The Official Newsletter of the
Amateur Observers' Society of NY, Inc.
A 501(c)3 organization

Mar 2018

459 Little East Neck Rd.
West Babylon, NY 11704-6520
www.aosny.org **(F) 360-248-3129**

Next Meeting: Sunday, Mar 4, 1:15pm
Hofstra University Berliner Hall, Rm 117
Bldg 62, California Ave, Hempstead, NY

In case of inclement weather, or other unusual situation, please call Hofstra at 516-463-7669
www.facebook.com/pages/Amateur-Observers-Society-of-New-York-AOSNY/368529386242

The President's Message-Sue Rose

Happy Vernal Equinox. On Mar 20, Spring will arrive and hopefully bring some warmer observing temperatures with it. Of course, we need to get through the April showers first.

Thanks very much to **Justine Haupt-van Popering** for bringing the mysteries of radio astronomy to us in Feb. Hopefully, more of us will be influenced to dabble in the invisible parts of the spectrum to gain knowledge of our universe, and maybe participate in the AL Radio Astronomy Observing Program, run by our own **Bill Bogardus**. In Mar, **Prof. Alan Calder** of Stony Brook University will be discussing **"Cosmic Chandlery with Thermonuclear Supernovae"**, how Type 1A Supernova can be calibrated and used as standard candles. We'll also discuss the upcoming Messier Marathon.

Stars on Sunday Mar 4. Volunteers are needed. Please let me know if you can help. 5:30-8:30pm

An Embarrassment of Riches- When we were informed of the Jones Nature Center closing, we entered into an agreement with Sagamore Hill to move our operations. We've been informed that the Nature Center is not closing. Sagamore Hill is an outstanding opportunity for us to reach the public on the north shore and give our members there a facility to utilize. So, AOS is now in the process of establishing our third observatory, all situated to accommodate different regions of Long Island for the public and our members. Outreach schedules and member only nights are being worked out and we hope this will permit more of our members to participate without having to travel long distances. Equipment needs to be moved around so, if you'd like to assist, let me know. We are looking for a wider participation by the membership in public programs. The map on page 4 needed to be adjusted again. Many thanks to **Bill M.** for the new corrected one.

Astronomy Day, April 4-our yearly program at the Cradle of Aviation is fast approaching and volunteers are needed for this fun day. We need solar scopes for outside, people to man the desk for program sign-ups and directions, planetarium presenters and helpers, workshop helpers. The more hands we have, the easier it is. You'll have time to view the museum and we provide lunch. We start at 10 for set-up. The public programs are 12-4. Our VP, **Joe S.,** is the coordinator. Please contact him, or me, if you would like to help out. Everyone can participate regardless of age or knowledge level. It is always well attended.

Summer Picnic-our annual summer get together will be in Aug, either 4 or 18. The in between week will find many of us at the Rockland Summer Star Party, an event you don't want to miss. We need a volunteer to host the picnic. The committee will do the work. Contact me if you can help. Thanks.

Amazon Smile-Do you purchase items from Amazon? You can have a portion of your purchase, at no additional cost to you, donated to the AOS. Use this link http://smile.amazon.com/ch/11-3063389. If you forget the link, you can find the AOS in the list of Smile charities on the website near the top left.

*** Remember, the only dumb question is the one you don't ask. ***
Friends are like stars. You don't always see them,
but you know they are always there!

The AOS expresses its deepest appreciation to Hofstra University for hosting our meetings, the Custer Institute, NYS Parks Dept and National Park Service for hosting our Observatories, the Sierra Club Long Island Group for the 20" telescope, http://newyork.sierraclub.org/longisland/, and the East Meadow Public Library for hosting our Young Astronomer programs.

AOS Activities March and April

Date		Time	Event	Location
MARCH	3	1 pm	**AOS Young Astronomers**	East Meadow Public Library, East Meadow
	4	1:15 pm	**Club Meeting**	Rm. 117, Berliner Hall, California Ave., Hofstra U.
	4	6-8 pm	**Stars on Sunday - *volunteers needed***	Roof of Berliner Hall, California Ave., Hofstra U.
	9	sunset	**Observing sessions**	RMSP**, SMSP*
	10	sunset	**Observing sessions**	RMSP**, SMSP*
	16	sunset	**Observing sessions Messier Marathon**	RMSP**, SMSP*
	17	sunset	**Observing sessions Messier Marathon**	RMSP**, SMSP*
APRIL	1	1:15 pm	**Club Meeting**	Rm. 117, Berliner Hall, California Ave., Hofstra U.
	4	10:30 am to 4 pm	**Astronomy Day - *volunteers needed***	Cradle of Aviation Museum, Chas. Lindberg Blvd., Garden City
	13	sunset	**Observing sessions**	RMSP**, SMSP*
	14	1 pm	**AOS Young Astronomers**	East Meadow Public Library, East Meadow
	14	sunset	**Observing sessions**	RMSP**, SMSP*
	20	sunset	**Observing sessions**	RMSP**, SMSP*
	21	sunset	**Observing sessions**	RMSP**, SMSP*

