newsletter editor – Dave Kube  
[dasiceman@yahoo.com](mailto:dasiceman@yahoo.com)

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

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



## Local Events and Information

### EAS Update:

Please Note we have a Regular Meeting scheduled at the **Evansville Museum** on Friday, December 20<sup>th</sup>, 2019 @ 7:30pm. Please arrive between 7:00pm and 7:30pm as the doors may be locked at other times.

### EAS Update:

Please Note we have a Regular Meeting scheduled at the **Evansville Museum** on Friday, January 17<sup>th</sup>, 2020 @ 7:30pm. Please arrive between 7:00pm and 7:30pm as the doors may be locked at other times.

### EAS Update:

Please Note that the board will meet early in the New Year and discuss the calendar for the year 2020. We do know that the February meeting will be at the **Evansville Museum** on Friday, February 21<sup>st</sup>, 2020.

### EAS Update:

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Please Note the 2020 Schedule has not been set yet. Please keep apprised of our upcoming events here or on our website [www.evansvilleastro.org](http://www.evansvilleastro.org) and our Facebook page.

### 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>

**Scientists Plan a New Orbiter Mission to Pluto.**



A proposed Pluto orbiter, seen here flying above the canyon system that dominates the planet's large moon, Charon, could explore the Pluto system for at least two years.

Ron Miller for Astronomy

Why do we want to go back? There are many reasons. First, limited by the nature of its fast flyby, New Horizons could map only 40 percent of Pluto's geology and surface composition at good resolution. The same is true for Charon. And we learned even less about Pluto's four small moons because the craft didn't fly close to any of them.

Second, we learned that Pluto is a dynamic world, with a roiling nitrogen glacier, avalanches, and a complex and time-variable atmosphere. But New Horizons' flyby reconnaissance of Pluto all took place in one roughly 24-hour period, July 14, 2015. It gave us a wonderful snapshot first look, but no chance to see the daily, seasonal, and geological changes that an orbiter can probe but a flyby cannot.

Third, we learned that new kinds of instrumentation will be needed to answer the many questions that the New Horizons data sets raised. Going back with an orbiter will allow us to use instruments to peer through Pluto's glaciers with radar to determine how deep they are. The spacecraft also will carry a mass spectrometer to sample Pluto's atmosphere, inventory all the compounds there, and determine the nature of Pluto's hazes.

**Astronomers Look Inside Meteorites and Find the Sugars Needed for Life.**



Meteorites are thought to have delivered many of the materials necessary for life.

NASA's GSFC Conceptual Image Lab

Scientists keep finding important molecules for life in meteorites. Now, they can add another one to the list: ribose. It's a type of sugar that plays a vital role in the genetic code of life.

A team of researchers led by Yoshihiro Furukawa of Tohoku University in Japan recently analyzed meteorite samples and found ribose and other "bioessential" sugars for the first time. The finding offers even more evidence that some of the chemistry necessary for life as we know it can happen naturally outside of Earth. The researchers recently published their results in the Proceedings of the National Academy of Sciences..

Scientists want to understand how life arose on Earth. To do that, they must first unravel how organic molecules form and interact in environments without living things. Geologic activity has erased records of much of the chemistry that happened pre-life on Earth. But meteorites -- pieces of primitive solar system rocks that have fallen to Earth -- preserve chemical records of what the solar system was like in our planet's early days.

Scientists studying meteorites have already found molecules like amino acids and nucleobases, which are necessary for life. But they'd never seen ribose. This sugar makes up the "backbone" of RNA, a type of molecule responsible for carrying genetic messages in our cells. Furukawa's team employed careful techniques to ensure they wouldn't destroy the sugars in their attempts to find them, and were able to uncover ribose and other sugars.

January 2020

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

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**Up and Coming Events 2019 and 2020**

**Regular Meeting – Friday, December 20<sup>th</sup> @ Museum @ 7:30 pm**

**Regular Meeting – Friday, January 17<sup>th</sup> @ Museum @ 7:30 pm**

**Regular Meeting – Friday, February 21<sup>st</sup> @ Museum @ 7:30 pm**

The schedule for 2020 has not been set.

