



BACK BAY observer

The Official Newsletter of the Back Bay Amateur Astronomers
P.O. Box 9877, Virginia Beach, VA 23450-9877

EPHEMERALS february 2017

02/02, 7:30 pm
BBAA Monthly Meeting
TCC Campus, VA Beach
Building J, Rm JC-13

2/11, 10:00 AM
"Sun" Day
Elizabeth River Park

2/17 & 2/24
Cornwatch
Cornland Park

02/18, 6:00 PM
Skywatch
Northwest River Park

02/25
Nightwatch
Chippokes Plantation



Looking Up!

This month's column is focused on some very important changes to our club. Since about 2008 we have been kicking a can down the road concerning incorporating the club. During Jim Tallman's time as President he had the opportunity to do some much-appreciated outreach with a local attorney. This turned into the BBAA becoming incorporated in the state of Virginia. This was an important step forward for the club and with this alteration, the name of the club was legally changed to the Back Bay Amateur Astronomers Inc. We may still legally use our previous name (without the Inc.) as we have registered that alias with State Corporation Commission.

With this change we needed to add a significant amount of legal verbiage to our Constitution and By-Laws. A commission was formed several years ago (I think 2014 is when we started) and has had quite a few members assist in the re-work of the organization documents. I can readily name Jim, Leigh Anne, George, Matt, Ben, Paul, Bill and myself. I have probably missed a few, and my apologies if I did, everyone's work was highly valued.

Other significant changes to the organizing documents involved cleaning up and clarifying the Associate Membership definition, increasing the regular member dues from \$18.00 to \$23.00, changing the term limits of the officers, and making a few other changes and corrections.

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Looking Up, continued from [page 1](#)

The following link is a PDF file of the proposed new BBAA Inc. Constitution and By-Laws. Please take the time to read through them. Areas that are highlighted YELLOW in the attached document represent changes from the previous organizing documents.

http://www.backbayastro.org/org_docs_2017/2017_BBAA_ORG_DOCSr18.pdf

About the middle of February we will send out an email ballot requesting a vote of either "YES" or "NO" for the changes to the BBAA Inc. Constitution. The votes will be recorded at the March meeting and either the new BBAA Inc. Constitution will be adopted or sent back to commission for rework. If any member does NOT return a vote one way or the other, their vote will be counted as a "YES" for the change to the BBAA Inc. Constitution.

Other than the increase in dues, I can't see anything that would hinder the acceptance. It was decided to raise the general membership dues by \$5 because the club can't cover its basic operating costs (AL Dues, PO Box fees, Liability Insurance, Summer Picnic, State Incorporation Commission fees, Special Use Permit fees, etc.) with the \$18 amount. The BBAA dues have remained at the \$18 level for over twenty years, longer actually than anyone can remember (except maybe Dale and/or Ted). So, please don't base your opinion of the new BBAA Inc. Constitution on an amount less than a fast food lunch. The dues for AL membership for Associate members will stay constant with the amount charged by the Astronomical League, currently \$5.

February brings a few interesting astronomical items including:

- Venus is blazing away as the brightest object other than the moon.
- In the evening hours, if you are lucky enough to have a decent Western horizon, Mars and Uranus are visible as well.
- Nearly all of February, Jupiter and Spica are dancing through the sky about 3.5 degrees apart.
- After the 5th the Dawn Patrol will welcome Saturn back to our skies.
- On the 10th a penumbral eclipse of the Moon *might* be noticed.
- On Valentines Day the Moon tries to cut in on Spica and Jupiter's dance.
- On February 17th Venus will be at her brightest around magnitude -4.8.
- On the 20th the Dawn Patrol will get a treat as the crescent Moon and Saturn will have a bit of a dance when they are separated by only 4 degrees.

Despite all the crappy weather we have been having, keep Looking Up! *Chuck Jagow*



Venus is the evening sky's jewel during February, appearing as a thin crescent all month and shining as bright as it ever gets at magnitude -4.8 (stellarium).



