May 2019

BACK BAY OBSERVER

The official newsletter of the Back Bay Amateur Astronomers

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UPCOMING

May 2 **BBAA Meeting**
7:30-9PM
TCC VB, Science Bldg J

May 3 **Cornwatch**
Dusk-Dawn
Cornland Park, Chesapeake

May 4 **Nightwatch**
Dusk-Dawn
Chippokes Plantation, Surry

May 9 **Garden Stars**
8:30-10PM
Norfolk Botanical Gardens

May 11 **Astronomy Day**
10AM-2PM
Central Library, VB

For more information, go to www.backbayastro.org/

The Mayor of Chesapeake thanks the city's volunteer community at the Volunteer Appreciation Reception. The Back Bay Amateur Astronomers was one of the many organizations recognized for our contributions.

LOOKING UP! *a message from the president*

It's May and that means it's time for one of my favorite summer outreach events, Boardwalk Astronomy! This got me thinking, why is this one of my favorite events? The skies are still horribly light polluted despite the city turning off the lights around the observing area. Almost every little kid's hands are covered in some type of sweet concoction that they want to introduce to your eyepiece. There are drunks bumping into your equipment. Heck, I even had a pointless discussion once with a flat-earther. So why do so many of us enjoy this event?

I think the answer for most of us is the response from someone that looks at Saturn for the first time in a telescope. The majority of the people looking through your telescope that evening are not on the boardwalk for astronomy, and are in genuine awe after looking through the telescopes. One of my favorite reactions is that of the international travelers. The excitement that they usually display is universal and you don't need to speak their language to understand. As the summer progresses, I hope to see all of you out there at some point.

See you at the next club event, and until then keep Looking Up.

Shawn Loescher

The Great Orion Nebula

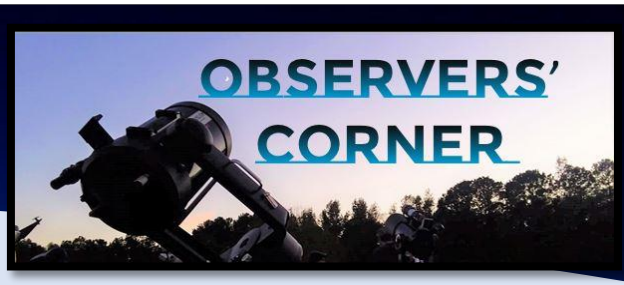


Image by David Read

M42, The Great Orion Nebula, along with M43.

This image of M42 and M43 was captured by David Read on March 5, 2019 at the Staunton River Star Party.

Vixen VMC200L
Vixen SXD2 Go-to mount
Unguided with Canon T6i,
30 seconds at 1600 ISO,
2 lights, 2 darks.

Astronomers Without Borders
ONE PEOPLE + ONE SKY

It's Time To Enter the 2019 Lunar Selfies Contest!

Invite the moon into your portraits! Join our free photo contest providing an opportunity for photographers to take an artistic portrait(s) of the moon anytime during an entire lunar cycle.

The contest runs from February 19, 2019 to July 21, 2019 inspiring young and old alike to go outdoors and record the beautiful silvery-orb of the moon in the sky, framed with objects in the foreground like trees, buildings, sculptures, and people. Have fun and be creative!

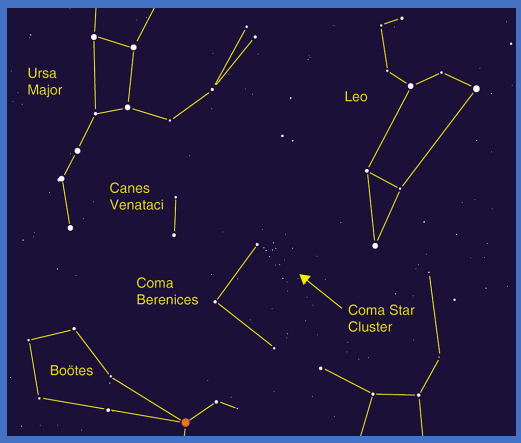
Clike here for more information and to upload your photo: Astronomers Without Borders
Winning images will be featured in an online gallery and prizes will be awarded.