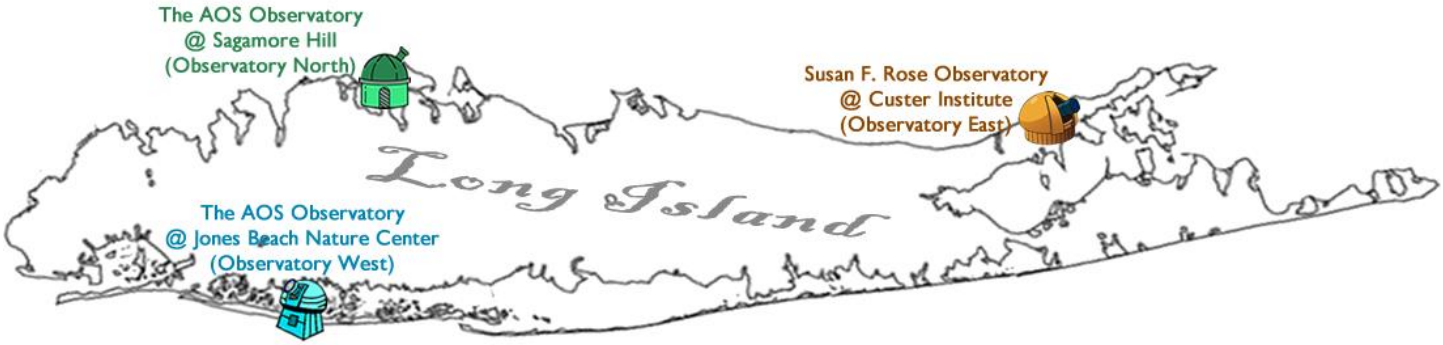
*SMSP = Sunken Meadow State Park, Field 3 **RMSP = Robert Moses State Park, Field 2
both require NYS Parks Stargazing Permit

Save the dates-Current plans for public outreach programs are as follows-Sagamore Hill- May 5, June 1, July 13, Aug 4, Aug 25 and Sept 15. Nature Center at Jones Beach- July 5, July 19 and Aug 16. Sea Cliff Oct 14. Dates for member nights are being coordinated.

The Golden Rule of Astronomy:
"If you own a telescope, you have a moral obligation to share the view!" – John Dobson

Looking ahead to April 8, 2024-Total Solar Eclipse map on google maps. Get ready, don't delay. http://xjubier.free.fr/en/site_pages/solar_eclipses/TSE_2024_GoogleMapFull.html?Lat=38.78835&Lng=-98.87695&Zoom=4&LC=1

Save The Date: World Science Festival Stargazing 2018
The annual Brooklyn Stargazing Event at **Brooklyn Bridge Park is Sat, June 2**. We hope you will join us again for another great night under the stars! If you would like to pre-register for the event please fill out this form. We will be in touch again in March. If you have any further questions, please email: education@worldsciencefestival.com
World Science Festival- Watch Videos, Explore New Frontiers, and Join the Conversation on World Science Connect https://www.youtube.com/watch?v=JxhfU_fvIAM



Notes from Our Observatories

AOS Observatory at Sagamore Hill National Park (Observatory North)-Dir Joe S
After meeting with the staff, it was decided to move our equipment and operations to Sagamore Hill.

AOS Observatory East (Susan F. Rose Observatory) - Dir. Bill C, Operator Alan C Open to the public every clear Saturday night on the grounds of Custer Institute in Southold. Additional help is welcome**;** private observing can be made afterward. Contact Bill for equipment training.

AOS Observatory at Jones Beach Nature Center (West)- Dir George S The Nature Center is not closing so we will continue operations for the public.

SAFETY REMINDER FOR PUBLIC PROGRAMS

For those who are attending to scopes, either your own or one of the AOS', it is very important that you be concerned with safety, both of equipment and visitors. A child damaging an eye is something we don't want to have happen. ***Under NO circumstances should you allow anyone to stand on tiptoes or lift a child to place their eye on the eyepiece.*** If a stepladder with a handle is not available, make your apologies. Please also insist that the child hold onto the ladder, not the telescope, and that the accompanying adult steady the child on any ladder. ALSO-ENSURE that scopes and ladders are not left unattended. Children jump at the chance to climb ladders. The taking of photos through eyepieces with handheld cameras for any open Newtonian scopes at the AOSOJB or Sagamore Hill is prohibited; for fear that a dropped camera will damage the primary mirror. On other scopes, let the camera owner be responsible for the photo at your discretion.
We want everyone to have a good experience and be safe. Remember; for them, for you and for Chris.