Saturn and its brighter moons as they will appear on February 20, 2017 at 4:00 AM (stellarium).

The Back Bay Amateur Astronomers

Observer

The BBAA Observer is published monthly; the monochrome version is mailed to members who do not have internet access. Members who do have Internet access can acquire the full color version on the Internet at <http://www.backbayastro.org/observer/newsletter.shtml>

Please submit articles and items of interest no later than the date of the monthly meeting in order to be in the next month's edition.

Please submit all items to:
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BBAA Meetings

The BBAA meet the first Thursday of every month except for July. While school is in session, we meet at the VA Beach TCC Campus. The Feb. 2, 2017 meeting will be held at TCC in Virginia Beach, Building J, Rm JC-13 (or nearby room) at 7:30 PM. Directions are on our [Night Sky Network page](#).

BBAA Internet Links

BBAA Website
www.backbayastro.org

Yahoo! Groups
tech.groups.yahoo.com/group/backbayastro

BBAA Observer Newsletter
www.backbayastro.org/observer/newsletter.shtml

Observer's Corner



Geek chic: Kent Blackwell models his flip filter astronomy goggles. -- Move over, Dr. Sheldon Cooper!

EYE-POPPING OBSERVATION!

I had moderate success seeing a few illusory naked eye objects recently; namely **Barnard's Loop** in Orion and the **California Nebula** in Perseus. Both are challenging in all but the largest telescopes because of their large angular size. How did I do it, you might ask? I used a pair of flip filter astronomy goggles that accept 2" nebula filters.

For Barnard's Loop, the flip goggles were fitted with H-Beta filters. Wow, it stretched from Orion's Belt half way to Betelgeuse! Quite challenging, but I'm certain I saw it.

To see the California Nebula, the flip goggles were fitted with UHC filters. It was much easier to see naked eye than Barnard's Loop. I could even hold it with direct vision!

- Kent Blackwell

January 5, 2017 Meeting Summary

The meeting was called to order at the Plaza Middle School Kiva at 7:37 PM by President Chuck Jagow.

Treasurer Report:

General Fund:	\$ 4,000.90
Scholarship Fund:	\$ 1,985.52
GJ Scholarship Fund:	\$ 1,045.00
Total:	\$ 7,031.42

Regular Members:	125
Associate Members:	10
Honorary Members:	4
Total Members on Roster:	139

Hampton University Observatory Report (Ben Loyola):

- Dr. Kunio Sayanagi did observations from the Hampton University building across from Aerospace Museum. A fiberglass dome is planned for observing Jupiter Impacts. The system design is complete, now we are awaiting the beginning of construction.

Old Business:

- Chuck reported that changes to the New BBAA Constitution are nearly completed. He passed around the text of the changes at the meeting. The actual changes to the text were highlighted in yellow. The club has incorporated into the Back Bay Amateur Astronomers, Inc. Many clauses have been cleaned up such as ones dealing with AL membership, dues, associate members (now opened up to anyone in the current members' family).
- A link to the revised constitution will be published in the next newsletter by Paul ([see p. 2](#)), and everyone will receive a copy via mass email (except for those members without email). In Feb. all members will vote on this new BBAA Constitution. Anyone not voting will count as a yea vote. Results will be reported at the March 2, 2017 meeting.
- Library books are being distributed to any club members that would like one for a donation.

Observing Reports:

- Ben Loyola is getting close to completing the Herschel 400 award ("after the first 200, it goes faster"). He is even drawing each one. He stated that the award improves averted vision and makes your scope work better. It is a very challenging award.

- Chuck reported outstanding Solar Prominences at the last "Sun Day" on Saturday outreach at Elizabeth River Park.
- Mark discussed a recent trip to Staunton River State Park. He had three excellent nights there and worked on the AL Double Star Award. He made about half the number of observations required. Some of the doubles are very dim and very close!

