

## SpaceX Dragon Spacecraft Packed with Big Science Launch Delayed Until Friday April 18<sup>th</sup>



Credit: NASA TV

SpaceX Falcon 9 rocket and Dragon cargo ship stand atop its Florida launch pad ahead of a planned April 14, 2014 launch to the International Space Station. The mission for NASA scheduled to launch from Cape Canaveral Air Force Station. The Launch was delayed until at least Friday, April 18<sup>th</sup>, 2014 due to a Helium leak.

The mission to the International Space Station is scheduled to deliver some big Science Projects. Please continue reading on page 5

### Inside this Issue.....

- 2 – Local Events and information
- 3 – News around the Globe
- 4 – May Calendar/ Events
- 5 – Space X Continued
- 6 – 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](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.

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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 Schedule Update:

Please Remember the Monthly Meeting for April will be held at its regular time and place, 7:30pm at the Observatory, Friday, April 18, 2014

### 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>

There is currently no update regarding the mount as we are waiting on the crane company to give us confirmation and a date.

There was a PSW held at the Museum on Friday, April 4<sup>th</sup>, 2014 at 7:00pm. It was cloudy so the event was cancelled due to weather.

We had a Dome Repair Day held at the Observatory on Saturday, April 12<sup>th</sup>, 2014. Only Ted Ubelhor and Charleen Kaelin attended. I do not have a list of items completed at this time.

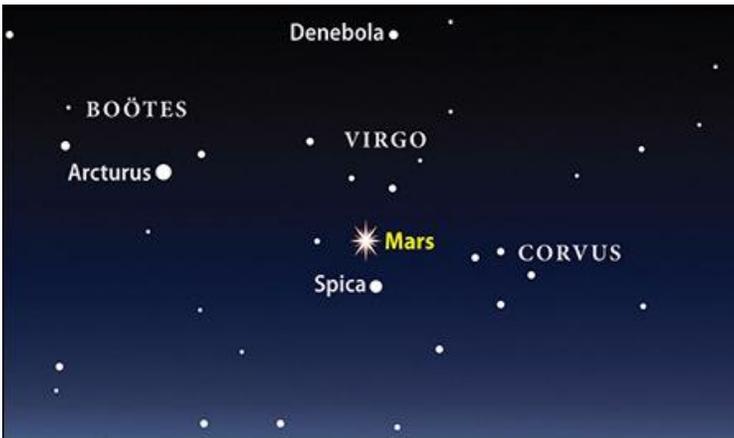
Watch a total lunar eclipse April 15



Martin Berner

If you're dreading the deadline for filing your taxes in the U.S., the sky will provide a distraction in the early morning hours of April 15. That's when we'll experience the first total lunar eclipse in 28 months. Observers throughout North and South America will have the prime views of this eclipse. Those in the western Pacific will miss the first half of the eclipse because it occurs before the Moon rises. Likewise, most of Europe and Africa will experience moonset just as the eclipse begins. The event starts at 12:54 a.m. EDT as the Moon enters the penumbra of Earth's shadow.

Explore Mars this month



Astronomy: Roen Kelly

The Red Planet has returned to glory. Every two years, Mars puts on a show in the evening sky as it reaches a point in its orbit called opposition, when the planet lies opposite the Sun in our sky, which means it rises near sunset and remains visible all night. In 2014, this event occurs April 8, and it signals the best views of the Red Planet in more than six years. On that night, look for a brilliant point of light in the southeastern sky just above the bright star Spica in the constellation Virgo. That's Mars, which shines at magnitude -1.5, brighter than it has since December 2007.

Koch Immersive Theater



Photo by Dave Kube

If you were unable to attend the March meeting you missed not only an impressive location, but a very entertaining program. Mitch also gave a behind the scene tour for those that stayed. We had an excellent turnout and for all those that attended it was a real treat.

May 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16 Regular Meeting 7:30pm Observatory	17 Astronomy Day 11:00am Museum & Audobon
18	19	20	21	22	23	24
25	26	27	28	29	30	31 EAS Picinic 6:00pm PSW 8:00pm Observatory

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**Up and Coming Events 2014**

**Regular Meeting - Friday, April 18, 2014 @ 7:30pm @ Observatory**

**Regular Meeting - Friday, May 16, 2014 @ 7:30pm @ Observatory**

**Astronomy Day – Saturday, May 17, 2014 @11am @ Museum, 6:30pm @ Audobon**

**EAS Picnic – Saturday, May 31, 2014 @ 6:00pm @ Observatory, PSW @ 8:00pm**

**Moon Phases**

First Quarter	Full Moon	Third Quarter	New Moon
May 7, 2014	May 14, 2014	May 21, 2014	May 28, 2014

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

## SpaceX – Dragon Launch cont.

When the private spaceflight company SpaceX launches its third cargo delivery mission to the International Space Station, the flight's robotic Dragon spacecraft will be packed with 5,000 lbs. of vital supplies, including some intriguing technology and science experiments.