Anagram - ASTRONOMER: When you rearrange the letters: **MOON STARER**

Measuring Light Pollution https://www.globeatnight.org/ For March 8-17 and April 6-15, Leo the Lion is the target. See the charts and reporting requirements at https://www.globeatnight.org/magcharts/leo. If you need an incentive, see http://www.darksky.org/get-involved/ and http://www.darksky.org/light-pollution/measuring-light-pollution/. Join IDA.

New LED streetlights light trespass-Linda P
In Feb 21 Newsday, there is mention of a lawsuit over bright LED street lights installed in Great Neck creating light trespass in a home making it impossible to sleep.
Years ago, I called the Traffic Control Division of Hempstead and complained about a street light shining on my home. I got results. They shielded the light so that it didn't directly shine on my side of the street until they changed to the LED ones. Now, all three of the lights near my home are very, very bright. White fences that were barely noticeable previously now reflect the bright light at night and become bright as well. I called the Traffic Control Division, 516-378-2260. She took my information and said that the lights would be dimmed in a few days. We'll see how this works out. If you believe that the new LED lights are too bright, I encourage you to do the same. (On Feb 25, there was a Letter to the Editor, also complaining. Sue)

A Stargazer's Guide to Protected Dark Skies-Bobbi E
www.sierraclub.org/sierra/stargazer-s-guide-protected-dark-skies?utm_source=insider&utm_medium=email&utm_campaign=newsletter and
www.sierraclub.org/sierra/2018-2-march-april/feature/hunt-for-stars-dark-skies-preserves-and-parks?utm_source=insider&utm_medium=email&utm_campaign=newsletter

Star Parties, Special Events, Conventions, etc.

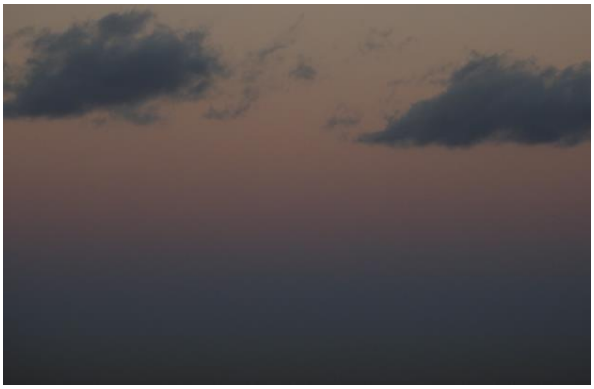
April 4 Astronomy Day Cradle of Aviation Museum-AOS Outreach program
April 14–21 The OzSky Star Safari Coonabarabran, New South Wales, Australia www.ozsky.org
April 19-20 Northeast Astro-Imaging Conference www.rocklandastronomy.com/neaic.html
April 21-22 NEAF http://www.rocklandastronomy.com/neaf.html (imaging workshop prior 2 days)
June 14-17, 2018, May 30-June 2, 2019 June 18-21, 2020 Cherry Springs Star Party
www.astrohbg.org/CSSP/index.php/future-star-party-dates
June 23 Astronomy Festival National Mall 6-11 pm volunteers needed, contact Prof Lubowich
June 24 International SUN-day https://www.facebook.com/groups/solaractivity/about/
July 11-14, 2018 ALCON, Minneapolis/St Paul, MN www.mnastro.org/ https://alcon2018.astroleague.org/
Aug 9-12 Stellafane Convention, VT http://stellafane.org/
August 10-19 Rockland Summer Star Party www.rocklandastronomy.com/ssp.html
Sept 7-9 Black Forest Star Party http://bfsp.org/
Oct 14 Starry Starry Night AOS Outreach, Sea Cliff
Oct 20 International Observe the Moon Night www.lpi.usra.edu/observe_the_moon_night/past-future-events/
Nov 3, 4, 5 Custer Institute Jamboree www.custerobservatroy.org see below
Nov 15-17 American Assoc of Variable Star Observers Annual Meeting www.aavso.org/aavso-meetings
Alley Pond Environmental Center (APEC) http://www.alleypond.com Monthly adult & family astronomy program "Star Searchers – Exploring the Night Sky" 7pm; $9 members / $15 non-members. Entrance at 228-06 Northern Blvd., Douglaston, NY
Amateur Astronomers Association, AAA www.aaa.org for calendar of upcoming events Mar 2- **"The Dark Side of the Universe"** by **Neta Bahcall** of Princeton University. This presentation is in the Kaufmann Theatre, AMNH, 6:15-8:00 p.m. Use the 77th St entrance. http://www.aaa.org/lectures/lecture-series-2017-2018/
American Museum of Natural History- Sat, March 24, 1105, **Sun-Earth Day,** 4:30 pm, **3D Sun–Earth Interaction.** From eclipses to the aurora borealis, beautiful interactions between our Sun and Earth have captivated curious minds for millennia. Join Director of Astrovisualization Carter Emmart and NASA Solar scientists Masha Kuznetsova, Leila Mays and Alex Young as they explain these phenomena and the science behind them. https://www.amnh.org/learn-teach/adults/lectures-and-special-events/3d-sun-earth-interaction?utm_source=public-programs&utm_medium=email&utm_campaign=astrolive-frontiers-sunearth&utm_term=starstruck&utm_content=version_A&sourceNumber=11628
Columbia Astronomy Public Outreach http://outreach.astro.columbia.edu Observing following a talk. Mar 9, 7pm, **"Alien Weather"** by **Statia Cook**, Mar 23, 7pm, **"Cool Stars, Hot Exoplanets"** by Emily Rice.
Cradle of Aviation Museum Cradle of Aviation Museum Sat and Sun at noon- a unique astronomy experience! Educator led, interactive, full dome, 40-50 min program utilizes simulation software aimed at presenting and teaching astronomy, astrophysics and earth sciences. The full dome theater is a largescale immersive environment, featuring real time digital planetarium and large-format cinema. http://www.cradleofaviation.org. Astronomy Day is April 4.
Custer Institute & Observatory http://www.custerobservatory.org **Stargazing every clear Sat eve, 7-midnight** 631-765-2626
Montauk Observatory http://www.montaukobservatory.com/ Star Parties (weather permitting) Mar 16, 6-9pm, Apr 21, 8-10pm, South Fork Natural History Museum (www.SoFo.org) in Bridgehampton. Register at 631-537-9735. Mar 9, 7pm, **"The Hunt for Dark Matter"** by **Dr. Rouven Essig**, Montauk Library, 631-668-3377
NYSkies Seminars 1st and 3rd Fri of each month. 6:30-9PM McBurney Hall, 125 W 14th St, 6/7 Ave, NYC www.nyskies.org/seminar.htm Join their hotline for local activities at nyskies@nyskies.org
SUNY@Stony Brook Science Open Nights - 7:30pm in Earth & Space Sciences Bldg, ESS 001. Astronomy Open Night www.astro.sunysb.edu/openight/opennite.html Mar 2 "discoveries in astronomy" by **Prof. Jin Koda**
Sidewalk Astronomy in Lynbrook AOS member Tom Lynch
https://www.facebook.com/pages/Sidewalk-Astronomy-in-Lynbrook/133963613371631?ref=hl
Other Star Party lists http://earthsky.org/astronomy-essentials/astronomy-events-star-parties-festivals-workshops?utm_source=EarthSky+News&utm_campaign=7d79fa2dee-EarthSky_News&utm_medium=email&utm_term=0_c643945d79-7d79fa2dee-394585393