Presentation:

Astronomy 101 (by George Reynolds)

- George has presented previous lessons:
 - Lesson 1: Best telescope to buy.
 - Lesson 2: Astronomy Equipment.
 - Lesson 3: Observing the Moon
 - Lesson 4: Finding Your Way Among the Stars
- Tonight's lesson: Stargazing Considerations
- George covered the following terms: seeing, transparency, darkness, the different kinds of twilight (civil, nautical, and astronomical), sunrise/set, moonrise/set, and moon phase.
- He discussed the effect of various physical conditions such as forest fires and lighting from outside sources.
- He also covered optical considerations, including different types of binoculars (8x42, 10x50, etc.), telescope power (how to determine it), and f-stop, focal ratio, speed, stellar magnitude, dark adaptation (Rhodopsin, visual purple).
- He announced the next series in the program: "Astronomy 102: Advanced Stargazing."
- George received high praise and enthusiastic applause from all!

New Business:

- Leigh Anne gave the Virginia Association of Astronomical Society VAAS Conference Committee Report. BBAA is hosting the 2017 conference. September 23rd is the primary date (September 16th backup). A swap table has been proposed, and a web page is in work.
- Chuck mentioned raffling off a \$300-\$500 prize for the scholarship fund. Jim Tallman raised about \$700 last year in a raffle.

Meeting adjourned at 9:02 PM.



Comet Campaign: Amateurs Wanted

By Marcus Woo

In a cosmic coincidence, three comets will soon be approaching Earth—and astronomers want you to help study them. This global campaign, which will begin at the end of January when the first comet is bright enough, will enlist amateur astronomers to help researchers continuously monitor how the comets change over time and, ultimately, learn what these ancient ice chunks reveal about the origins of the solar system.

Over the last few years, spacecraft like NASA's Deep Impact/EPOXI or ESA's Rosetta (of which NASA played a part) discovered that comets are more dynamic than anyone realized. The missions found that dust and gas burst from a comet's nucleus every few days or weeks—fleeting phenomena that would have gone unnoticed if not for the constant nearby observations. But space missions are expensive, so for three upcoming cometary visits, researchers are instead recruiting the combined efforts of telescopes from around the world.

"This is a way that we hope can get the same sorts of observations: by harnessing the power of the masses from various amateurs," says Matthew Knight, an astronomer at the University of Maryland.

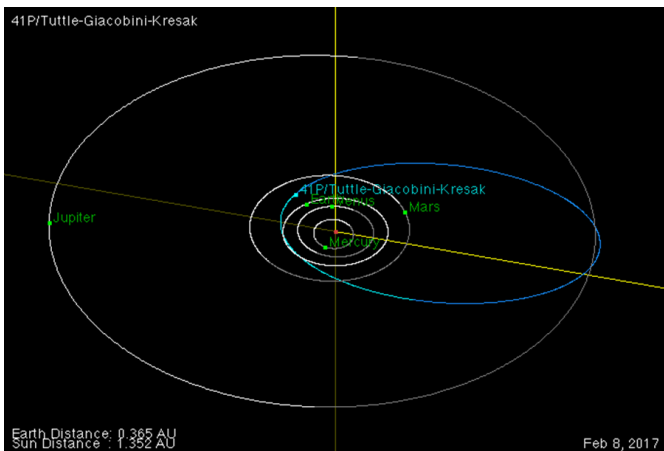
By observing the gas and dust in the coma (the comet's atmosphere of gas and dust), and tracking outbursts, amateurs will help professional researchers measure the properties of the comet's nucleus, such as its composition, rotation speed, and how well it holds together.

The observations may also help NASA scout out future destinations. The three targets are so-called Jupiter family comets, with relatively short periods just over five years—and orbits that are accessible to spacecraft. "The better understood a comet is," Knight says, "the better NASA can plan for a mission and figure out what the environment is going to be like, and what specifications the spacecraft will need to ensure that it will be successful."

The first comet to arrive is 41P/Tuttle-Giacobini-Kresak, whose prime window runs from the end of January to the end of July. Comet 45P/Honda-Mrkos-Pajdusakova will be most visible between mid-February and mid-March. The third target, comet 46P/Wirtanen won't arrive until 2018.

