

*Inside the Star Cluster NGC 602, new stars are forming thanks to a mix of gas and gravity.*



Within the Small Magellanic Cloud — a satellite galaxy of the Milky Way — hides the star cluster NGC 602. This stellar nursery formed when a gas cloud collapsed into clumps due to gravity, giving birth to a plethora of new stars. These young, blue stars are slowly eroding away the cosmic material that surrounds them, creating the glorious glowing pillars of material you see above.

Photo Courtesy: NASA, ESA, and the Hubble Heritage Team (STScI/AURA)-ESA/Hubble Collaboration

### Inside this Issue...

- 2 – Zoom Meeting Info
- 3 – Local Events and information
- 4 – News around the Globe
- 5 – Article by Mitch Luman
- 6 – Calendar
- 7 – EAS Business

---

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)

## To the Members of the EAS

At the time of this printing I have no information for our normal 3<sup>rd</sup> Friday monthly Zoom Presentation April 16<sup>th</sup>, 2021.

Please check our Facebook Group Page and Website for updates.

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 sessions of our previous Zoom Meetings and Presentations, you can watch a video stream of these events. This link can also be found on our website <http://evansvilleastro.org>

<https://www.youtube.com/channel/UC8A9iE6gz0JE1Rr8VuxqmDg?fbclid=IwAR0In5rjdsA-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 2021 Officers and Contacts**

President – Tony Bryan  
812.827.3234

[evansvilleastro@gmail.com](mailto:evansvilleastro@gmail.com)

Vice President – Scott Conner

Secretary – Dave Kube  
740.223.6854

Treasurer – Amy Barrett

Counselors  
Ken Harris (2019)  
Mitch Luman (2020)  
Michael Borman (2021)

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 that I currently have no information on a Zoom Meeting for April 16<sup>th</sup>.

### 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

### EAS Update

### EAS Update

### EAS Update

### EAS Update:

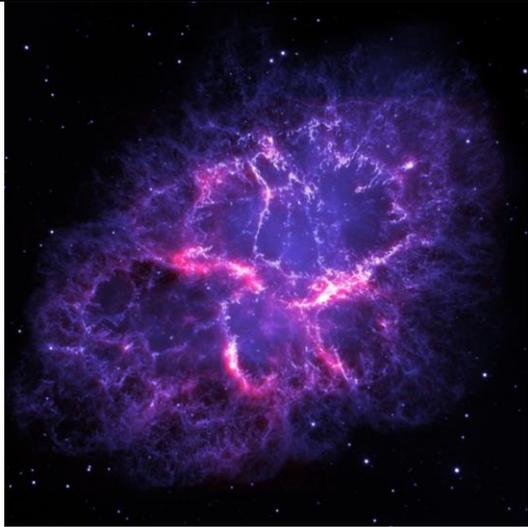
Please visit our website [www.evansvilleastro.org](http://www.evansvilleastro.org) and our Facebook Group page to keep yourself up to date for any changes.

### 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>

***Space is the place for impossible molecules***



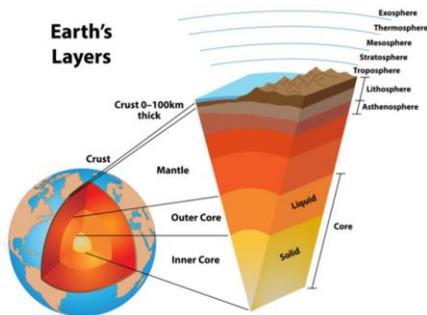
In the gases of the Crab Nebula, astronomers discovered argonium in what was the first detection of a naturally occurring, noble gas molecule.

Credit: ESA/Herschel/PACS/MESS Key Programme Supernova Remnant Team; NASA, ESA and Allison Loll/Jeff Hester (Arizona State University)

Molecules containing noble gases shouldn't exist. By definition, these chemical elements — helium, neon, argon, krypton, xenon and radon — are the party poopers of the periodic table, huddling in the rightmost column and refusing to make molecules. Indeed, no one has ever seen any naturally occurring noble gas molecules on Earth. Earlier this decade, though, astronomers accidentally discovered one of these aloof elements in molecules in space.

Then, in 2019, observers reported finding a second kind of noble gas molecule, one they had sought for more than three decades and of a type that was the very first to form after the universe's birth in the big bang. This newly found molecule lends insight into the chemistry of the early universe, before any stars began to shine or any galaxies had formed. The discovery may even help astronomers understand how the first stars arose.

***Earth has been hiding a fifth layer in its inner core***



Earth's layers before the discovery of the innermost-inner core. The newest layer is situated just below the inner core.

Credit: OSweetNature/Shutterstock

One of geology's basic principles is that the Earth is made up of four layers: the crust, the mantle, the outer core, and the inner core. But this may be squashed in light of a new study that suggests Earth actually has a distinct fifth layer that's been under our feet all along.

Researchers at the Australian National University (ANU) say that the new layer they uncovered is located within Earth's inner core. Deeper analysis of this discovery could help scientists better understand our planet's history and evolution.

## Books That Made Me Who I Am By Mitch Luman.

My grandfather presented me with my first telescope, a drug store 2.5-inch Tasco telescope, when I was ten years old. I can say with some certainty that from that moment on I was hooked on my lifelong love of the stars.