2018 Astronomical Phenomena by the US Naval Observatory http://aa.usno.navy.mil/publications/reports/ap18_for_web.pdf

AOS Member AstroPhotos

Carol K **Nancy R** Stellarvue 102 and canon 80D

Glenn S (Tuson, AZ) 3.5-inch Questar and Nikon D3000. I tried to preserve/reproduce both the coloration, hue, and saturation of the moon during totality as it appeared to me in my minds eye with 20x80 binoculars in this rendering. Visually, (in the binos), I could manage to see the bluish stratospheric-ozone-filtered stratum soon before totality - though didn't capture it very well in images this time. Though this does appear on the limb in the bottom right after entering into the Earth's umbra, though it is subtle.



Rich Q (Ft Lauderdale, FL) Nikon P900 at 2000mm, Lunar eclipse and Belt of Venus

Gene Z Canon EOS Rebel XS

The photo of Comet Panstarrs in the Feb newsletter was mistakenly attributed to **Rich T**.

New Astro Art Project Needs Your Sky Photos-Astronomers Without Borders

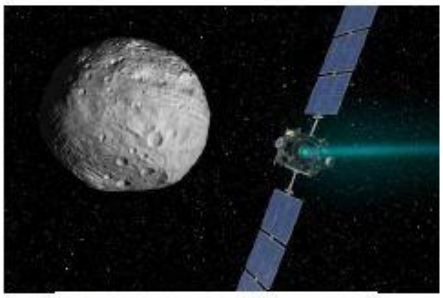
A beautiful collage of constellations put together from photographs taken from around the world. He needs photos from your smartphone or camera of the brightest constellations in your local sky, along with bit of local landscape in the foreground. https://astronomerswithoutborders.org/index.php?option=com_acymailing&ctrl=archive&task=view&mailid=372&key=Zdp9wtle&subid=8095-125a48d077df42e1ef71eca9fbf29b35&tmpl=component

Observing Projects for Month http://www.theskyscrapers.org/march
Viewing the Lunar X & V-not anytime soon
Meteor Showers-none to speak of till April
Messier Marathon Time-Due to the double full Moon in Mar, 2nd blue Moon of the year, there is only 1 good weekend for the Messier Marathon this year, St. Patrick's Day weekend, Mar 16, 17, 18. Details at the Mar meeting.

