

**February Meeting at the Museum
Friday February 16th, 2018 @ 7:30pm**



Bill Pickering (left), James Van Allen (center), and Wernher von Braun (right) triumphantly hold a model of Explorer 1 above their heads the day after it became the first American satellite to orbit the Earth on January 31, 1958

NASA/JPL

Inside this Issue..

- 2 – Local Events and information
- 3 – News around the Globe
- 4 – Calendar
- 5 – EAS Business – Minutes

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 2018 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
Ken Harris
Mitch Luman
Michael Borman

Webmaster – Michael Borman

Program Director
Tony Bryan

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 scheduled meeting for Friday, February 16th, 2018 @ Museum @ 7:30 pm.

EAS Update:

Please Note we have a Winter Work Day scheduled for Saturday, February 24th, 2018 @ Observatory @ 10:00 am.

EAS Update:

Please Note we have a PSW scheduled for Saturday, March 3rd, 2018 @ Observatory @ 7:30 pm.

EAS Update:

Please Note we have a Regular scheduled meeting for Friday, March 16th, 2018 @ Observatory @ 7:30 pm.

EAS Update:

Please Note we a members only observing session scheduled for Saturday, March 24th, 2018 @ New Harmony Park @ 7:30 pm. Rain date is set for April 21st.

EAS Update:

Please Note we have a PSW scheduled for Saturday, April 14th, 2018 @ Observatory @ 7:30 pm.

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>

NASA's Alaskan rockets to study galactic X-ray emission and more.



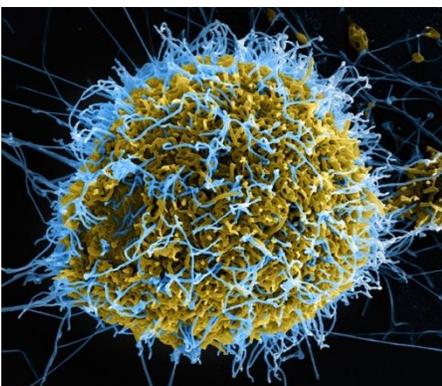
The DXL payload's ability to connect to GPS, used to track its location during the study, is tested at the Wallops Flight Facility in Virginia. NASA, Berit Bland

Future spacecraft can use pulsars to navigate completely autonomously.



NICER uses its mirror assemblies to concentrate X-rays and examine pulsars, a part of a neutron star's internal composition. NASA'S Goddard Space Flight Center/Keith Gendreau

The hunt for viruses in space.



Despite the fact that viruses are extremely pervasive on Earth, few studies have attempted to search for them in space. NIAID

University researchers and NASA scientists head to Alaska's Poker Flat Research Range (PFRR) to launch a series of four rockets designed to measure space's X-ray emissions and to study how our upper atmosphere is impacted by added water vapor. The research, taking place from January 15- 31, differs from PFRR's usual winter projects, which involve studying the solar wind's interaction with Earth's atmosphere and the subsequent auroras that form.

One of the rockets will carry the Diffuse X-rays from the Local galaxy (DXL) mission, designed to investigate X-rays that enter Earth's atmosphere from various locations in our galaxy. "Very low energy diffuse X-rays from space are believed to come from two sources," said the University of Miami, Florida's principal investigator for the DXL mission, Massimiliano Galeazzi, in a press release.

Although it's possible for space missions to communicate data with Earth, the process is anything but fast. Voyager 1, for example, takes about 19 hours to send a signal back to Earth, and that lag only increases as the spacecraft gets further away. For truly long-term, deep space missions, the significant amount of time it takes to send a signal isn't going to cut it. The spacecraft will need to adjust its own trajectory without relying on ground navigation. That's where pulsars come in.

A group of NASA engineers showed that fully autonomous space navigation is possible through the use of X-rays, a discovery that could overhaul our approach to deep space travel. The X-ray guidance system was successfully tested during the Station Explorer for X-ray Timing and Navigation Technology (SEXTANT) experiment. Using pulsars timed down to the millisecond, the test craft relied on X-rays to pinpoint the location of a space object moving at thousands of miles per hour.

Considering viruses are thought to be the most prevalent biological entities on Earth, you would expect that plenty of research has focused on finding them in space, right?

Wrong.

To date, almost no research has looked into the possibility of viruses "living" in space or on other worlds. But now, Portland State University biology professor Ken Stedman wants to kick-start the search.

According to an article published in the February 2018 issue of *Astrobiology*, Stedman and his colleagues argue that it's time for astronomers to broaden their cosmic search for life by also combing space for viruses. "More than a century has passed since the discovery of the first viruses," said Stedman, "entering the second century of virology, we can finally start focusing beyond our own planet."

March 2018

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

Generated by FreeHTMLCalendar.com Copyright © 2011 John Dalbey.

Up and Coming Events 2017/2018

Regular Meeting – Friday February 16th – Museum @ 7:30 pm

Winter Work Day – Saturday February 24th – Observatory @ 10:00 am

PSW – Saturday March 3rd – Observatory @ 7:30 pm

Regular Meeting – Friday March 16th – Observatory @ 7:30 pm

Members Only Observing – Saturday March 24th – New Harmony Park @ 7:30 pm

PSW – Saturday April 14th – Observatory @ 7:30 pm

Moon Phases

New Moon	First Quarter	Full Moon	Third Quarter
March 17 th , 2018	March 24 th , 2018	March 1 st , 2018 March 31 st , 2018	March 9 th , 2018

Moon Phases courtesy of Time and Date.com

EAS MEETING Minutes for January 19th, 2018

The meeting was called to order at 7:33 pm by President Tony Bryan. There were 19 members present and 3 guests. The reading of the minutes was motioned to be accepted as published in the newsletter and seconded. The motion passed by majority vote.

UPCOMING EAS EVENTS – V. President Scott Conner announced the below list of up-coming events.

EAS Meeting	Friday, February 16	7:30 pm @ Evansville Museum
EAS Meeting	Friday, March 16	7:30 pm @ Observatory

TREASURER'S REPORT – Treasurer Ted Ubelhor reported that we now have 46 paid members. Ted, also reports, that we have funds in our accounts.

SPECIAL PROJECTS

Tony Bryan reports that we currently remodeling the Women's Restroom and the total remodel expense should be about \$1000. Tony also reports that the refrigerator is in need of a replacement and we are looking for someone to possibly donate one.

OLD BUSINESS

There was no old business to report for this meeting.

NEW BUSINESS

February Meeting and Presentation - Our February meeting will take place at the Museum in Evansville. Mitch Luman will present a new show entitled 'From the Earth to the Universe'.

Planning Session – The officers will be meeting @ Mitch Luman's on January 28th to work out the details for the new 2018 schedule. Keep your eyes on the website for a posting of the new schedule.

ANNOUNCEMENTS

Scott Conner and Ted Ubehlor reminded us to keep using the Amazon Smile donation program to help aid our financials.

Next Monthly Meeting - Our next regular meeting is scheduled for 7:30 PM on February 16th at the Evansville Museum.

Meeting Presentation – Tonight's presentation will be about the Okie-Tex Star Party by Mike Borman.

Meeting was adjourned at 7:54pm