



# BACK BAY observer

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

## EPHEMERALS february 2014

2/06, 7:30 pm  
BBAA Monthly Meeting  
TCC Campus, VA Beach  
Building J, Rm. JC-1

2/07, 7:00 PM  
Garden Stars  
Norfolk Botanical Gardens

2/21  
Skywatch  
Northwest River Park

2/21, 6:00 PM  
STEM Night  
Greenbrier Middle School

2/22, 3:00 PM  
4-H Space Camp  
Airfield 4-H Educational Center  
Wakefield, VA



## Looking Up!

WOW! It is already February and 2014 seems to be passing just as fast as 2013 did, which just makes it seem like the older we get, the faster time runs away.

For me, January's weather was pretty lackluster with only a few good days to get out and observe, since like many, I have to work for my telescope money. I'm really hoping February will be a little bit better observing-wise. I think Bill McLean noted last month that the only time we get clear skies is when the moon shows up to chase off the clouds. I guess we could all work on the Astronomical League Lunar Program.

February is a light month for astronomical events, with Jupiter at opposition and a full moon on the evening of the 14th of February. Can't wait until April 15th though, for the Total Lunar Eclipse! We are working out where the club will be setting up for that event, so stay tuned.

On the club front, the newly elected BBAA officers have been very busy getting set up to put some excitement back into the club. For the February BBAA meeting we will have Dr. Kunio Sayanagi, assistant professor in the Department of Atmospheric and Planetary Sciences of Hampton University, and a Cassini Imaging Team associate, attend our meeting to talk to us about the Cassini observation of the polar hurricane and hexagon on Saturn. I'm also working on getting an expert in meteorology to talk to us about weather at our March meeting.

To help out with our outreach efforts and club education, we have re-registered the BBAA with the Night Sky Network (NSN) to gain the BBAA regional and national exposure. The Night Sky Network is a national

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coalition of amateur astronomy clubs that help bring the science, technology, and inspiration of NASA's missions to the general public. This network offers the BBAA access to a huge selection of educational resources for meetings and outreach events both in the field and in the classroom. Some of the resources are also geared towards training people to help at outreach events, and we will soon begin to get those resources in place with the goal of helping many of our club members come out to support our public events and enjoy the fun.

The NSN is not just a resource for the BBAA officers to help manage the club outreach, though. The resources provided by the NSN can also be used by members to help out at schools, churches, scouting events, or wherever there is a need for good quality educational materials. Heck, you can just use them at home with your children if you like.

At our last BBAA meeting in January, we used the NSN's Scale Model Solar System exercise, and it was pretty fun.

What can you do with your access to the NSN as a club member, you ask? Well you can log your time and mileage spent on outreach events (a help for earning the Astronomical League's Outreach Pin), track your club membership status, find contact information for other members (if they have their account set up to allow it), access the club's event calendar, look up educational resources, get phone and text message notices of new or cancelled events, and lots more.

Of course your participation in the NSN is voluntary and you do not need to even access your account that was created for you but you might just want to check it out, as this is the tool that we will be managing the club with for some time to come. The Yahoo Group will not be going away but it will only be used for the forum and photos.

All in all, 2014 is looking up to be a very good year for the BBAA and we are trying to get everyone involved in our activities, so until next month...

Clear Skies, *Jim Tallman*

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## January 2, 2014 Meeting Minutes

The January 2014 meeting was called to order at 7:33 PM at the Virginia Beach Planetarium at Plaza Middle School by new president Jim Tallman.

**Those in attendance were:** Nick Anderson, Bob Beuerlein, Tom Flatley, Dean Giangregorio, Mary Giangregorio, Jeff Goldstein, Pete Goulart, Chuck Jagow, Leigh Anne Lagoe, Shawn Loesch, Ben Loyola, Matt McLaughlin, Bill McLean, Vincent Pendleton, Bill Powers, Bruce Powers, Joey Quinn, George Reynolds, Ron Shaneyfelt, Kevin Swann, Jim Tallman, Paul Tartabini, Bird Taylor, and Michael Webster. Guests were Bob Feit and Ed Zednick.