Recent Outreach Activities - Linda P
The Young Astronomers at the East Meadow Public Library participated in a fun program about galaxies on February 3rd, with **AOS** members leading the activities. The children made their own galaxy mobiles!

Cold Safety
NOAA website on cold safety: www.nws.noaa.gov/os/cold/index.shtml. The Canadian government's website may be a bit easier to understand: www.getprepared.gc.ca/cnt/rsrcs/sfttps/tp201101-eng.aspx. The OSHA site is the most difficult to read. This is not intended for the general public. www.osha.gov/SLTC/emergencypreparedness/guides/cold.html Try not to have a heavy meal just before going out.

Korean Star Map
During the Open Ceremonies of the Winter Olympics it was mentioned that in Korea the first star map was made 600 years ago. Here it is https://en.wikipedia.org/wiki/Cheonsang_Yeolcha_Bunyajid Close up view at https://en.wikipedia.org/wiki/Cheonsang_Yeolcha_Bunyajido#/media/File:Cheonsang_Yeolcha_Bunyajido_in_museum.jpg


Dawn approaching Vesta

AIAA Long Island Section
American Institute of Aeronautics and Astronautics

AIAA/IEEE(AES)
Joint Section Meeting
Thursday, March 22, 2018
Joseph Makowski,
Chief Engineer, Space Systems Group
Orbital ATK


Orbital's Antares rocket lifting Cygnus to the ISS

"Innovation & Exploration: Orbital ATK Spacecraft & Missions"

Location: Bethpage Public Library
47 Powell Avenue
Bethpage, NY 11714

Time: 6:00 PM Social Time
6:30 PM Pizza
7:00 PM Presentation

RESERVATIONS REQUESTED
RSVP BY March 21, 2018
to: davidsparis@twc.com
or 516-458-8593

Cost for Pizza: $5, Members and Guests
Free, for Students

This article is provided by NASA Space Place. With articles, activities, crafts, games, and lesson plans, NASA Space Place encourages everyone to get excited about science and technology. Visit **spaceplace.nasa.gov** to explore space and Earth science!

What Is the Ionosphere? By Linda Hermans-Killiam

High above Earth is a very active part of our upper atmosphere called the ionosphere. The ionosphere gets its name from ions—tiny charged particles that blow around in this layer of the atmosphere.

How did all those ions get there? They were made by energy from the Sun!

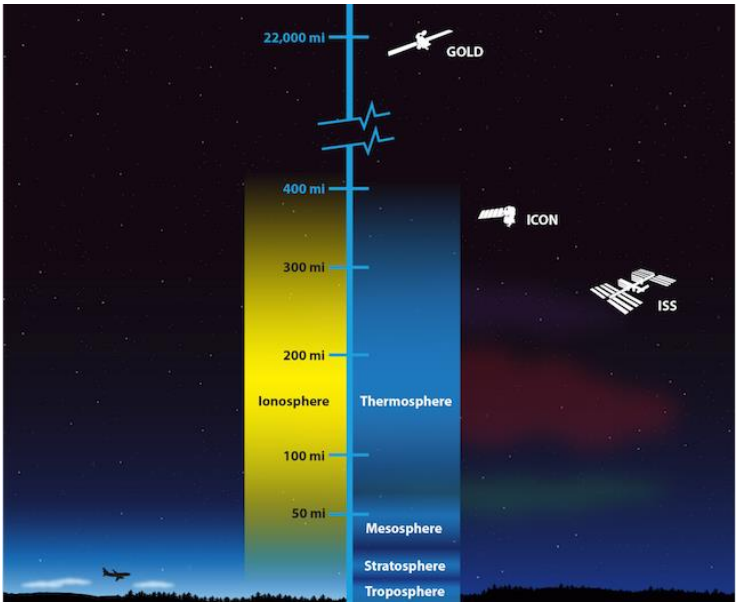
Everything in the universe that takes up space is made up of matter, and matter is made of tiny particles called atoms. At the ionosphere, atoms from the Earth's atmosphere meet up with energy from the Sun. This energy, called radiation, strips away parts of the atom. What's left is a positively or negatively charged atom, called an ion.

The ionosphere is filled with ions. These particles move about in a giant wind. However, conditions in the ionosphere change all the time. Earth's seasons and weather can cause changes in the ionosphere, as well as radiation and particles from the Sun—called space weather.