Still, the opportunity to observe three relatively bright comets within roughly 18 months is rare. "We're talking 20 or more years since we've had anything remotely resembling this," Knight says. "Telescope technology and our knowledge of comets are just totally different now than the last time any of these were good for observing."

For more information about how to participate in the campaign, visit <http://www.psi.edu/41P45P46P>.



An orbit diagram of comet 41P/Tuttle-Giacobini-Kresak on February 8, 2017—a day that falls during the comet's prime visibility window. The planets orbits are white curves and the comet's orbit is a blue curve. The brighter lines indicate the portion of the orbit that is above the ecliptic plane defined by Earth's orbital plane and the darker portions are below the ecliptic plane. This image was created with the Orbit Viewer applet, provided by the Osamu Ajiki (AstroArts) and modified by Ron Baalke (Solar System Dynamics group, JPL). <http://ssd.jpl.nasa.gov/sbdb.cgi?orb=1;sstr=41P>.

Black Sky Affair

Now in its 25th year, the East Coast Star Party remains as fun as it is unique!

Only one factor kept the Fall 2016 ECSP from being one of the best in recent years; the fact that Roy & Dee Diffrient weren't able to attend. They've only missed two ECSP in twenty years. One because of a serious automobile accident and this time due to Dee being ill. The good news is she's on the mend and they'll be back in the spring.

The star party was held on Oct. 20-22, 2016. The weather was good with two clear nights out of three. Thursday was warm and clear, but the moon rose at 10:45 pm. But that's ok. We all grabbed a glass of wine and walked to the water's edge to watch a lovely moonrise.

It was mostly clear during the day on Friday but clouds rolled in before evening, indicating a "party night", as we ECSP-goers like to call it.

Many thanks go out to Jim Tallman and Chuck Jagow for filling in for Dee's Friday spaghetti dinner. I think we look forward to her spaghetti as much as we do to looking at the stars. My compliments go out to Jim and Chuck for keeping up the tradition.

The above mentioned clouds didn't hang around for long. By mid-morning on Saturday they had broken, giving a few of us the opportunity to set up H-alpha scopes to view solar prominences. The views in Mark Ost's Coronado and Don Wright's Lunt telescopes



Enjoying the spaghetti Dinner. Special thanks to Jim Tallman and Chuck Jagow.

were wonderful, although there wasn't a whole lot happening on the Sun that day.

The traditional Saturday cookout was as fun as ever. Scott Hitt and Ray Moody grilled up about 80 burgers and hot dogs. We also had tables full of fixings and desserts brought by many of you.

After dinner I handed out dozens of door prizes, another ECSP tradition. Many major star parties have eliminated door prizes but I've always felt they're fun and will continue the tradition.

The sky Saturday night was unbelievably clear, with excellent seeing conditions. I was at

[Continued on page 7](#)



One of the observing fields.



A beautiful sunrise over Currituck Sound.

East Coast Star Party, continued from [page 6](#)

the helm of the 25" telescope, showing newbies as well as seasoned observers sights such as **M13**, **M92**, **M27**, **M31**, **M15**, The Saturn Nebula (**NGC 7009**), The Helix Nebula (**NGC 7293**) and many others.

John Raymond approached me and asked if he could try his electronic image intensified eyepiece in my scope. Oh my, I have NEVER seen anything like it. Objects usually requiring averted vision easily popped into view.

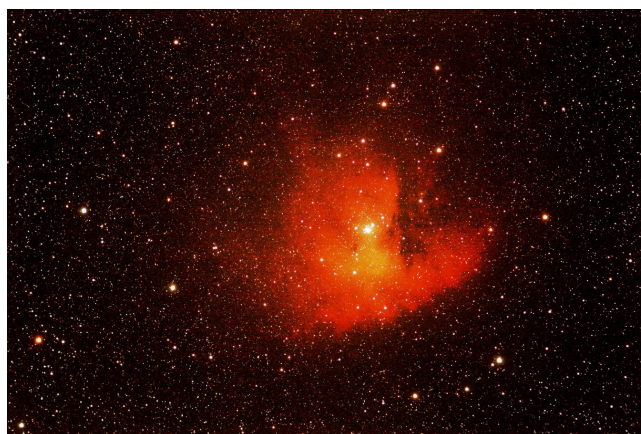
I think everyone had a great time, and I'd like to thank you all for your support. ECSP is now in it's 25th year and I hope to continue as long as I can. See you in the spring of 2017.