Enter soon! Contest Closes on July 21st

Watching the Late Spring Skies

By David Prosper

Late spring brings warmer nights, making it more comfortable to observe a good showing of the **Eta Aquarids** meteor shower. Skywatchers can also look for the delicate **Coma Star Cluster**, and spot the **Moon** on the anniversary of **Apollo 10**'s "test run" prior to the Moon landing in 1969.



Try to spot the Coma Star Cluster! Image created with assistance from Stellarium.

The **Eta Aquarids** meteor shower should make a good showing this year, peaking the morning of May 6. This meteor shower has an unusual "soft peak," meaning that many meteors can be spotted several days before and after the 6th; many may find it convenient to schedule meteor watching for the weekend, a night or two before the peak. You may be able to spot a couple dozen meteors an hour from areas with clear dark skies. Meteors can appear in any part of the sky and you don't need any special equipment to view them; just find an area away from lights, lie down on a comfy lawn chair or blanket, relax, and patiently look up. These brief bright streaks are caused by Earth moving through the stream of fine dust particles left by the passage of Comet Halley. While we have to wait another 43 years for the famous comet to grace our skies once more, we are treated to this beautiful cosmic postcard every year.

While you're up meteor watching, try to find a delightful naked eye star cluster: the **Coma Star Cluster** (aka Melotte 111) in the small constellation of Coma Berenices. It can be spotted after sunset in the east and for almost the entire night during the month of May. Look for it inside the area of the sky roughly framed between the constellations of Leo, Boötes, and Ursa Major. The cluster's sparkly members are also known as "Berenice's Hair" in honor of Egyptian Queen Berenice II's sacrifice of her lovely tresses. Binoculars will bring out even more stars in this large young cluster.

May marks the 50th anniversary of the Lunar Module's test run by the A**pollo 10** mission! On May 22, 1969, NASA astronauts Thomas Stafford and Eugene Cernan piloted the Lunar Module - nicknamed "Snoopy" - on a test descent towards the lunar surface. Undocking from "Charlie Brown" - the Command Module, piloted by John Young – they descended to 47,400 feet above the surface of the Moon before returning safely to the orbiting Command Module. Their success paved the way for the first humans to land on the Moon later that year with Apollo 11. Look for the Moon on the morning of May 22, before or after dawn, and contemplate what it must have felt like to hover mere miles above the lunar surface. You'll also see the bright giant planets Saturn and Jupiter on either side of the Moon before sunrise. When will humans travel to those distant worlds?

A view of Apollo 10's Lunar Module from the Command Module as it returned from maneuvers above the lunar surface. Photo credit: NASA
Source: http://bit.ly/apollo10view

This article was distributed by NASA Night Sky Network
Visit https://nightsky.jpl.nasa.gov/

NG-11: From Wallops Island, VA to the International Space Station

By Kayla Dio Robinson

At 4:46 p.m. EDT on Wednesday, April 17, Northrop Grumman's Antares rocket blazed through the sky, leaving behind enormous clouds of white on Pad-0A at NASA's Wallops Flight Facility. On the rocket was the NG-11 Cygnus spacecraft, which carried 7,600 pounds of cargo and science experiments into Earth orbit for Expedition 59, the six-member crew currently living aboard the International Space Station (ISS). This crew includes Anne McClain, Christina Koch, and Nick Hague of NASA, David Saint-Jacques of CSA, and Alexey Ovchinin and Commander Oleg Kononenko of Roscosmos.

I had the pleasure of viewing the launch from a nearby dock with my boyfriend and fellow BBAA member, Jared Austin. It was a bright and warm afternoon with a cool breeze coming in from the water. We were only a couple miles from the launch site, joined by several other rocket chasers, young and old. We seemed to be surrounded by almost as many tripods as people. A curious young boy was running around, filled with excitement about the giant rocket sitting across the water. There was a couple with a small telescope and solar filter pointed to the sky, encouraging others to come and safely view the intricate details and spots on our sun. Jared and I set up our own telescope too, but for a different reason: to get a closer view of the Antares rocket. A few people were streaming

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NASA TV for the countdown clock, and when the flames finally erupted from the rocket, the cheers, chatter, and camera clicks grew louder. There was a deep roar and rumble in the ground as it climbed higher and higher, and nobody looked away until the 131-foot rocket disappeared into a tiny, orange speck.

