



# Celestial Observer

[www.aosny.org](http://www.aosny.org)

OFFICIAL NEWSLETTER

May 2021

## The Amateur Observers' Society of New York

### The Amateur Observers' Society

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

Visit us at [www.aosny.org](http://www.aosny.org) and join us on [Facebook](#).

The AOS expresses its deepest appreciation to the Custer Institute for hosting our Observatory, and the [Sierra Club Long Island Group](#) for the 20" telescope.



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## This Month's Issue

President's Message

**EXTRA SPECIAL NEWS**

May Observing

Moon Photos

**Next Meeting (online):** Sunday **May 2nd**, 1:15PMContact [AOSsecretary@aosny.org](mailto:AOSsecretary@aosny.org) for a meeting invitation

## The President's Message

By Sue Rose

Spring is here, and, as usual, raining on our planned observing sessions. The second and third weekends of May, Fri & Sat, will be observing at our new site according to our NYS permit, available in the **groups.io** files.

The restrictions are a bit less and info will be on the hotline for those wishing to get back to some semblance of normal. Speaking of normal, the Cradle of Aviation will

be holding a limited scale Astronomy Day on Sat, May 15, and we will be there with solar observing via eyepiece camera and monitor and a

discussion of upcoming solar and lunar eclipses with views right here at home or within reasonable distance. See the info elsewhere and get in contact with **Linda or Joe**. There will also be several work parties at our observatory in Southold this month. If you can help, contact **Bill or Jason**.

So sorry I didn't add much to the Constellation Hunter this month. I was not available to work on it. I am looking forward to the upcoming observing nights to start checking of a few more, and maybe seeing more stars than from my backyard which has nearly lost the battle of Nassau County light pollution.

On April 11, we were fortunate to have **Mr. Mark Neufeld**, Senior Curator at the National Air & Space Museum. It was great to hear about the updates taking place. He has authored 9 books and has written a biography on Wernher von Braun which is who he spoke about. So much stuff I had never heard of before. There were so many questions we ran out of time. Unfortunately, I

missed the program April 18 by **Dr. Brian Fields**, Professor of Astronomy & Physics at the University of



Illinois who spoke about "When Stars Attack! Near-Earth Supernova Explosions and their Radioactive Fingerprints". I was really looking forward to that. Fortunately, **Jason** has these programs recorded so I intend to make use of that ability. You can too. If you miss a program, contact **Jason** and he'll send you the link.

Looking forward to the upcoming presentations which Jason has been able to procure for us. On May 2, **Professor Lyman Page Jr.**, Department of Physics Princeton University will present "The Six Numbers That Define the Entire Universe". I've spent 25 years getting all local people to inform

our membership at meetings, but **Jason** has broadened that circle to the whole world. Hopefully, we can arrange for internet access when we return to Hofstra and have a mix of local and distant speakers. Thanks, **Jason**, for making this happen for us.

**Hofstra Update** The MAUS (Music and Astronomy Under the Stars) program, in which we have participated for many years, is once again canceled for the summer as is the Stars on Sunday program for the fall term. Since non-students will not be permitted on campus, we will continue online meetings till at least next year.

**ALCON Update** The Astronomical League has postponed the in-person event planned for Albuquerque this August till 2022. They will be hosting an online series of presentations Aug 19-21. Registration will be free or \$5 if you want a pin commemorating the Astronomical League's 75th Anniversary.

**NEAF Update** The Northeast Astronomical Forum had a virtual meeting which was widely attended. If you missed it, [you can see it on YouTube](#) as if you were there the first time. One of our members, **Mike K**, won 1 of the 14 raffle prizes. Congratulations Mike. ●

***Friends are like stars.  
You don't always see them,  
but you know they are  
always there!***

Hoping to see everyone at our online meetings, May 2 & 16, 1:15pm.

Please, everyone, be safe and be careful. We will get together at some point. Till then,



## Membership News

Congratulations to **Joe Rao** who

wrote the June Sky & Telescope cover story on the June 10 solar eclipse.

AOS Members are also members of the Astronomical League and receive a quarterly magazine, the Reflector. If you would like a digital copy, see <https://www.astroleague.org/reflector>.

## 2021 National Astronomy Day at the Cradle of Aviation Museum

The Cradle will be celebrating National Astronomy Day on Saturday, May 15, 12-4 pm, and the AOS will be a part of it! AOS members are invited to participate in a scaled-down version of our activities this year with precautions in place due to the Covid-19 pandemic.