These changes in the ionosphere can cause problems for humans. For example, they can interfere with radio signals between Earth and satellites. This could make it difficult to use many of the tools we take for granted here on Earth, such as GPS. Radio signals also allow us to communicate with astronauts on board the International Space Station, which orbits Earth within the ionosphere. Learning more about this region of our atmosphere may help us improve forecasts about when these radio signals could be distorted and help keep humans safe.

In 2018, NASA has plans to launch two missions that will work together to study the ionosphere. NASA's GOLD (Global-scale Observations of the Limb and Disk) mission launched in January 2018. GOLD will orbit 22,000 miles above Earth. From way up there, it will be able to create a map of the ionosphere over the Americas every half hour. It will measure the temperature and makeup of gases in the ionosphere. GOLD will also study bubbles of charged gas that are known to cause communication problems.

A second NASA mission, called ICON, short for Ionospheric Connection Explorer, will launch later in 2018. It will be placed in an orbit just 350 miles above Earth—through the ionosphere. This means it will have a close-up view of the upper atmosphere to pair with GOLD's wider view. ICON will study the forces that shape this part of the upper atmosphere.



Both missions will study how the ionosphere is affected by Earth and space weather. Together, they will give us better observations of this part of our atmosphere than we have ever had before.

To learn more about the ionosphere, check out NASA Space Place:
https://spaceplace.nasa.gov/ionosphere

This illustration shows the layers of Earth's atmosphere. NASA's GOLD and ICON missions will work together to study the ionosphere, a region of charged particles in Earth's upper atmosphere. Changes in the ionosphere can interfere with the radio waves used to communicate with satellites and astronauts in the International Space Station (ISS). Credit: NASA's Goddard Space Flight Center/Duberstein (modified)

Life, the Universe, and the Peter Principle By Michael West, Deputy Director for Science

These are heady days for astronomers. Discoveries of ancient Martian lakes and planets around distant stars have raised hopes of finding life elsewhere in the universe, maybe even intelligent life.

But if Laurence Peter was right, we might want to lower our expectations a bit.

In 1969, Peter stumbled on one of those universal truths that seems so obvious now you wonder why it wasn't discovered before fire. The Peter Principle, as it's known, says this: In any hierarchy, individuals tend to rise to their level of incompetence.

The idea is simple. An employee who excels at his or her job is likely to be rewarded with a promotion. Success in the new position may bring another promotion, and so on.

Eventually, however, the employee gets promoted to a position whose demands exceed his or her abilities. They end up marooned there, with no prospect of further advancement and little likelihood of demotion. At best they become mostly harmless, at worst they impede progress.

Peter's wry observation is key to understanding how organizations work. "In time, every post tends to be occupied by an employee who is incompetent," he concluded. Like cataract surgery for your inner cynic, the Peter Principle brings the world into sharper focus.

But what if, like gravity, the Peter Principle is one of those fundamental laws that govern the universe?

For four billion years, life on Earth has worked its way up the evolutionary ladder of complexity. Simple self-replicating molecules in our planet's oceans, life's entry-level position, combined to make the first single-celled organisms. Multi-celled organisms then arose. Squishy invertebrates gave way to creatures with skeletons. Rudimentary nervous systems evolved into brains. Eventually a few enterprising sea creatures dragged themselves onto land.

Then, about four million years ago, a group of primates with the ability to walk upright appeared on the plains of Africa and immediately began searching for the nearest Starbucks. And that's when the problems began.

Maybe smart ape-like creatures with a fondness for café lattes and chattering on cell phones was one promotion too many up the evolutionary ladder. The same intelligence that has helped our species survive for 200,000 years has also given us tools capable of destroying civilization as we know it, such as nuclear weapons, global warming and the Kardashians.

Is it possible that life on Earth has finally reached its level of incompetence with homo sapiens?

Worse still, we might be unable to judge. As psychologists David Dunning and Justin Kruger discovered more than a decade ago, the least competent are usually the most clueless about their own shortcomings, prone to overestimating their talents as, say, the self-appointed stewards of a planet.

SETI, the search for extraterrestrial intelligence, is driven by the belief that alien civilizations are likely to be as common as pork chop sideburns in a roomful of Elvis impersonators. We only need to listen patiently for their messages, SETI enthusiasts tell us, and our efforts will be rewarded someday. If we're lucky we might even be invited to join an exclusive "galactic club" of advanced civilizations with whom we can share bon mots and swap recipes.

But the Peter Principle suggests that life on every planet might eventually reach a level of incompetence. If so, then there may be nobody out there to talk to—or worth talking to.

