

Mercury Transit Monday November 11th, 2019

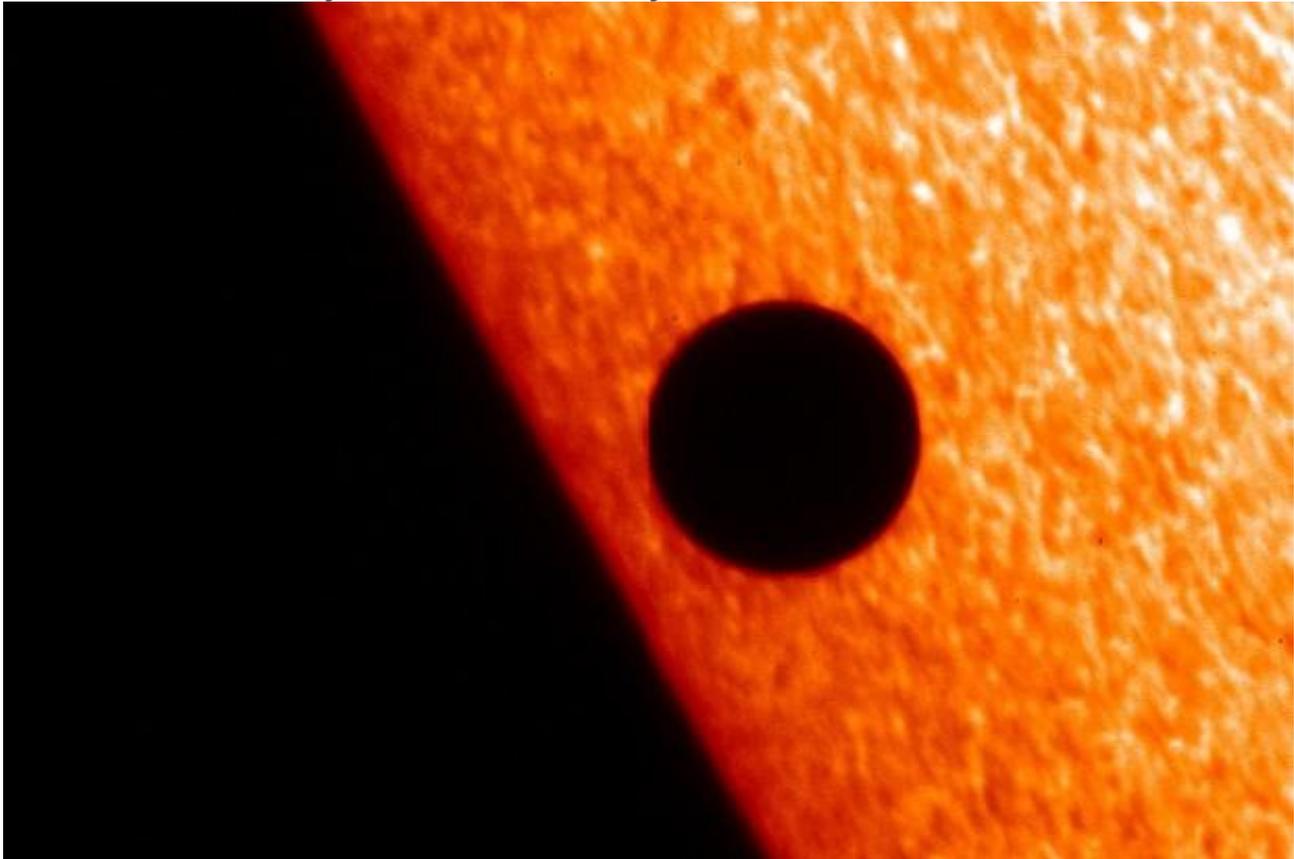


Photo Courtesy of Space Weather

Join us for our November Meeting for a follow-up presentation of this rare event.

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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, November 15th, 2019 @ 7:30pm. The scheduled presentation will be a follow-up from the Mercury Transit this past Monday. Please remember we will be electing the new officers for the upcoming year.

EAS Update:

Please Note we have a PSW scheduled at the Observatory on Saturday, November 16th, 2019 beginning @7:30pm. This will be the last PSW for the calendar year.

EAS Update:

Please Note we have a Regular Meeting scheduled at the **Evansville Museum** on Friday, December 20th, 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 17th, 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 21st, 2020.