- Kent Blackwell



Kent Blackwell with Jim and Ethan Langley at the 2016 Fall East Coast Star Party.

Save the Date! The Spring 2017 East Coast Star Party will be held on May 18-20, 2017.



These extraordinary images of the Pleiades (M45) on the left and the Pac Man Nebula (NGC 281) on the right, were taken by Chuck Jagow at the Fall East Coast Star Party. Details: Explore Scientific 5" Apochromatic Refractor, Losmandy G11 Mount w/ Gemini-II Controller, Canon 60da camera. ASA 400, 50 minute exposure for M45 and 30 minute exposure for NGC 281.

The End of an Era?

On January 14 SpaceX launched ten new spacecraft for Iridium Communications, the first of 66 in its updated constellation called Iridium NEXT. Sadly, the new and improved satellites will be lacking in one area when compared to the original Iridium satellites -- they will not create flares that can be observed from Earth.

The original Iridium satellites (in orbit since the 90's) reflect sunlight off of their antennas that can occasionally be seen from Earth as a brief "flare." These flares can sometimes be brighter than Venus, and watching for them has become a favorite pastime of many amateur astronomers.

The new satellites have a different solar panel configuration that do not create the flares. Once the older Iridiums are deorbited (1-2 years from

now) it will no longer be possible to view an Iridium flare. So enjoy them while you can!

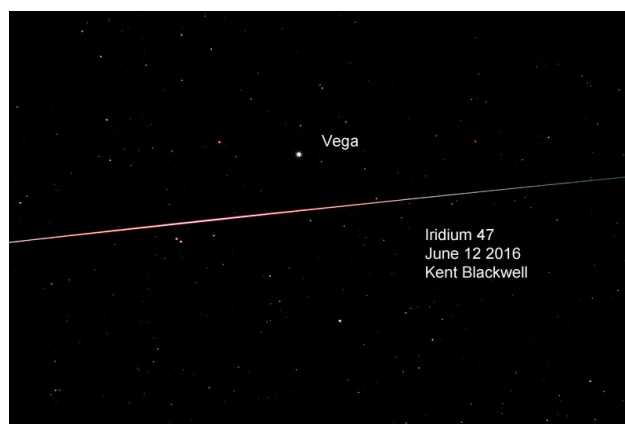


Image of an Iridium flare taken by Kent Blackwell on June 12, 2016.



February 2017

BBAA Events	Special Outreach	Astronomical Events
02/02 BBAA Monthly Meeting		02/03 New Moon
02/11 "Sun" Day @ Elizabeth River Park, Chesapeake, VA	02/07 Jr. Astronomers Event, Three Oaks E.S., VA Beach	02/10 First Quarter Moon
02/17 & 02/24 Cornwatch @ Cornland Park		02/17 Full Moon
02/18 Skywatch @ Northwest River Park	02/23 Knotts Island STEM Night	02/26 Last Quarter Moon
02/25 Nightwatch @ Chippokes Plantation		

Sneak Peek into March

Thu 3/02/2017 Monthly Meeting, TCC, 7:30 pm

Thu 3/09/2017 Garden Stars at Norfolk Botanical Gardens, 7:00 pm

Sat 3/11/2017 "Sun" Day at Elizabeth River Park, 10:00 am

Sat 3/18/2017 Skywatch at Northwest River Park, 7:00 pm

Fri 3/24/2017 & 3/31/2016 Observing session at Cornland Park

Sat 3/25/2017 Nightwatch at Chippokes Plantation