### Space Legs for Robonaut 2

NASA's humanoid Robonaut 2 droid has been on the space station since 2011, but was launched into orbit with only a torso, arms and head. Dragon will deliver two strange legs for Robonaut 2 as a technology demonstration. The legs are designed to allow Robonaut 2, or R2 as NASA calls it, to one day "walk" on the exterior of the International Space Station to make repairs

### NASA PhoneSat 2.5

NASA is redefining how to build satellites by merging smartphone technology with tiny cubesats. PhoneSat 2.5 is NASA's fifth smartphone-based cubesat mission. It is designed to be controlled from Earth via another smartphone.

### Cheerleader Science in Space

A group of NFL and NBA cheerleaders teamed up to take 48 microbial samples, including some from Sue the T. Rex, the Liberty Bell Mercury capsule used by Gus Grissom and several NFL and NBA stadiums, as part of an experiment to see how the microbes grow in space. The experiment, called Project MERCURRI, is organized by Science Cheerleader, a group of professional cheerleaders pursuing careers in science and technology.

### Space Laser

Dragon will deliver NASA's first laser-based communications system for the International Space Station as part of the Optical Payload for LaserComm Science, or OPALS for short. The system is a prototype designed to beam high-definition videos down to Earth.

### Protein Crystal Tests and More Science from CASIS

The Center for Advancement of Science in Space will have a wealth of science riding up to the International Space Station on the Dragon spacecraft. The experiments cover a wide range of subjects, including experiments to study how protein crystals grow in weightlessness, a miniature space farm to see how lettuce grows without gravity, and several experiments related to gene expression for illnesses like Huntington's Disease and Parkinson's Disease.



Credit [www.space.com](http://www.space.com)

***EAS MEETING for March 22, 2014***

The meeting was held at the Evansville Museum in the Koch Immersive Theater for the 1st time. It was CALLED TO ORDER by President Scott Conner at 7:35 PM with a great attendance. It was moved & seconded to approve the MINUTES of the previous month as seen on the EAS Internet page.

Tony Bryan announced the UPCOMING EVENTS:

April, 4, Friday, PSW @ *EVV MUSEUM*

April 12, Saturday, Dome Repair Day @ 9:30 AM

April 18, Friday, Regular Meeting Friday @ 7:30 PM @ Observatory

May 16, Friday, Regular Meeting @ 7:30 PM @ Observatory

May 17, Saturday, ASTRONOMY DAY @ *EVV MUSEUM* @ 11 AM-5 PM

& Audubon – 6:30 –10:00 PM

May 31, Saturday, EAS Picnic @ 6:00 pm with PSW & Observing @ 8:30 PM

Treasurer Ted Ubelhor reported on the ASSETS of this club. He also mentioned that finances are healthy even after paying the insurance bill. Also, he has become aware of a program for non-profit organizations that he plans to use.

**SPECIAL PROJECTS**

The president said that the DOME REPAIR date is awaiting date for removal of the old mount. He has made contact with a local company but has not received word back from them. More than likely, it will be at the end of summer.

The Vice-President reported that the CRANE EDUCATIONAL PARTNERSHIP has been in legal review for about one year.

**OLD BUSINESS**

The EAS BOARD met at Mike Borman's home on Sunday, February 21 where the schedule for the year was

set. The other items discussed were money, mount upgrades & other things.

The PSW held on March 8 was cancelled due to a lack of attendance because of the weather

Ted Ubelhor and Scott did the observation for DELAWARE SCHOOL on Tuesday, March 18. Eventually, the sky cleared and the attendees were able to view Jupiter, the double cluster, the plieades and several M-Objects. The club received a nice donation from them.

The OBSERVERING planned for Friday, March 21 in NEW HARMONY was cancelled due to clouds.

**NEW BUSINESS**

One of the co-workers of Charleen Kaelin wants a PRIVATE VIEWING for her cub scouts at the Observatory on Friday, April 26. If a volunteer can help on that date, please contact Charleen @ 812-303-1711.

DOME REPAIR DAY is scheduled for April 12 @ 9:30 AM. Help is needed to get the observatory in shape. Scott plans to itemize the needed projects before that date. Any time you can contribute on that date would be appreciated. Scott Conner will bring sandwich meat for lunch.

ASTRONOMY DAY will be on May 17 @ the Evansville Museum with observing at Audubon in the evening.

This year the EAS PICNIC will be on May 31, starting at 6:00 PM. Meat & buns will be provided by Ken & Jude's Meat Market. As usual, please bring a small side dish. Also, a \$2.00 donation is requested. Observing will follow about 8:30 PM.

Lastly, Charleen Kaelin presented "What's Up This Month" report.