The new club officers for 2014 were introduced:

President - Jim Tallman  
Vice President - George Reynolds  
Treasurer - Chuck Jagow  
Secretary - Leigh Anne Lagoe

Jim Tallman expressed interest in having more options for upcoming club meetings including small projects and guest speakers. Next month, we should have planetary

weather scientist, Dr. Kunio Sayanagi, from Hampton University as a guest speaker

**Reports:** A motion was made by Chuck Jagow to waive the reading of the previous month's minutes and consensus agreed.

**Treasurer's Report:** Chuck Jagow reported that there is \$1691.80 in the General Fund and \$2371.67 in the Scholarship Fund, for a total of \$4063.47. The club has upcoming expenses for the year estimating about \$1500.

**Vice President Report:** George Reynolds reported that we have already received two outreach requests through the Night Sky Network. The outreach requests were for STEM Night at Greenbrier Middle School on February 21st and 4H Space Camp in Wakefield, VA. More details about these events will be posted when they are available.

### Calendar discussed at meeting:

- 1/4 - Nightwatch at Chippokes State Park
- 1/5 - Jupiter at Opposition
- 1/10 - Garden Stars at Norfolk Botanical Gardens, 7:00 PM

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# The Back Bay Amateur Astronomer's 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:  
bbaa.newsletter@gmail.com or BBAA Observer, P.O. Box 9877, Virginia Beach, VA

## 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 February 6, 2014 meeting will be held at TCC in Virginia Beach, Building J, Room JC-12 at 7:30 PM.

Directions available at [www.backbayastro.org](http://www.backbayastro.org).

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## BBAA Internet Links

BBAA Website  
[www.backbayastro.org](http://www.backbayastro.org)

Yahoo! Groups  
[tech.groups.yahoo.com/group/backbayastro](http://tech.groups.yahoo.com/group/backbayastro)

BBAA Observer Newsletter  
[www.backbayastro.org/observer/newsletter.shtml](http://www.backbayastro.org/observer/newsletter.shtml)

## Observer's Corner

Sadly, Comet C/2012 S1 (ISON) did not live up to our hopes, but Comet C/2013 R1 (Lovejoy) has been quite a nice consolation prize. BBAA members were all over it, though, as they're much too careful to let a celestial beauty like Lovejoy slip away unnoticed.



(Top) Kent Blackwell captured this fabulous image of Comet Lovejoy on Dec. 3, 2013. (Canon 20Da, 66mm f/6 lens, 3-minute exposure at ISO 1600).

(Left) Nick Anderson drew this fascinating sketch of Comet Lovejoy last November while observing near Virginia Tech.

### Comet C/2013 R1 (Lovejoy)

Date: November 11, 2013

Time: 4:45 am

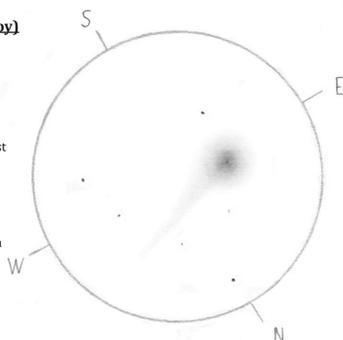
Location: Giles County, VA

Instrument: Orion XT8 SkyQuest

Power: 48x

Filter: None

Comments: Direct vision object; diffuse coma is about 8 arcminutes in size; a tail is seen with difficulty and stretches about 15 arcminutes WNW; it is more defined on the northern side



## Size Does Matter, But So Does Dark Energy!

By Dr. Ethan Siegel

Here in our own galactic backyard, the Milky Way contains some 200-400 billion stars, and that's not even the biggest galaxy in our own local group. Andromeda (M31) is even bigger and more massive than we are, made up of around a trillion stars! When you throw in the Triangulum Galaxy (M33), the Large and Small Magellanic Clouds, and the dozens of dwarf galaxies and hundreds of globular clusters gravitationally bound to us and our nearest neighbors, our local group sure does seem impressive.

