



# Lake Erie Nature & Science Center

## ASTRONOMY CLUB

### Early Spring?

February 2019

I'm not sure if Groundhog Day can technically be considered an astronomical event, but with the Marmota Monax failing in its attempt at Solar Observing, tradition says we are looking at an early spring. While you are waiting, Astronomy Club is accepting designs for the official Club t-shirt. If your design is selected, a free shirt will be headed your way. Contact me for more details. Mark your calendars for Movie Night on March 23 - we will be screening the movie "Gravity."

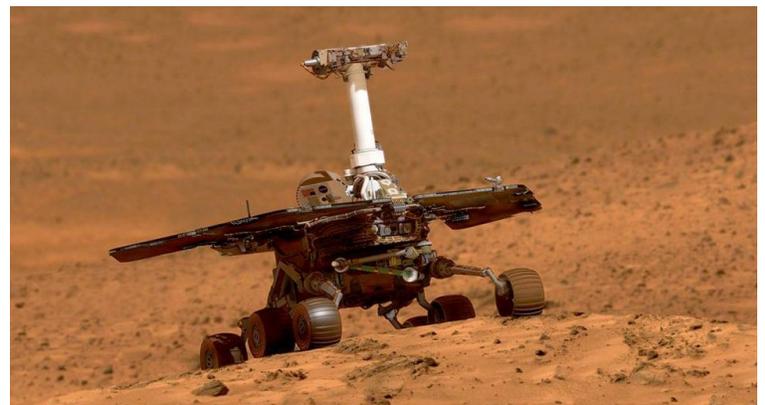
- Bill



### News and Current Events – What's going on in the world of space and astronomy

**Farewell to Opportunity** – On February 13, NASA declared the mission of Mars Rover Opportunity over after one last attempt at contacting the robot. Last June, we lost contact with Opportunity after a planetwide dust storm forced the intrepid solar-powered robotic explorer into hibernation mode hoping to preserve its power and reawaken once the Sun reappeared. While it slept, it wasn't able to use its onboard heaters, which it relied to keep warm during the long Martian nights.

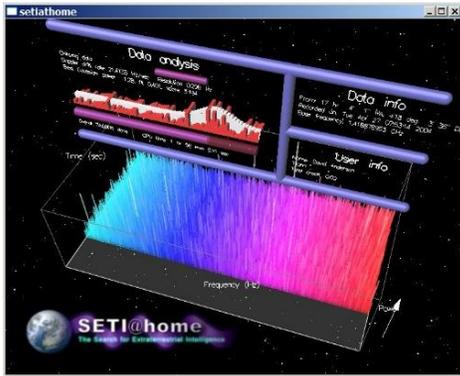
While the rover's lifetime was originally planned for 90 days, this rover survived for 15 years! It landed in January 2004, three weeks after its twin rover Spirit landed on the other side of the planet. During this time, it traveled over 28 miles and discovered evidence of standing liquid water existing in the Martian past. Congratulations to the scientists and engineers that contributed to this mission and farewell to Opportunity. Hope to see you again soon!



**Cha-ching!** – NASA received its budget for 2019. At \$21.5 billion dollars, it is a 3.5% increase from last year and the highest budget in 10 years (adjusted for inflation). Some of the planned and proposed missions to benefit from this increase are the James Webb Space Telescope, which will replace the aging Hubble Space Telescope; the Europa Clipper, which will explore Jupiter's icy moon Europa; and the NASA SLS (Space Launch System) heavy launch booster, which will someday propel humans back to the Moon and beyond.

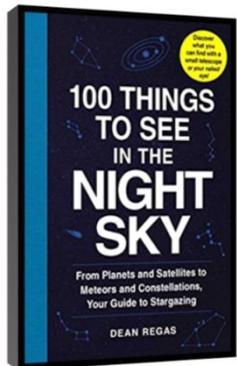
## Member Report – Astronomy on a Cloudy Night – By Sherrill Shaffer

Interested in exploring astronomy, but dealing with cloudy weather? Nowadays, there are many opportunities to contribute to space science, without prior training, via online projects sometimes referred to as “citizen science.”



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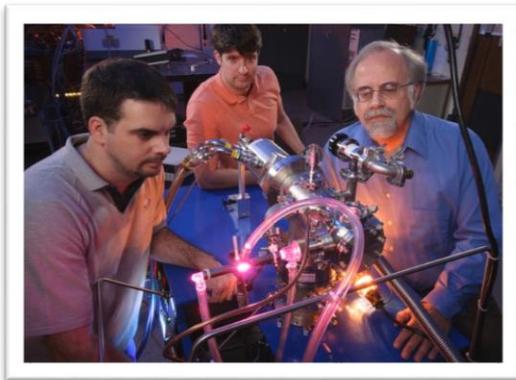
One example is [www.zooniverse.org](http://www.zooniverse.org) which links to dozens of science projects available to the public at no cost. Another resource is [SETI@Home](http://SETI@Home) which allows you to use your own computer to analyze radio telescope data in search for evidence of extraterrestrial intelligence. [Zapper](http://Zapper) allows you spot errors in an extensive variable star database. [Stardust@home](http://Stardust@home) lets you inspect images from a NASA mission to identify possible interstellar dust particles; the first discoverer of each likely candidate is allowed to name the particle and will be listed as a coauthor on any associated research publications. These projects can be fun, while helpful to the scientific community.



### Astro-tainment – Space and Media

This month, we are reviewing the book “100 Things to See in the Night Sky” by Dean Regas. This book is a very good practical guide to the night sky, as it not only tells you where and what to look for, but also explores the origins and myths related to our constellations.

Regas will be giving an astronomy presentation and signing books at Lakewood Public Library on Thursday, March 7 @ 7:00pm.



### Wrap your brain around this... - Mind blowing facts

**DNA in Space?** – For the first time, scientists have created 2-deoxyribose, the sugar that makes up the backbone of DNA, by simulating the conditions in deep space. This provides more evidence to support the theory that life on the Earth could have originated from microorganisms in outer space residing on meteors or other space rocks.



## Become a Member!

Members of Lake Erie Nature & Science Center receive access to Astronomy Club events and resources including:

- Monthly Meetings
- Star Parties (telescope viewing)
- Movie Nights
- Telescope Loan Program

**\$60/year per family**

Additional Membership benefits:

- Early access program registration
- Program discounts and exclusive events
- 4 free admission passes to daily shows at Schuele Planetarium
- Access to Birthday Parties and Room Rentals
- Promotional discounts to Wild Birds Unlimited (*Center location only*)

### Upcoming Events

SkyQuest: Humans in Space – March 13 @ 7:30 pm

Astronomy Club – March 20 @ 6:30 pm

Movie Night: Gravity – March 23 @ 6:30 pm

To become a member, please call 440-871-2900 or visit [www.lensc.org/support](http://www.lensc.org/support).