Although the launch was successful, the mission is far from over. On Friday, April 19, the crew captured the Cygnus spacecraft using the station's robotic arm. There are many exciting science experiments inside to be completed from the ISS, which include vaccines, robotic systems, small satellites, and more. Then in June, Cygnus will be released back into Earth orbit instead of being sent to burn up in the Earth's atmosphere; it is expected to stay in orbit for up to seven months, testing its ability to endure an extended duration mission in space.

The next Antares launch from Wallops Island, Virginia is currently scheduled for October 2019.

Kayla Dio Robinson is a student at Norfolk State University majoring in Computer & Information Science.

Outside of school, she likes to stay involved in anything space-related and is the secretary of the Back Bay Amateur Astronomers club. She also enjoys reading and creating art, astrophotography, and music.

In the summer, Kayla will be moving to West Virginia for a ten-week internship at NASA's Independent Verification & Validation Facility.

ASTRONOMY DAY

Join the BBAA for Astronomy Day!

Virginia Beach Central Library

May 11

10AM—2PM

Register for ALCon 2019

50th Anniversary of the First Moon Landing

July 25-29

Kennedy Space Center and Southern Skies

Cruise to the Bahamas.

https://alcon2019.astroleague.org/

Club Meeting

We met for our monthly meeting on April 4th at TCC Virginia Beach. Full meeting minutes are posted on our website. Our next meeting is May 2.

The Back Bay Amateur Astronomers meet on the first Thursday of each month from 7:30 – 9pm.

Typically, we meet at TCC Virginia Beach on the second floor of **Building J—the Science Building**, in room JC-11. (room may vary)

Occasionally, we meet at either TCC's planetarium on the first floor, or at the Plaza Middle School planetarium.

All meetings are free and open to the public. After normal business, there is usually a presentation.

Dust off your flip-flops!

Boardwalk Astronomy is back!

Come join us

Tuesday, MAY 14

6-11PM

on the boardwalk at 24th Street

Bullfrogs and Stars

North shore of Camp Bullfrog pond

By George Reynolds

Last month I was camping with the Royal Rangers Frontiersmen Camping Fellowship at "Camp Bullfrog," a part of Heavenly Waters Youth Camp, near Wakefield, Virginia. Camp Bullfrog can get very dark. Situated a few miles southeast of Wakefield, and about an hour southwest of Chesapeake, this Royal Rangers campsite is a good place to "keep looking up." Far enough away from the urban skyglow of the cities of Tidewater, the night sky can put on a spellbinding show (weather permitting).

The Royal Rangers is an organization like the Boy Scouts, but with a Christian emphasis, which includes Bible knowledge. The sun, moon, and stars occur very often in the Bible. For instance, Arcturus, Orion, the Pleiades, and the Great Bear are mentioned twice in the book of Job in the Old Testament. While the Boy Scouts have the Order of the Arrow, with a Native American theme, the Royal Rangers have the Frontiersmen Camping Fellowship (FCF), with a pioneer theme.

But I digress. The weekend of April 5 through 7 was the annual FCF Spring Trace, which was held this year at Camp Bullfrog. Friday the 5th was rainy, and Saturday the 6th was misty and cloudy all day, but as the sun went down, the clouds rolled away, and the stars appeared.

I sat with a group of about 120 men and boys on the north shore of a small fishing pond, facing southeast, awaiting the lighting of the ceremonial council fire. In the clear dark sky above, we saw a beautiful panorama of constellations. I nudged the

Continued next page

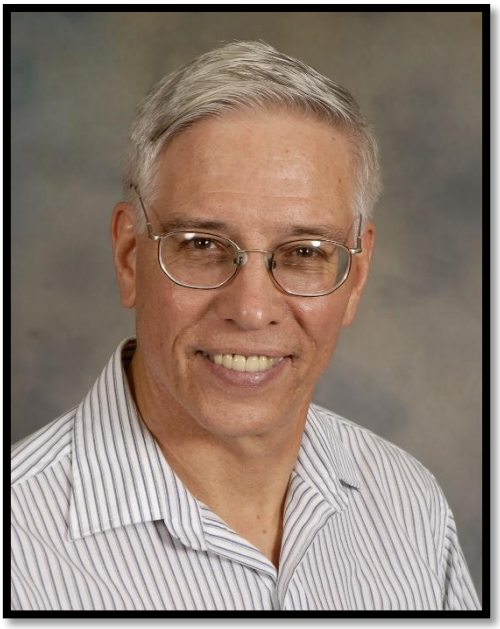
Bullfrog cont'd

guy next to me and pointed out Orion, Canis Major, Canis Minor, Gemini, Auriga, Taurus, and off to the east (our left), Leo. It was a beautiful sight to see.