Websites to Explore

Last Summer's Eclipse created "bow shock waves" in the ionosphere-Joe Rao
http://www.skyandtelescope.com/astronomy-news/solar-eclipse-made-bow-waves-earths-atmosphere/

Man-made Meteor Showers in Japan
https://singularityhub.com/2017/11/20/the-first-man-made-meteor-shower-will-light-up-japan-in-2019/#sm.0001u1qf6mgxyeynpkc2mk8pp8wgi

An Insider's Guide to Voyager: 1977-2017 https://www.jpl.nasa.gov/news/news.php?feature=6928

First Image of SpaceX Space Suit https://teslamotorsclub.com/blog/2017/08/23/musk-debuts-first-image-of-spacex-space-suit/

The Farthest Operating Spacecraft, Voyagers 1 and 2, Still Exploring 40 Years Later
www.jpl.nasa.gov/edu/news/2017/8/29/the-farthest-operating-spacecraft-voyagers-1-and-2-still-exploring-40-years-later

Granting weightless wishes www.esa.int/Our_Activities/Human_Spaceflight/Astronauts/Granting_weightless_wishes

More Websites to Explore

Large, Distant Comets More Common Than Previously Thought www.psi.edu/news/meowisecomets
NASA's Next Mars Mission to Investigate Interior of Red Planet www.jpl.nasa.gov/news/news.php?feature=6934
Big dishes band together http://m.esa.int/Our_Activities/Operations/Estrack/Big_dishes_band_together
ALMA Finds Huge Hidden Reservoirs of Turbulent Gas in Distant Galaxies www.eso.org/public/news/eso1727/?lang

Hofstra Science Night Live
Dr. Ellen Stofan: What Space Exploration Can Mean for Innovation on Earth Since 1969

NASA plans to send humans to Mars in the 2030s -- a monumental challenge. This will help us to discover if life ever evolved on the red planet and will also boost the economy and technological capacities (like Apollo did in the 1960s). In fact, getting to Mars may provide helpful solutions to problems here in the developing world -- issues around agriculture, irrigation, water purity, and rescue technology. **Dr. Ellen Stofan** is the former chief scientist at NASA (2013-2016), where she served as principal advisor to the NASA administrator on the agency's science-related strategic planning and programs.
Science Night Live is Hofstra University's public lecture series that features exciting science research presented by some of the top scientists and lecturers in their fields. Science is important in our everyday lives, and these timely lectures are sure to inspire and challenge us in unexpected ways.
Presented by the **Hofstra Cultural Center**.
Date: Thursday, March 8, 2018 Time: 7 p.m. Free and open to the public
Location: Fortunoff Theater, Monroe Lecture Center, South Campus
This event is free, but advance registration is required. Please RSVP at https://events.hofstra.edu/index.php?com=rsvp&eID=25511 using the ***RSVP for this Event***..
For more information, please contact the Hofstra Cultural Center at 516-463-5669 or https://www.hofstra.edu/community/culctr/.

Cutting the Andromeda Galaxy down to size by Dr. Michael West, Lowell Observatory's Dep Dir for Science
Astronomers have long thought that our nearest galactic neighbor, the Andromeda Galaxy, is a brute, weighing two to three times as much as our home galaxy, the Milky Way. Moreover, the two galaxies are destined to collide in about four billion years, with the smaller Milky Way likely to be swallowed by the larger Andromeda Galaxy.
But a new study by a team of astronomers in Australia suggests that the Andromeda Galaxy isn't so big after all. By measuring the motions of fast-moving stars in Andromeda, the team calculated how much gravity - and hence mass - it must have to prevent those stars from escaping into space. The results show that the Andromeda Galaxy has about the same mass as our own Milky Way galaxy, equal to the combined weight of roughly 800 billion suns.
If you'd like to know more, just click on the links below:
http://astronomy.com/news/magazine/2018/02/adromeda-is-the-same-size-as-the-milky-way
http://blogs.discovermagazine.com/d-brief/2018/02/15/how-big-andromeda-galaxy/
https://phys.org/news/2018-02-milky-ties-neighbor-galactic-arms.html
https://www.usatoday.com/story/tech/science/2018/02/15/andromeda-galaxy-not-bigger-than-milky-way-after-all/341450002/
https://www.universetoday.com/138556/turns-andromeda-younger-earth-sort/
This discovery doesn't change the fact that the Milky Way and Andromeda are destined to collide in four billion years, but rather than a big bully picking on a smaller victim, it's more likely to be a battle of equals. The two galaxies will eventually merge to create a new larger galaxy, which astronomers have cleverly named - wait for it - Milkomeda.

The Amateur Observers' Society of NY
In cooperation with the
Hofstra Physics & Astronomy Department
Presents

Prof. Alan Calder

Associate Professor in the Astronomy Group within the Department of Physics and Astronomy at SUNY Stony Brook, his research is in the field of nuclear astrophysics and involves simulating explosive astrophysical phenomena and is part of The Institute for Advanced Computational Science at Stony Brook.