**Moon Phases**

New Moon	First Quarter	Full Moon	Third Quarter
January 24 <sup>th</sup> , 2020	January 2 <sup>nd</sup> , 2020	January 10 <sup>th</sup> , 2020	January 17 <sup>th</sup> , 2020

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

## ***EAS Meeting Minutes for November – 2019***

The November 18, 2019 meeting was called to order at 7:31 pm by Vice President Scott Conner. There were 22 members and 4 visitors present. The officers present were Scott Conner, Ted Ubelhor and Dave Kube. Ken Harris made the motion that the minutes from the October meeting, be accepted as published in the November Newsletter. That motion was seconded, and passed unanimously.

V. President Scott Conner announced the following upcoming events.

PSW#7	Saturday, November 16	7:30 @ Observatory
Regular Meeting/Astronomy Quiz	Friday, December 20	7:30 PM @ Museum
Regular Meeting	Friday, January 17	7:30 PM @ Museum
Regular Meeting	Friday, February 21	7:30 PM @ Museum

### **TREASURER'S REPORT**

Treasurer Ted Ubelhor reported that our finances are Doing well with no large expenditures. We currently have 40 paid members with 18 Non Paid from last year.

### **SPECIAL PROJECTS**

Scott Conner reported no significant change in status of any of our special projects or Capital Campaign. The new refrigerator is ready and Scott just needs to get it up to the Observatory.

### **OLD BUSINESS**

PSW #6 – Our sixth PSW took place on October 26. Dave Kube reported that we had 2 guests and it was cloudy so no observations were done. Dave Kube presented an Astronomy 101 PowerPoint.

Transit of Mercury 2019 – The EAS event in Evansville was cancelled due to cloudy skies and very limited viewing scattered around the area for the Transit of Mercury on Monday, November 11.

Meetings at the Museum – At the October meeting we decided to once again book the museum for meetings in December, January, and February. Our cost to rent the museum is \$75 per night, but we have already had three very generous members step up and cover those costs. At his time, please give a warm round of applause to thank; Ken Harris, Scott Conner, and Chuck Allen.

### **NEW BUSINESS**

PSW #7 – Our last PSW of the year is scheduled for November 16. Throughout the 2019 year, PSWs have been very well attended by the public and well supported by EAS members. Dave Kube, Matt Merlo and Scott Conner volunteered to host this event.

Recent Donations – Member and EAS Counselor, Mike Borman, has graciously donated a 40" flat screen TV, Blu-ray player, sound bar, and universal remote to the EAS. He is also donating a smaller flat screen TV, which is planned to be used as an informational board in the hallway. Thank you Mike.

Cyber World – Scott, Dave, Mike, Mitch, Chuck and others actively post relevant information and topics, and maintain our Website, Facebook, Night Sky Network, and local community pages. This outreach is an important element of our society, and is deeply appreciated. Thank you and please keep up the good work.

Election of Officers – Elections will be held this evening. The current slate of officers is as follows: President-Tony Bryan, Vice President – Scott Conner, Treasurer – Amy Barret, Secretary – Dave Kube, .Counselor Mitch Luman is up for re-election. Standing Counselors are: Mike Borman and Ken Harris (these two do not require voting into office).

## EAS OBSERVER NEWSLETTER

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Nominations were open to the floor and No new nominations were proposed. Mitch Luman made a motion to accept the officers and councilors as proposed in the current above. Motion was accepted and unanimously accepted by the attending members.

Your 2020 Officers will be as follows: President-Tony Bryan, Vice President – Scott Conner, Treasurer – Amy Barret and Secretary – Dave Kube. Counselors are: Mitch Luman and Mike Borman and Ken Harris.

### ANNOUNCEMENTS

Next Monthly Meeting - Our next regular meeting, which is also our annual Astronomy Quiz, is scheduled for 7:30 PM on December 20 at the museum in Evansville.. If you arrive late and find yourself locked out, please send a text message to an EAS officer. As a reminder, do not go to the observatory the next three meeting nights unless you wish solitude. Mike Borman will be our Quiz Master this year and the Quiz will take the place of our monthly presentation. Please bring a light snack as we will have a social gathering prior to the meeting.

Program Tonight – Chuck Allen will be our presenter tonight.

### ADJOURN MEETING

The meeting was adjourned at 7:45 pm by Vice President Scott Conner

Respectfully Submitted – Dave Kube – Secretary