BBAA Astronomy Club May 6, 2021 (Virtual Meeting via Zoom)

Shawn Loescher (President)

Called meeting to order at 7:30 PM.

Vice President Events Report (read by George Reynolds):

May 2021

- Skywatch @ Northwest River State Park, 5/1
- BBAA Club Meeting via Zoom 5/6
- Corn Watch @ Cornland Park, 5/7
- Nightwatch @ Chippokes Plantation State Park, 5/8
- Corn Watch @ Cornland Park, 5/14
- Garden Stars @ NBG, 5/18
- Saturday "SUN"day@ Elizabeth River Park 5/29

June 2021

- BBAA Club Meeting via Zoom 6/3
- Corn Watch @ Cornland Park, 6/4
- Skywatch @ Northwest River State Park, 6/5
- Corn Watch @ Cornland Park, 6/11
- Galaxies Night Hike@ Sleepy Hole Park, 6/11
- Nightwatch @ Chippokes Plantation State Park, 6/12
- Garden Stars @ NBG, 6/17
- Cub Scouts Day camp@ Memorial United Methodist Church, 6/22 Noon
- Saturday "SUN"day@ Elizabeth River Park 6/26

Secretary's Report

A motion was made to dispense in the reading of the minutes, which was approved.

Treasurer's Report (Richard Roberts**):**

- General Fund: $6,484.70
- Primary Scholarship Fund: $1,780.29
- GJ Scholarship Fund: $1,604.00
- Total Funds: $9,868.99
- Expenses: $419.04
- Balance: $6,065.66
- 136 Dues paid in full members
- 4 Honorary Members
- 13 Associate Members w/AL
- 2 Associate Members
- 120 Regular Members

- 139 Total Members on Roster

Scholarship Report:

Ben Loyola reports that as of today, 5/6/2021, no applications have shown up in the post office box. One member knows that an application was sent on April 30th and must be slow in delivery. Ben will check the box again and report his finding at the next general meeting.

ALCOR Report:

Robert Powers reports that the Astronomical League is 75 years old this year and a wealth of information is available on the AL website, https://www.astroleague.org/

Plenty of Observing Programs are available through the league and every BBAA member should be getting the AL publication, The Reflector. The Reflector is the magazine published four times a year that highlights articles from the website, publishes members astrophotography, Observing Awards accomplishments and upcoming events.

RRRT Report:

Shawn Loescher gave a presentation on how the remote telescope works. The telescope is a 24-inch Ritchey-Chretien telescope and is physically located on Fan Mountain just outside Charlottesville Virginia. Users can control it through the Skynet Robotic Telescope Network, and every member is allowed time on the telescope.

Old Business:

The city of Virginia Beach has cancelled our boardwalk astronomy events for all of 2021 due to the COVID-19 pandemic. Shawn is concerned that the city will forget about the BBAA club events next year. We don't want that to happen because these events are the primary way we fund our scholarship programs.

New Business:

Shawn Loescher is hoping to restart the in-person general meeting at TCC with the June 3rd meeting. Jeff Goldstein is POC on this, and it was agreed that we will still broadcast the meeting via zoom. The answer to this proposal will be disseminated through the Groups IO website and the BBAA Facebook page.

Another item that was brought up was getting a new order in for BBAA apparel. The minimum order for a t-shirt run is ten, and orders are being taken now. The members can place orders via the BBAA store on the BBAA website. Shawn gave us a demonstration on how to do this via zoom.

Jeff Goldstein made a motion to grant Jeff Edmondson, the WAVY 10 Meteorologist an Honorary membership to our Astronomy Club. Mr. Edmondson has done so much to promote Astronomy to our club and the community. We felt this nomination was very well deserved. The motion was unanimously approved. He assisted us in promoting the Jupiter-Saturn Conjunction a few months ago, and we were glad to share the event with the public.

Observing Reports:

George Reynolds reports that we had a successful Saturday SUN day on 4/24 with the second highest attendance in club history! Sadly, the sun was not visible because of the cloudy conditions, but George was able to show terrestrial views of ships and radio towers off in the distance. The kids and parents were impressed. George also reports he was the only club member there.