I often take my telescope and binoculars when I go camping, to take advantage of the dark skies I may encounter. I had planned to be at Camp Bullfrog again Friday April 26 for a Father-Son campout of Royal Rangers, to show the stars and constellations to the Rangers and their dads. I wanted to give them the opportunity to look through my binoculars and telescope, and get a green laser pointer "tour" across the constellations in the sky.

The night sky over Camp Bullfrog
Image screenshot using Stellarium

Unfortunately, clouds and rain made stargazing impossible that night. (I hate having to say, "weather permitting." Amateur astronomy is extremely weather-dependent.) So, the Rangers and their dads were unable to see the Pleiades, Mars, red supergiants Betelgeuse and Aldebaran, and the other celestial wonders in the dark sky that night. As the Bible says in Psalm 19:1,"The heavens declare the glory of God, and the sky proclaims His handiwork." (It also says, "He . . . sends the rain on the just and on the unjust.")



George Reynolds George Reynolds was born at the victorious end of World War II, and grew up in a time of great optimism and boundless enthusiasm. He always wanted to be a scientist and in high school started learning about computers.

George graduated from Michigan State University in 1967 with a Bachelor of Science degree, and immediately went on duty in the U. S. Army as a medical supply officer. Although his scientific career was sidelined, his curiosity and love for technology were not diminished. He continued to read extensively about computers, science, and technology, and devoured science fiction. After twelve years on active duty George went to graduate school and earned a Masters degree in radio and television broadcasting.

After retiring from the Army Reserve and the cable television industry, George has been able to indulge his scientific curiosity once again, in amateur astronomy. He enjoys sharing his love of the skies with others, especially his 13 grandchildren. He has been a believer in God all his life, and the more he sees of the wonders of nature and the vast starry sky, the more faith he has that it did not all happen by accident.

The Back Bay Amateur Astronomers, Inc. is a 501(c)(3) nonprofit organization dedicated to astronomy outreach.

We are a 100% volunteer-run organization that relies on our dedicated members to *"bring astronomy to the people of Hampton Roads."*

Anyone who has volunteered at one of our events can tell you that it is incredibly rewarding to show the moon to someone who has never seen it through a telescope. You never know whom you'll inspire to become the next great astrophysicist. At the very least, you may instill within someone a passion to look up at the sky.

Please help us achieve our mission and sign up to volunteer. **All experience levels welcome.**

See our monthly calendar for events.

Dismal Weather

Mel Spruill and Jeff Thornton joined several other optimistic astronomers for the Star Party in the Swamp. Though clouds obscured viewing for most of the evening, BBAA members enjoyed the event. Park rangers had set up a 5-mile-long scale solar system model through Great Dismal Swamp State Park!

Though it was cloudy during Malibu Elementary School's Science Night event, George Reynolds & Leigh Anne Lagoe set up an indoor display with a scale model of the solar system, free handouts, and a "Make a Crater Impact" station.

The Chesapeake Planetarium offers free programs to the general public on Thursday nights at 8:00.
Due to limited seating, reservations are necessary and may be made by telephoning Chesapeake Public Schools between 8:00 a.m. and 4:00 p.m. weekdays. (757-547-0153)
For more details, visit:
https://cpschools.com/planetarium/public-programs/

Star Quest

Green Bank
Star Quest XVI
Optical "Star Party" & Conference
June 26th - June 29th, 2019
http://greenbankstarquest.org/

AL WEBMASTER

Help the Astronomical League
Help Amateur Astronomy!

After 12 years of service to the Astronomical League and amateur astronomy, Vern Raben, the League's information technology manager, is retiring. Under his direction, the League's website vastly expanded its content and improved its functionality, making important information more easily available to the membership. Vern's dedication to making the AL a better organization is very much appreciated!

We have immediate openings for volunteers with experience in:
- Unix/Linux and the Ubuntu operating system,
- Configuring firewalls and host-based intrusion detection systems (HIDS),
- Apache web server configuation and SSL certificates, and
- Adminstration of a Drupal content management system and programming Drupal modules.