Yet that's just chicken feed compared to the largest structures in the universe. Giant clusters and superclusters of galaxies, containing thousands of times the mass of our entire local group, can be found omnidirectionally with telescope surveys. Perhaps the two most famous examples are the nearby Virgo Cluster and the somewhat more distant Coma Supercluster, the latter containing more than 3,000 galaxies. There are millions of giant clusters like this in our observable universe, and the gravitational forces at play are absolutely tremendous: there are literally quadrillions of times the mass of our Sun in these systems.

The largest superclusters line up along filaments, forming a great cosmic web of structure with huge intergalactic voids in between the galaxy-rich regions. These galaxy filaments span anywhere from hundreds of millions of light-years all the way up to more than a billion light years in length. The CfA2 Great Wall, the Sloan Great Wall, and most recently, the Huge-LQG (Large Quasar Group) are the largest known ones, with the Huge-LQG -- a group of at least 73 quasars -- apparently stretching nearly 4 billion light years in its longest direction: more than 5% of the observable universe! With more mass than a million Milky Way galaxies in there, this structure is a puzzle for cosmology.

You see, with the normal matter, dark matter, and dark energy in our universe, there's an upper limit to the size of gravitationally bound filaments that should form. The Huge-LQG, if real, is more than double the size of that largest predicted structure, and this could cast doubts on the core principle of cosmology: that on the largest scales, the universe is roughly uniform everywhere. But this might not pose a problem at all, thanks to an unlikely culprit: dark energy. Just as the local group is part of the Virgo Supercluster but recedes from it, and the Leo Cluster -- a large member of the Coma Supercluster -- is accelerating away from Coma, it's conceivable that the Huge-LQG isn't a single, bound structure at all, but will eventually be driven apart by dark energy. Either way, we're just a tiny drop in the vast cosmic ocean, on the outskirts of its rich, yet barely fathomable depths.



*Digital mosaic of infrared light (courtesy of Spitzer) and visible light (SDSS) of the Coma Cluster, the largest member of the Coma Supercluster. Image credit: NASA / JPL-Caltech / Goddard Space Flight Center / Sloan Digital Sky Survey.*

Learn about the many ways in which NASA strives to uncover the mysteries of the universe: <http://science.nasa.gov/astrophysics/>.

# A Successful BBAA Anniversary

## Luncheon!

*By Bill McLean*

The BBAA club had its annual anniversary luncheon Saturday December 14th. Annette and I got there a few minutes before noon and there were only a few of us there. Oh well, let's eat! By time we were seated a dozen more of us showed up. I think we ended up having 20 or so members enjoying lunch.

It's so great seeing friends in the light. So many times we show up at observing events after dark. I recognize people by their voice and their equipment. Putting a face with the voice seems to fill the last identifying box in my head. Years ago, I saw Mark Ost at a luncheon and didn't recognize him. I was sure he wore a beard!

This is the last time we are meeting at Fire and Vine. We got a lot of talking and socializing in partly because the service was so slow. I met some new members and got to know them during the long wait! Of course their names have slipped through my colander-like memory.

I brought along an old slide rule to pass along amongst the members. Lots of old school nerd memories were brought up and shared. Bird said his dad had made a gigantic slide rule (I think), someone said he used to have a round one. I remember those! I had an aluminum Pickett. A few of us tried our hand at a simple calculation. What a hoot.

Although the food was slow and wrong in several cases we had a ball practicing our social skills. No arguments or fights broke out so I rate this luncheon a success. Everyone looked like they had an enjoyable time. See you next year (Dec. 20th) at (fill in the blank with a suggestion).

*Scenes from the BBAA Anniversary Luncheon on December 14, 2013.*



## January Minutes, continued from page 2

- 2/6 - Monthly Meeting, TCC, 7:30
- 2/7 - Garden Stars, Norfolk Botanical Gardens, 7:00 PM
- 2/21 - Skywatch at NWRP
- 2/21 - STEM Night, Greenbrier Middle School, 6:00 PM
- 2/22 - 4-H Space Camp, 3:00 PM

**ALCOR Report:** Bill McLean recognized **Nick Anderson** for receiving awards for the Deep Sky Binocular Program, Lunar Program, Planetary Nebula Program, Binocular Messier Program, Solar System Observers Program, as well as the Master Observer Award. Nick Anderson was awarded his pins and certificates from the Astronomical League. Nick reported that he started working



on the programs about 2 1/2 years ago and it took him a lot of dedication. Bill McLean discussed the AL observation programs and explained to newcomers how helpful the programs are to becoming a better observer and familiarizing yourself

with the night sky.