Along my straight-out-of college career path in education, there were several books that I either acquired or read that prompted me to choose the stars. By the age of sixteen, there were four books that I can had a positive influence toward grounding me in my chosen profession working at a planetariums and providing me with one of my favorite hobbies--gazing through telescopes at the night sky.

The earliest of four books, which attracted me to astronomy, was the Golden Guide Book, *The Sky Observer's Guide*. This little paperback has been an astronomer's standby for decades. Surprisingly, it is still in print. The Sky Observers Guide came in my possession as a fourth grader in the early 1970's. I cut my teeth in astronomy on this book, getting my first information about the stars, constellations, the Moon and the planets. In the pages of The Sky Observers Guide I learned about much of the basic information of skygazing, much of which still applies today. Sadly, although it is still in print, this book is sorely out of date and I regret that I cannot recommended it.

In 1969, the first telescope I received as a gift arrived with instruction manual entitled, *A Key to Worlds Beyond*, published by the Tasco company who manufactured the telescope. This hinge-stapled, paperback was written by Arthur P. Smith. Arriving boxed with my telescope, it was in my hands constantly as I looked at things in the night sky. I have hung on to it for over fifty years, and while it has no present usefulness, it was one of the first books I used to acquaint myself with telescopes. Years later, as an adult I had the foresight to take this book with me during a business trip to Miami, Florida with plans to meet the author. By this time, Mr. Smith and I both had something in common, we both worked at a planetarium and we were both amateur astronomers, so arranging for a meeting to have the book signed was relatively easy. I was also able convey to Mr. Smith the story of how I got interested in astronomy and how his book had a positive influence on my career. The author appeared genuinely surprised that his book has such an effect, but somehow as he penned in his autograph as we changed, from the humble expression on his face got the impression that I was not the first person to convey similar feelings about his little book.

Another book that had notable influence on me was *The Stars Tonight*, written by John and Cathleen Polgreen. I first came across this title at our local public library in the town where I grew up. At the time, I had recently received that first telescope and was of a mind to learn all I could about the night sky. With its month-by-month treatment of the night sky, I poured over this book and the objects that could be found overhead. My grandfather, noticing my interest in this one book, insisted that I have a copy of my own. In those days, there were a few brick-and-mortar bookstores, especially in small towns in northwestern Ohio. My grandfather did something that I consider amazing. He visited our local library where I had checked out the book and asked the librarians there if he could pay them to obtain a copy of the book from the publisher. It worked! Soon, I had my own copy of *The Stars Tonight*. I can vividly remember the smell of this newly minted book, in my hands as I turned the pages during the first few weeks after it was presented to me. The book was inscribed by my grandfather. To this day I treasure this book.

The final book that influenced me in my career and hobby is a classic autobiography of one of the 20th century's foremost amateur astronomers, and fellow Ohioan, Leslie C. Peltier. I first read *Starlit Nights* in preparation for a mandatory book report in high school. I thought, why not do a report on a book while reading a book that I might actually enjoy reading. Although many of the other astronomy books I have read concentrate on what to look at in the night sky, *Starlight Nights* mirrored my own feelings we look at the night sky for the joy we receive while doing it. The book *Starlit Nights* tells the story of a young man from Delphos, Ohio who built his own telescopes and would go on to discover twelve comets from his backyard. I really connected with this man. The book is still in print in paperback and I highly recommend it for young readers. Several years ago, through the efforts of an anonymous donor, I was gifted a hard copy, first edition of *Starlit nights*. This book too is another one of my prized possessions. I have read this *Starlit Nights* no less than four times and am inspired by the joy I receive every time I sit down to read it.

Books help develop our thoughts, provide us with knowledge and sometimes can lead a person in the right direction. These were four of the books that had an influence on me. Are there any books that had a positive influence on you when you were growing up?

May 2021

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](http://FreeHTMLCalendar.com) Copyright © 2011 John Dalbey.

**Up and Coming Events 2021**

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

**Please note I have no information regarding a Zoom Meeting for April 16<sup>th</sup>, 2021 @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
May 11 <sup>th</sup> , 2021	May 19 <sup>th</sup> , 2021	May 26 <sup>th</sup> , 2021	May 3 <sup>rd</sup> , 2021

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

***EAS Unofficial Meeting Notes for March – 2021***

To benefit the Evansville Astronomical Society and Facebook Group members, we had an informative online live Zoom presentation on March 19th by Edward Patrick, a Senior Research Scientist at Southwest Research Institute, located in San Antonio, Texas.

For more than a year, NASA has been taking steps to return astronauts to the surface of the Moon, and ultimately Mars. One such step is to send new payloads to conduct further studies on the Moon.

This past December, Ed's proposal submitted to NASA's Development and Advancement of Lunar Instrumentation (DALI) Program was awarded (\$2.18M). That project, entitled "Environmental Analysis of the Bounded Lunar Exosphere" (ENABLE), will modify a commercial off-the-shelf (COTS) mass spectrometer as a prototype spacequalified instrument for lunar surface operations

The online meeting began at/ about 7:30 PM CST (8:30 PM EST) on March 19, 2021.

Respectfully Submitted – Dave Kube – Secretary