Protocols set by the museum are as follows:

- Temperature checks for all staff, volunteers, meeting attendees, and partnership members
- Masks must be worn by anyone over the age of 2; masks or face shields will be provided for those who do not have them
- Hourly cleaning of high traffic touch points throughout the museum
- Cleaning after every planetarium show and arcade session
- Building capacity in accordance with the NYS Covid regulations
- Hand sanitizer placed throughout the building
- Signage stating Museum Guidelines placed throughout the building

For National Astronomy Day:

- All activities will take place either outside or in open well ventilated areas within the

museum

- A break area will be provided for AOS either outside or in the boardroom; allowing for a break from the public where members could remove their masks
- Plexiglass barrier at the information table

Plans for this event are not completely finalized, but at this time we are planning a presentation on eclipses, solar observing using a camera at the telescope with a projected image displayed on a screen, and an information table.

## AOS Receives Amazon Smile Donation

Thanks to everyone who make their purchases through Amazon Smile. It costs nothing extra for you and AOS gets a small donation from every purchase. If you have questions, please contact our Treasurer, **Harvey M**. This past quarter, which included the holiday season, netted us **\$106.98**. Thank you.

## Observing Sites

**Susan Rose Observatory on the grounds of Custer Institute in Southold** Director **Bill C**, with help from **Jason C** and **Bill B**, has continued to bring the night sky objects into view for the public using digital means, currently borrowed, to project images captured by our C14 within the 8 foot dome to a monitor outside. He can always use extra help. Since this experiment has worked so well, and been well received by the visitors, we will be continuing to use this even after in-person viewing resumes. To that end, we are purchasing new digital equipment. Donations received in memory of member Bryan B, an avid astrophotographer and twin brother of our Corresponding Secretary **Bill B**, will help to pay

for these items. If anyone would like to do-nate toward this project, please contact Treasurer **Harvey M.**

Sagamore Hill is patiently awaiting our return to bring the night sky views back to their visitors as is the new Jones Beach Nature Center. We are hoping that at some point in the not-too-distant future we will be back there with all our equipment and seeing the public once again.

## Stargazing in the NYS Parks

Permits no longer available till Sept 7. Restrooms are not open during the cold months. The permit is good from Jan 1-Dec 31 each year and is for the vehicle, regardless of the number of occupants. Just be sure you have some star gazing equipment, like a star map. The permit allows you to go anytime you want which is a great advantage.

It's a good idea to put a note on the hotline and let others know you're going so you might get some company, socially distanced of course. No eyepiece sharing. ALWAYS tell someone where you will be. You might also call the NYS Police at 631-669-2500 to let them know you'll be there. PLEASE, make sure it is in your cell phone in a speed dial.

## AOS Member Observing Challenge

Sue Rose

So far, I've included the following constellations-Andromeda, Antlia, Aries, Auriga, Bootes, Canes Venatici, Canis Major & Minor, Cassiopeia, Cancer, Coma Berenices, Corvus, Crater, Gemini, Hydra, Leo Major & Minor, Lepus, Lynx, Monoceros, Orion, Pegasus, Perseus, Pyxis, Sextans, Taurus, Triangulum, Ursa Major & Minor. If you'd like to catch up, you can find my posts in the hotline mes-

sages or send me an email. Let's hope we can get together at our new location and work on these together.

## Sky & Telescope June 2021 Cover Story

Our own **Joe Rao** wrote "A fortunate few will enjoy the first solar eclipse viewable from North America since 2017. Mark Thursday, June 10th on your calendar as the date that much of the Northeast US will be treated to a 'Sunrise Scimitar.'" We will be at our new observing site for this event. [Read more at about this](#) at Sky&Telescope's site.

## May Observing Highlights

(All observing sessions are members only)

On May 3 & 4 we'll be treated to conjunctions once again of the Moon with Saturn & Jupiter and with Saturn again on May 30.

The Eta Aquariids, another shower left over from Halley's Comet, will make their appearance on May 5.

Watch for Jupiter, Saturn, and a waning crescent Moon in the general vicinity of the shower's radiant, low near the eastern horizon, 1-2 hours before sunrise. We have scheduled this as an observing session at our new location. Watch for details on the hotline or find yourself a good location under the warming temps to view this meteor shower. <https://earthsky.org/astronomy-essentials/everything-you-need-to-know-eta-aquarid-meteor-shower>

Watch for a Lunar X on May 18 near 1st quarter. There were some good pictures taken by members in April.

There is a Super, or perigean, Full Moon on May 25-26. You will need a photo of this to compare with a Micro Full Moon to complete the Lunar Observing

Program. Too bad we miss the lunar eclipse here in the east. We have an observing session scheduled at our new location on this day.