George also reported that this last Saturday we had a very successful Skywatch @ Northwest River State Park. It was very clear with no clouds the entire night. George was even able to see the sombrero galaxy with his 80mm telescope. Jonathan Scheetz along with 14 other people with telescopes were there, so we had a good representation at the event.

George, along with Chloe Reynolds attended the American Heritage Girls/Trail Life Family Camp, on the Nansemond river, that was held on April 23rd. The kids had a good time learning the sky and learning the constellations. They were able to see MARS and some double stars and star clusters.

Jeff Thornton reports that the Garden Stars event on April 20th turned out well. Samantha Burris gave a presentation on light pollution. This was followed by views of the night sky through the three telescopes we had set up in the courtyard.

Rich Roberts reports that he is doing a study on a former Giant red star that is in the constellation Sagittarius. I asked Rich for a report in his own words and here it is:

I'm 3 months into a multi-year study of V725 SGR. This unusual star is theorized to be undergoing a "Blue Loop" on the H-R diagram. Theoretically, when red giant star undergoes a helium flash, the star can heat up enough to move into the Cepheid Instability Region of the H-R diagram and the cool back to the red giant region over the course of about 1000 years. When this star was discovered in the 1930s, it was classified as a classic Cepheid with a period of about 12 days. In the decades since, there is clear evidence that the star is cooling, the period is increasing, and no longer exhibiting Cepheid behavior. We've never actually seen this, and it is possible this star is on the final legs of such a loop. The star is located within the galactic bulge, which makes it a challenge to get good data from surveys due to the crowded field and large amount of field reddening due to dust extinction. A photometric campaign in Johnson U, B, and V bands was done in 1968 and 1969. The data I'm currently receiving from the Mount Saint John's Observatory (MSJO) in New Zealand shows the star is clearly redder in B-V now than it was in the late 60s. The only other study on this star was done about 12 years ago, but it was in NIR bands. Since MSJO can't provide me with a high enough observing cadence to make a really good period determination, I requested time on the AAVSO's Bright Star Network (BSM) Telescopes in Australia. The issue is these scopes are smaller and don't have the resolution of MSJO. V725 SGR has a 14th magnitude companion star 7" to the south and it was getting blending in with my target, so I canceled the program on those scopes. But after further analysis of the companion, I determined the star was an early K spectral type and thus not likely to have any pulsation, so it would only act as a bias to my signal. So I recently requested the BSM time back and will split my data sets from the telescopes and use the BSM data strictly for period analysis and The MSJO data strictly for color analysis. I'm currently reading a lot of literature on how to best correct for the dust extinction. Others have tried to do this for this star, but they didn't have good distance measurements because the studies were prior to the Gaia mission. Since that is now out there, I hope I can improve on previous attempts to classify the star and measure its rapid evolution. I hope to publish on my findings in the next couple years.

Programs:

Ben Loyola gave a presentation on the RRRT, which is short for Rapid Robotic Response Telescope. This telescope is located on Fan Mountain, which is near Charlottesville, VA. The telescope was built with a NASA grant back in 2012 with the help of Dr. Saba Gallo and Norfolk State University. The original purpose was to study gamma ray burst with telescopes linked across the planet. The Observatory was built with a million-dollar grant from NASA, but zero money was allocated for maintenance. The Observatory quickly

went into disarray, so the club volunteered time and expertise in order to rebuild it. What happened next was that it was put into the University of Virginia and the University of North Carolina skynet program. The telescope is a 24-inch optical guidance RC telescope and it's fully automated. Because of the investment BBAA members made over the years, we are all grandfathered into this network with unlimited number of viewing points. You can reach the control point at this website: https://skynet.unc.edu/

If a member is interested in using this telescope, let a club officer know, and a login and password will be created to allow you access to this million-dollar telescope. Just one of the benefits of being a BBAA member. Ben gave us a demonstration on how to login and work the scope.

George Reynolds gave us a demonstration on how to log our club activity into the Night Sky Network. George explained the importance of documenting our time and efforts because the NSN will send us toolkits and display materials created by NASA for our outreach programs.

Meeting adjourned at 9:00 PM