"Cosmic Chandlery with Thermonuclear Supernovae",
how Type 1A Supernova can be calibrated and used
as standard candles

Sunday, Mar 4, 2018, 3pm
Astronomy club meeting begins at 1:30
Find out what to see in the sky this month
Come join us
Followed by Stars on Sunday
6-8pm
View the stars from the roof of Berliner Hall
Happy Vernal Equinox

AOS 2018 Public Astronomy Programs

www.aosny.org

Presentations, Activities, and Stargazing – Free Sagamore Hill National Historic Site
Outdoor presentation followed by stargazing with telescopes, weather permitting. Learn about the constellations and see planets, craters on the Moon, and more! May 5, June 1, July 13, Aug 4, Aug 25 and Sept 15
https://www.nps.gov/sahi/planyourvisit/basicinfo.htm

Presentations, Activities, and Stargazing – $4 Nature Center at Jones Beach State Park, Wantagh
Indoor presentation followed by stargazing with telescopes, weather permitting. Learn about the constellations and see planets, craters on the Moon, and more! July 5, July 19 and Aug 16
http://www.aosny.org/Calendar_of_Events.htm

AOS Monthly Meetings Open to the Public – Free- Mar 4, Apr 8, May 6, Jun 3, usually first Sunday Oct-June
Hofstra University, Berliner Hall, room 117, 1:15pm
For dates and location see http://www.aosny.org/MeetingSchedule.htm
For monthly newsletter see http://www.aosny.org/Newsletter_archive.htm.

Stargazing at AOS Observatory in Southold – Free- Public stargazing every clear Sat.
For map see http://www.aosny.org/Custerdirections.htm
Susan F. Rose Observatory at the Custer Institute, Southold. www.custerobservatory.org.

AOS Young Astronomer Programs – Free- Saturdays 1 pm, 3/3, 4/14 in 2018
East Meadow Public Library, 1886 Front Street, East Meadow, NY 11554 www.eastmeadow.info
Hands-on astronomy activities for ages 7 to 9 yr old, Sat, 1 pm Oct-April
Prior Registration required; call (516) 794-2570.

***Stars on Sunday* with Hofstra University – Free-** Mar 4 6-8pm, May 5 8-10pm
Astronomy presentations and stargazing (weather permitting).
Berliner Hall at California Ave. and Huntington Place, Hempstead
Check times, registration, and latest info at www.hofstra.edu/astronomy

Music and Astronomy Under the Stars - Free - Stargazing at public concerts in the Parks
2018 dates TBD

Astronomy Resources
Monthly celestial events: http://amazing-space.stsci.edu/tonights_sky/index.php
Monthly sky charts: www.skymaps.com Free computer planetarium program: www.stellarium.org

TELESCOPES PROVIDED AND/OR OPERATED BY AMATEUR OBSERVERS' SOCIETY OF NY
with support from the Sierra Club, Long Island Group http://newyork.sierraclub.org/longisland/

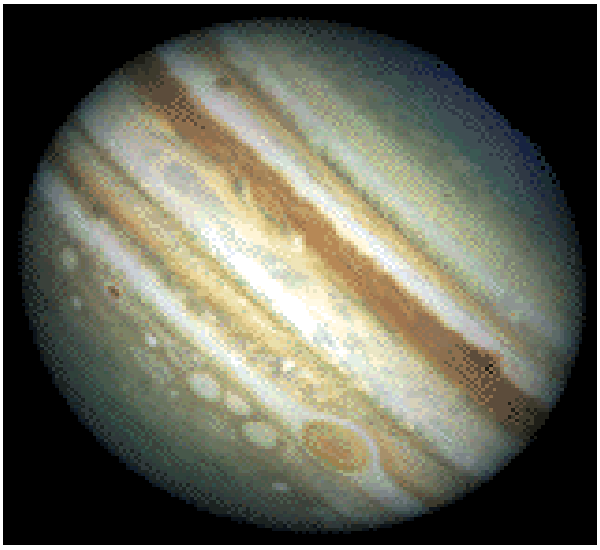
REACH FOR THE UNIVERSE!

HOFSTRA UNIVERSITY

Astronomy Outreach, Department of Physics Astronomy

Stars on Sundays 2018

Mar. 4, 6 – 8 pm
May 5, 8 – 10 pm



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Hofstra invites kids of all ages to view the Moon, Jupiter, Saturn, Mars, Venus, star clusters, nebulae, & double stars with telescopes from the Hofstra Observatory, 4th floor, Herman Berliner Hall, California Ave. & Huntington Place, S. of Hempstead Turnpike. Program begins with a presentation about the sky in room 117. Attendance is limited to150 people/event.

Latest info and free registration: www.hofstra.edu/astronomy GPS: 826 Huntington Pl Uniondale, NY 11553; Email: observatory@hofstra.edu