EAS Update:

Please Note

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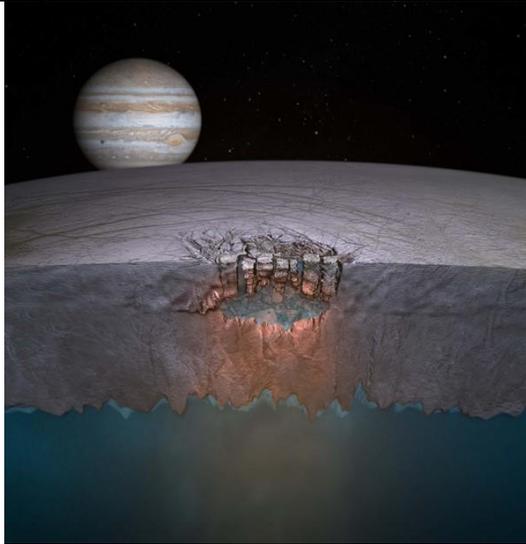
Please Note

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>

Jupiter Shields Europa from Cosmic Rays that Could Erase Evidence of Life.



Britney Schmidt/Dead Pixel VFX/
Univ. of Texas at Austin

Europa, one of Jupiter's four largest moons, has an ocean of liquid water beneath its icy crust. In the coming years, scientists hope to send probes to the world to study the chemistry of its ocean and look for possible signs of alien life. One challenge is figuring out whether radiation hitting Europa would tamper with potential chemical evidence of life.

Luckily, it seems scientists won't have to worry too much about this. Jupiter's presence shields Europa from many of the energetic particles that stream through space, researchers found using a computer model. Though some of these particles, called cosmic rays, will hit Europa, the radiation dosage from them is not significant, the researchers report in *The Astrophysical Journal Letters*. This means that chemicals in Europa's ocean, and signs of life they might contain, would be intact for future study.

In 2018, planetary scientist Tom Nordheim of NASA's Jet Propulsion Laboratory looked into radiation on Europa from Jupiter itself. He and his team found that energetic particles from Jupiter's magnetosphere, a region marked by the planet's magnetic fields, don't reach more than a few inches below Europa's surface.

Colliding Asteroids May Have Caused an Ancient Ice Age.



This artist's concept captures the catastrophic collision that destroyed the L-chondrite parent body, which was bigger than any known asteroid break-up in the past 3 billion years.

Don Davis, Southwest Research Institute

A giant collision between two asteroids may have triggered a global ice age that hit Earth some 466 million years ago.

The cosmic crash — which took place between Mars and Jupiter and destroyed an asteroid some 93 miles (150 km) wide — created a thick plume of dust that spread throughout the inner solar system. This massive reservoir of debris then continually rained down on our planet as our orbit crossed through it over the span of some 2 million years, slowly changing Earth's overall climate.

According to the new study, published today in *Science Advances*, the timing of the suspected global dust storm lines up pretty well with a particularly chilly period in Earth's history, when a drop in temperatures is thought to have triggered an explosion of new species. In fact, "the timing appears to be perfect," said lead author Birger Schmitz of Lund University in a press release.

December 2019

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20 Reg.Mtg Museum 7:30pm	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, November 15 th @ Observatory @ 7:30 pm
PSW – Saturday, November 16 th @ Observatory @ 7:30 pm
Regular Meeting – Friday, December 20 th @ Museum @ 7:30 pm
Regular Meeting – Friday, January 17 th @ Museum @ 7:30 pm
Regular Meeting – Friday, February 21 st @ Museum @ 7:30 pm
The schedule for 2020 has not been set.

Moon Phases

New Moon	First Quarter	Full Moon	Third Quarter
December 26 th , 2019	December 4 th , 2019	December 12 th , 2019	December 18 th , 2019
Moon Phases courtesy of Time and Date.com			

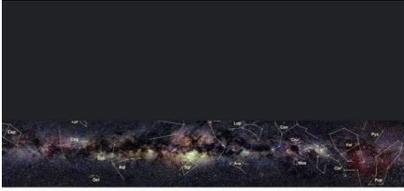
Photos from EAS October Meeting and Presentation



Long time member Scott Conner Receiving his Award from the Astronomical League for his many years of service in both dedication to club and also his commitment to Public Outreach.

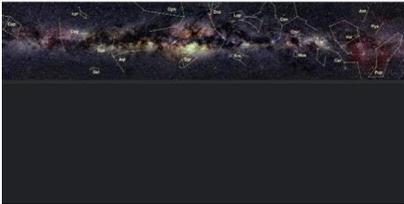
Thank You Scott Conner.

Photo Provided by Mike Borman



250+
Deep-Sky Objects Visible
with 7x35 Binoculars
and the
Naked-Eye

Scott N. Harrington
2nd edition September, 2018



Presenter Scott Harrington receiving his EAS Appreciation Award from EAS President Tony Bryan for his work on Binocular Astronomy and sharing those insights with the EAS members and visitors to the October 2019 Meeting.