Contact president@astroleague.org if you are willing to take on this important challenge!

Our friends at VPAS (Virginia Peninsula Astronomy/Stargazers) offer free star gazing at the Virginia Living Museum, beginning at sunset on **the second Saturday of every month.**

https://thevlm.org/events/planetarium-shows/evening/

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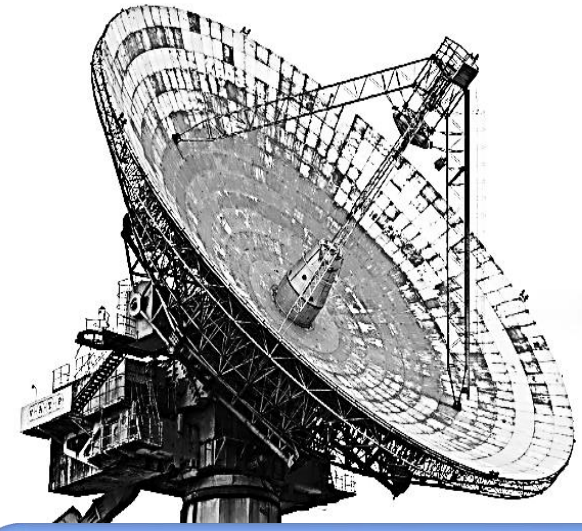

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Groups.yahoo.com/neo/groups/backbayastro/info

TELL US ABOUT IT!

Whether you're a seasoned astro-photographer or a beginner enjoying your first view through a telescope, we'd love to hear about your experience at club events or doing astronomy-related activities on your own. Please submit your articles and/or photographs for publication in the Observer.

Email editor@backbayastro.org

Upcoming BBAA Events

May

May 2	7:30-9PM	TCC Virginia Beach, Science Building J	**BBAA Club Meeting**	Club business, presentation TBD
May 3-4	Dusk-dawn	Cornland Park, Chesapeake	**Cornwatch**	BBAA members-only observing
May 4-5	dusk-dawn	Chippokes Plantation State Park, Surry	**Nightwatch**	BBAA members-only observing
May 8	8:30-10PM	Norfolk Botanical Gardens	**Garden Stars**	Brief indoor presentation followed by public viewing
May 11	10AM-2PM	Virginia Beach Central Library	**Astronomy Day**	Solar observing, indoor displays
May 14	6-11PM	24th Street Boardwalk, Virginia Beach	**Boardwalk Astronomy**	Public viewing
May 18	10AM-1PM	Elizabeth River Park, Chesapeake	**Saturday "SUN"day**	Public solar viewing
May 18	9-10PM	Chippokes Plantation State Park, Surry	**Chippokes Under the Stars**	Nation Kids to Parks Day, public viewing
May 25	8PM-12AM	Northwest River Park	**SKYWATCH**	Public viewing
May 31	Dusk-dawn	Cornland Park, Chesapeake	**Cornwatch**	BBAA members-only observing

June

Jun 1	12-1PM	Windsor Woods Library Virginia Beach	**Sun Science & Safety**	Public solar viewing
Jun 1	dusk-dawn	Chippokes Plantation State Park, Surry	**Nightwatch**	BBAA members-only observing
Jun 6	7:30-9PM	TCC Virginia Beach, Science Building J	**BBAA Club Meeting**	Club business, presentation TBD
Jun 7	Dusk-dawn	Cornland Park, Chesapeake	**Cornwatch**	BBAA members-only observing
Jun 8	8:15-10PM	Breezy Point Park, Naval Station Norfolk	**Little Astronomers**	Viewing event for military families
Jun 11	8:30-10PM	Norfolk Botanical Gardens	**Garden Stars**	Brief indoor presentation followed by public viewing
Jun 15	10AM-1PM	Elizabeth River Park, Chesapeake	**Saturday "SUN"day**	Public solar viewing
Jun 18	11:30AM-12:30PM	Great Neck Area Library, VB	**Sun Safety & Observing**	Public solar viewing
Jun 18	6-11PM	24th Street Boardwalk, Virginia Beach	**Boardwalk Astronomy**	Public viewing

Check for details, updates, cancellations, and more on our website
www.backbayastro.org
Click on our **event calendar**.