May 29 and 30 is the dates for this year's Manhattanhenge, when the Sun sets directly between certain Manhattan Streets, reflecting off all the building windows and making it look like a city of gold. Very convenient that it's Sat & Sun this year so you don't have to fight any workday traffic, whatever that is these days. If you run out into the street to take photos, please be very careful.

## Observing Projects and Useful Websites

Keep the dates!

On April 20, 2023, there's a hybrid solar eclipse over Australia/ Indonesia.

On Oct 14, 2023, there will be an annular solar eclipse over the south and midwest US.

On April 8, 2024, the US will once again be treated to a total solar eclipse, this time stretching from Mexico, up through the center of the country into Canada, over Buffalo, etc. It's time to start making plans. Who wants to help with this? Contact Sue.

Luckily, the partial annular on June 10, 2021 will be visible locally at sunrise. We will be there.

## Observing Projects for Month

[The Sky Scrapers this month](#)

[Skymaps.com](#)

[The Night Sky This Month](#)

[In-the-Sky.org](#)

[Astronomy Mag Sky This Week](#)

[Sky & Telescope Magazine Sky at a Glance](#)

[Globe at Night](#)

[EarthSky](#)

[What's Up each month \(video\)](#)

## Tonight's Sky

### Comet Watch 2021

If you own an 8-inch or larger telescope you might see more than a dozen new and returning comets this year, including one potential naked-eye candidate.

[Learn more at S&T online.](#)

### Can Americans reach the Red Planet in our time?

Presentation by Dr. Robert Zubrin, formerly a Staff Engineer at Lockheed Martin Astronautics in Denver is now president of his own company, Pioneer Astronautics will present "Destination Mars: Human Mars Exploration & Colonization / Humans to the Red Planet within a Decade". He holds Masters's degrees in Nuclear Engineering and in Aeronautics and Astronautics and a doctorate in Nuclear Engineering from the University of Washington. He is the inventor of several unique concepts for space propulsion and exploration, the author of over 200 published technical and non-technical papers in the field, as well as several novels and non-fiction books. He is a Fellow of the British Interplanetary Society and former Chairman of the Executive Committee of the National Space Society. Most recently, he founded the Mars Society, an international organization dedicated to furthering the exploration and settlement of Mars by both public and private means. In that capacity, he personally led the construction and operation of a human Mars exploration training station on Devon Island, an uninhabited island in the Canadian Arctic 900 miles from the North Pole.

This is a free, Zoom meeting arranged by the AIAA on May 18 at 7pm. You must register with David Paris at [davidsparis@twc](mailto:davidsparis@twc).

[com](#) or (516) 458-8593 by May 17. A link will be sent by AIAA.

### Northern Lights Trip

Ever want to visit Iceland and see the northern lights and volcanoes and other geothermal features? We had discussed making a club trip just before the pandemic broke so maybe it's time to try again. Anyone want to help organize? He is a tour already arranged, [https://www.jetlinevacations.com/deals/iceland-land-of-fire-and-ice-48?referrer=US\\_TZOO\\_TOP20\\_3](https://www.jetlinevacations.com/deals/iceland-land-of-fire-and-ice-48?referrer=US_TZOO_TOP20_3). Maybe we could get a group rate? Contact **Sue Rose**.

### Space Adventures-Commercial Spaceflight in 2021

Opportunities for private citizens to fly to space are only going to increase in the coming years. Flights fall into two broad categories - flights of a few minutes (suborbital spaceflight), or flights of a few days (orbital spaceflight). If you see a spaceflight in your own future, it is never too early to talk. Learn more [on Space Adventures site](#) or contact them at [jake@spaceadventures.com](mailto:jake@spaceadventures.com)

### Explore Scientific's Online Presentations

<https://youtu.be/bOzZjO8QWfc>

### Hamptons Observatory

May 3rd Event & More!

On Monday, May 3rd, starting at 7:00 PM, we're so very pleased to bring you a free, virtual program that will be presented by Mandy Jackson (Montaukett Indian Nation) and our own William Francis Taylor: "Exploring the Spring Sky: A Northeastern Native American Perspective."

Reservations required and tickets are limited. Please email [Director@AmagansettLibrary.org](mailto:Director@AmagansettLibrary.org)

Dark skies are of important to all of us who are interested in

astronomy (as well as in health and a host of other issues). On Tuesday, June 8th, at 2:00 PM, we've arranged for a free, virtual talk by Prof. Andy Lawrence from the University of Edinburgh: "The Sky: Why It Matters and How We Might Lose It." He also wrote THE book on the subject: "Losing the Sky." More info next time (and on our website) but you can [register now online](#).

For further information about this important issue, you might also want to check out the [dark sky advocacy organization](#) started by one of our founding Board members, Susan Harder.

