

The Horsehead Nebula in Orion



Williamina Fleming was a human “computer” employed by the Harvard College Observatory more than a century ago. The Scottish astronomer started her career as a maid in the home of Edward Charles Pickering, the observatory’s director. But she was soon hired to analyze stellar spectra — the chemical fingerprints of stars. Fleming’s system of classifying stars grew in popularity, and astronomers still use today. Throughout her career, Fleming cataloged thousands of objects — and one of those was the Horsehead Nebula. In 1888, she was reviewing one of Pickering’s photographic plates when she spotted the nebulous object. To her, it was simply one more nebulae out of the myriad other objects she cataloged during her lifetime. But, Fleming still gets credit for the first confirmed discovery of the Horsehead Nebula.

Photo Courtesy: Harvard University Archives

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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

To the Members of the EAS

Again this month due to the COVID pandemic we will be doing an online Zoom Video Meeting on November 20th, 2020.

Our presenter Normand Fullum, owner, Optiques Fullum, Quebec

Normand has an equally incredible life story which started in difficulty and developed, through hard work and passion, into a company that manufactures custom telescopes for amateurs in the 35 to 65-inch range. Normand will also give us a tour of his shop after he explains how he got started in the business.

Here is a link to Optiques Fullum. Take a look at the 50-inch Dob!!

<https://www.optiquesfullum.com/telescopes/>

If you are unfamiliar with online meetings, you may wish to visit the following link ahead of the meeting night to learn more:

<https://support.zoom.us/hc/en-us/articles/201362193-How-Do-I-Join-A-Meeting>

The Evansville Astronomical Society now has a Youtube Channel and for those that missed the live session of our October 2020 Meeting and Presentation, you can watch a video stream of this event. This link can also be found on our website

<http://evansvilleastro.org>

<https://www.youtube.com/channel/UC8A9iE6gz0JE1Rr8VuxqmDg?fbclid=IwAR0In5rjd sA-GdGKkhLTvVRFx1fENmVeSPpWtw2Rc6sBB79w702cLyB1n14&app=desktop>

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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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

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 that currently we have a Zoom Meeting Scheduled on Friday, November 20th, 2020 @ 7:30pm.

EAS Update

Please note that currently all public meetings have been canceled and therefore we are trying to meet via online Zoom Meeting until further notice

EAS Update

Please note that we will be voting for EAS Officers and Counselors during our Zoom Meeting Scheduled on Friday, November 20th, 2020 @ 7:30pm.

EAS Update

EAS Update

EAS Update

EAS Update:

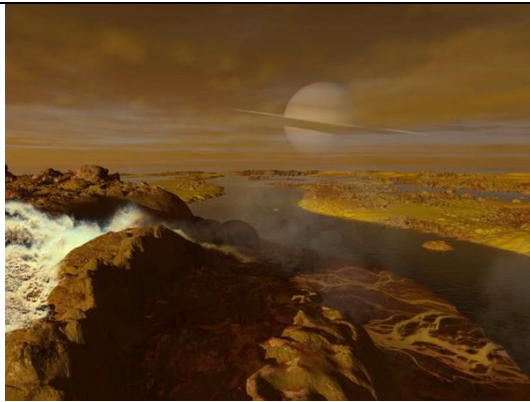
Please visit our website www.evansvilleastro.org and our Facebook Group page to keep yourself up to date for any changes.

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>

What Does Titan Smell Like?



Titan, Saturn's largest moon, is a dynamic world with a dense atmosphere, hydrocarbon lakes, and lots of different smells.

Credit: Ron Miller.

Titan is so big, in fact, it rivals Jupiter's moon Ganymede for the title of the solar system's largest satellite.

Yes, Titan has an atmosphere. Titan's atmosphere is four times denser than Earth's. And while you wouldn't need a spacesuit to protect you against its pressure, you would need one heck of a parka. The surface temperature on Titan is a frigid -290 degrees Fahrenheit. For reference, the coldest temperature ever recorded on Earth was when the mercury dropped to only about -129 F at Vostok Station in Antarctica in 1983.