Photos Provided by Donna Bryan

EAS Meeting Minutes for October – 2019

The October 18, 2019 meeting was called to order at 7:35 pm by President Tony Bryan. There were 24 members and 5 visitors present. The officers present were Tony Bryan, Scott Conner and Dave Kube. Ken Harris made the motion that the minutes from the September meeting, be accepted as published in the October Newsletter. That motion was seconded, and passed unanimously.

V. President Scott Conner mentioned the following upcoming events.

PSW#6 (Halloween Special)	Saturday, October 26	7:30 PM @ Observatory
Transit of Mercury (6:36 – 12:04)	Monday, November 11	Location TBD @ Sunrise
Regular Meeting	Friday, November 15	7:30 @ Observatory
PSW#7	Saturday, November 16	7:30 @ Observatory
Regular Meeting/Astronomy Quiz	Friday, December 20	7:30 PM @ Museum

TREASURER'S REPORT

Treasurer Ted Ubelhor was absent and forwarded his reports to the officers. Scott Conner reported that our finances are ok. We currently have 38 paid members.

SPECIAL PROJECTS

Tony Bryan reported no significant change in status of any of our special projects or Capital Campaign. Mitch Luman will be assisting Tony with the Capital Campaign Fund.

OLD BUSINESS

Our fifth PSW took place on September 28. Dave Kube reported that we had 15 guests, 8 were students of Matt Merlo and we had 6 members present. Dave Kube presented an Astronomy 101 PowerPoint. The night was cloudy so observations were limited.

Stars on the Beach- On July 29, we held the 28th Annual "Stars on the Beach" at Patoka Lake. Tony Bryan report that we have received all positive feedback from Dana of the DNR.

Sciencepalooza / Astronomy Day - Sciencepalooza / Astronomy Day took place on Saturday, October 5 at the Museum. Mike Boreman setup his Solar Telescope and had a good turnout. Mitch Luman was sick that day so could only report that the event was a success.

Fall Cleanup – Last Saturday, October 12, we had our semi-annual cleanup and maintenance of the Observatory. Only Scott and Dave came up. Their focus was on fixing the dome. Lawnmower was winterized, Dome was vacuumed and the Lecture Hall was spot mopped along with the Bathrooms.

NEW BUSINESS

PSW #6 – Our next PSW is scheduled for October 26. The last several PSWs have been very well attended by the public and well supported by EAS members. Matt, Ken and Dave volunteered to take the lead.

Special Recognition – Three EAS Special Recognition certificates go out tonight. First is a special recognition to Anthony Corn (Not Present) for his continuing care of the Observatory Lawn. Second special recognition to Dave Kube for his monthly work on the Newsletter. Scott Conner received a special award and plaque for his many years of service to the EAS from the Astronomical League.

Transit of Mercury Reminder – The EAS will be setting up telescopes in Evansville at 20 Dreier Blvd for the Transit of Mercury which begins at sunrise on Monday November 11. You don't want to miss this event, because the next one will not take place until November 13, 2032. There are approximately 13 transits of Mercury each century. Seeing a transit depends on the cloud conditions as well as where you are located on the globe. Per Mitch the observing site roads will be blocked off by the city.

EAS OBSERVER NEWSLETTER

Stars on the Beach 2020 – The July date proposed for Stars on the Beach 2020 had a conflict with a car show at the lake so an alternative was chosen, which is July 25 (primary date) and August 15th (rainout date).

Meetings at the Museum – Tony Bryan open the floor for discussion to book the museum for meetings in December, January, and February. A motion to book these 3 meetings at the museum and the EAS would pay for the cost was accepted and voted in unanimously . It was also urged to accept donations to defer these costs.

Election of Officers – Elections will be held at the meeting next month. The current slate of officers is as follows: President-Tony Bryan, Vice President – Scott Conner, Treasurer – OPEN, Secretary – Dave Kube. Current Counselors are: Mitch Luman and Mike Borman and Ken Harris. Mitch Luman’s term is expiring.

Nominations will be open until prior to voting. There were no nominations at this time. It was suggested to nominate Mitch to be placed back into rotation as first year counselor if no new counselor was nominated.

Voting will take place by ballot (if a nomination is present) or acclamation (if positions are unopposed).

Chuck Allen – Presented Scott Harrington the GLRAL’s Hans Baldrauf Award from Hidden Hollow for his work on the 250+ Objects visible in 7x35 binoculars project.

ANNOUNCEMENTS

Next Monthly Meeting - Our next regular meeting is scheduled for 7:30 PM on November 15 at the observatory.

Program Tonight - Our Program Director, Chuck Allen, has brought to us tonight, Scott Harrington, from his home in Evening Shade, Arkansas. Scott will speak on his Peltier Award nominated 11-year project, determining the limits of human observing ability using only the naked eye or 7x35 binoculars.

ADJOURN MEETING

The meeting was adjourned at 8:05 pm by President Tony Bryan

Respectfully Submitted – Dave Kube – Secretary