### Stony Brook University

#### Open Astronomy Night

Fri, May 7, 7:30pm via Zoom

<http://www.astro.sunysb.edu/openight/opennite.html> Prof.

Michael Zingale, Associate Professor of Astronomy in Stony Brook's department of Physics and Astronomy - "When Asteroids Attack".

Over Almost a decade ago, a meteor blast over Russia caused a lot of damage and even some injuries. Where did it come from? And what dangers lie ahead? In this talk we will talk about the origin of asteroids and comets--- the leftover debris from the formation of the solar system, and what they tell us about the solar system. We'll explore the history of impacts on the planets (including earth) and discuss the dangers of, and potential solutions to, a future terrestrial impact. Register here for the zoom presentation: <http://www.astro.sunysb.edu/openight/> and click on the registration link.

Terry B



John B



Terry B



Joe M



John B



Steven B



Steven B



Bart F



**AOS  
Picture  
Page**



## Virgo's Galactic Harvest

By David Prosper

May is a good month for fans of galaxies, since the constellation Virgo is up after sunset and for most of the night, following Leo across the night sky. Featured in some ancient societies as a goddess of agriculture and fertility, Virgo offers a bounty of galaxies as its celestial harvest for curious stargazers and professional astronomers alike.

Virgo is the second-largest constellation and largest in the Zodiac, and easily spotted once you know how to spot Spica, its brightest star. How can you find it? Look to the North and start with the Big Dipper! Follow the general curve of the Dipper's handle away from its "ladle" and towards the bright orange-red star Arcturus, in Boötes - and from there continue straight until you meet the next bright star, Spica! This particular star-hopping trick is summed up by the famous phrase, "arc to Arcturus, and spike to Spica."

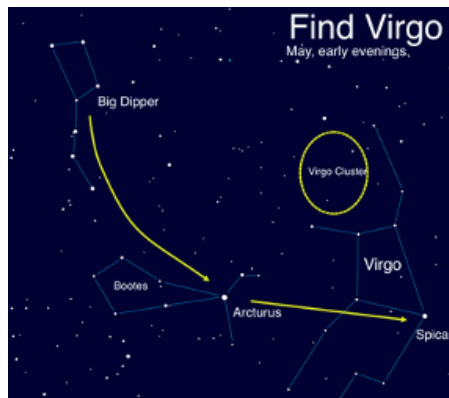
This large constellation is home to the Virgo Cluster, a massive group of galaxies. While the individual

stars in Virgo are a part of our own galaxy, known as the Milky Way, the Virgo Cluster's members exist far beyond our own galaxy's borders. Teeming with around 2,000 known members, this massive group of galaxies are all gravitationally bound to each other, and are themselves members of the even larger Virgo Supercluster of galaxies, a sort of "super-group" made up of groups of galaxies. Our own Milky Way is a member of the "Local Group" of galaxies, which in turn is also a member of the Virgo Supercluster! In a sense, when we gaze upon the galaxies of the Virgo Cluster, we are looking at some of our most distant cosmic neighbors. At an average distance of over 65 million light years away, the light from these galaxies first started towards our planet when the dinosaurs were enjoying their last

moments as Earth's dominant land animals! Dark clear skies and a telescope with a mirror of six inches or more will reveal many of the cluster's brightest and largest members, and it lends itself well to stunning astrophotos. Virgo is naturally host to numerous studies of galaxies and cosmological research, which have revealed

much about the structure of our universe and the evolution of stars and galaxies. The "Universe of Galaxies" activity can help you visualize the scale of the universe, starting with our home in the Milky Way Galaxy before heading out to the Local Group, Virgo Cluster and well beyond! You can find it at [bit.ly/universeofgalaxies](https://bit.ly/universeofgalaxies). You can further explore the science of galaxies across the Universe, along with the latest discoveries and mission news, at [nasa.gov](https://nasa.gov).

Discover more about our stellar neighborhood at [nasa.gov](https://nasa.gov)! This article is distributed by NASA Night Sky Network-The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit [nightsky.jpl.nasa.gov](https://nightsky.jpl.nasa.gov) to find local clubs, events, and more!



Find Virgo by "arcing to Arcturus, then spiking on to Spica." Please note that in this illustration, the location of the Virgo Cluster is approximate - the borders are not exact.



The first image of a black hole's event horizon was taken in the center of one of the most prominent galaxies in Virgo, M87! This follow up image, created by further study of the EHT data, reveals polarization in the radiation around the black hole. Mapping the polarization unveils new insights into how matter flows around and into the black hole - and even hints at how some matter escapes! More details: [apod.nasa.gov/apod/ap210331.html](https://apod.nasa.gov/apod/ap210331.html)

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