So, an astronaut walking on the surface of Titan would have to keep their skin covered to avoid rapid frostbite, but they wouldn't need a super bulky spacesuit like they would on the Moon or in the vacuum of space. The astronaut would have to bring their own oxygen, though, as Titan's atmosphere is devoid of it. Instead, Titan's skies, like Earth's, are mostly nitrogen, plus about 5 percent methane and a few other trace gases.

This leads to an interesting thought experiment: If an airtight spacesuit is not a necessity on Titan, then it might be possible to get a whiff of your surroundings through your oxygen mask. In that case, what would Titan smell like?

How Luna 3 First Unveiled the Moon's Far side.



For millennia, the Moon's mysterious far side remained hidden from inquisitive humans. This is because the Moon is tidally locked to Earth, meaning the so-called nearside is always facing our planet.

Credit: Ernie Wright/NASA's Scientific Visualization Studio

As the name implies, Luna 3 was the third Soviet space probe sent to the vicinity of the Moon. But Luna 3's voyage was a troubled one. Teams of exhausted engineers — holed up in tents, trailers, and rickety barracks at tracking stations in Crimea and Kamchatka — spent days battling electronic glitches and telemetry dropouts. In fact, Luna 3's goal of photographing the farside was so audacious that the Soviets avoided mentioning it in their official communiqué to the world.

The Luna 3 probe carried 40 square frames of temperature-resistant, radiation-hardened film tucked inside a lead-lined cartridge. Ironically, the film originated from the U.S.'s Genetrix high-altitude reconnaissance balloons, which were captured over Soviet airspace in the late 1950s. To snap pictures, Luna 3 rotated itself to align one axis to the Sun, then used a photocell to detect the Moon before sending a command to open its dual-lens camera doors, much like a pair of great mechanized eyelids.

The Soviets could not bring the Genetrix squares back to Earth. So the film was developed, fixed, and dried aboard the spacecraft. Then, scanned and converted the intensity of moonlight into an electric signal, it was sent line by line via slow-scan television across nearly 300,000 miles of space. Luna 3's immense distance and feeble signal initially yielded only static. Then, a blotchy monochrome disk emerged onto thermal-paper printouts at Soviet listening posts. Twenty-nine images were eventually transmitted to Earth, and with them, a formerly unknown land suddenly became known.

December 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	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Generated by FreeHTMLCalendar.com Copyright © 2011 John Dalbey.

Up and Coming Events 2020

EAS Meetings and Events are currently on hold or cancelled due to the current COVID-19 situation.

Please note we have an online Zoom Meeting Scheduled for November 20th, 2020 @7:30pm.

Please visit our Web Page <http://www.evansvilleastro.org> for updates.

Please visit our Facebook Group Page for updates.

Moon Phases

New Moon	First Quarter	Full Moon	Third Quarter
December 14 th , 2020	December 21 st , 2020	December 29 th , 2020	December 7 th , 2020
Moon Phases courtesy of Time and Date.com			

EAS Unofficial Meeting Notes for October – 2020

We had an online Zoom Meeting for Members on October 16, 2020.

Our Zoom meeting was hosted by EAS President Tony Bryan and all four officers introduced themselves. We had 17 members registered as logged in on this Zoom Meeting.

Our presenter was Mike Simmons, founder and past-president of Astronomers Without Borders was introduced by Chuck Allen.

Mike's presentation was a photographic tour of how Astronomers Without Borders brings the science of Astronomy to many locations around the globe. It included photos of the people and equipment as well as facilities and locations. He was very passionate about the people he met in many locations any you could feel the joy of those people for this great opportunity.

It was discussed that we will have another online Zoom Meeting for the November 20th meeting.

Please Note that we will be electing the 2021 officers and Counselors during the November 2020 Zoom Meeting.

If you are unfamiliar with online meetings, you may wish to visit the following link ahead of the meeting night to learn more: <https://support.zoom.us/hc/en-us/articles/201362193-How-Do-I-Join-A-Meeting>

Respectfully Submitted – Dave Kube – Secretary