### Observing Reports:

- Bill McLean expressed how brilliant Jupiter is right now. He observed the motions of the moons of Jupiter by going out to his telescope every couple of hours to see what movement the moons had made.
- Chuck Jagow reported he viewed the transit of one of the moons across Jupiter at almost 500x magnification.
- Jeff Goldstein and Jim Tallman discussed that Venus is just a sliver of a crescent now, but still incredibly bright.
- Bird Taylor suggested viewing the very thin crescent Moon tomorrow (1/3/14).
- Observatory will be open at the GAP on 1/3/14.

### Quick presentation by Bill McLean:

- Bill McLean brought four different rocket



Saturn V rocket.

- Bill's quick presentation demonstrated the significant size difference of the rockets over only a 7 year period.

### New Business:

Jim Tallman announced a new online tool, Night Sky Network (NSN), that we have begun to use to help manage the club and enhance our outreach capabilities (see [Looking Up](#)). It is a national and regional network of amateur astronomers. The website offers a calendar, event tracking, a way for individual members to keep track of their own outreach hours, as well as countless other benefits. Members will start receiving emails that they've been registered in the network. Outreach events and meetings will be tracked by the NSN.

### Scale-Model Pocket Solar System:

President Jim Tallman led attendees in creating a scale-model pocket solar system. Each person received a length of register tape. The long strip of paper represented the distance from the Sun to the Kuiper Belt & Pluto. With a series of folds and marks (Uranus being in the center, and the small rocky planets making up only about two inches of the end closest to the Sun) it was demonstrated just how much space there is between the objects in our solar system.

The meeting adjourned at 8:03 PM followed by a brief introduction of newcomers, the door prize drawing, and a planetarium show.

Minutes taken by Secretary Leigh Anne Lagoe

Note: Minutes were abbreviated due to space constraints. Full minutes can be viewed at <http://backbayastro.org/minutes/2014-01-minutes.pdf>

# Review: Canon 10x30 Image Stabilized Binoculars | Bill McLean

I have owned a pair of Canon 10x30 Image Stabilized binoculars for three years, so I can share thoughts based on long term usage.

I use them primarily for astronomy. They are very easy to use and the placement of the holding areas, focusing knob and power button are intuitive and natural. Focusing is controlled with one knob, which turns with a light pressure and is easy to use even when wearing mittens! Cold stiffens it only slightly. There are also adjustments for inter pupillary distance and diopter adjustment on the right eyepiece.



*One finger on focus knob, one finger on stabilization button. Quite ergonomic.*

These binoz have a wide, six degree field-of-view and are sharp and focused to about 80% of the field. Beyond that a bit of "cometing" is evident but doesn't seem to bother me. They have strange eye cups: for folks who wear glasses, like me, they are folded out of the way and work great- I get a full FOV. For the non-glasses users they fold out and nearly completely block all stray light which is also good. It is going between the two that is a bit cumbersome. With the cups folded in for glasses a person could touch the lens to their eyeball if they were passed the binoz and do not wear glasses! My wife just leaves the cups in and holds the ocular a slight distance from her eyes when we are passing them back and forth.

When I first got these I thought the views were comparable to what I could see using larger 10X50 Nikons. I found astronomical objects to be about the same in brightness, I think due to being able to hold them so stable. The background brightness was noticeably less in the Canons. Cool!

The stabilization works great. One button on top turns it on. Let go and it turns off. The 2 AA batteries last for a month or more of regular use. Because of the stabilization I use these for everything, even things where less power might be better: opera, NASCAR races, birding, reading distant signs, and just being nosy. I use them a lot! I bring them to every astro event and end up using them 50% of the time in the (highly recommended) lounge or gravity chair.

Pros: small (smaller than any 10X50 and perform better with the stabilization on and better contrast), light weight, highly portable, water resistant (not proof), great optics, very natural and easy to use, magical when the button gets pressed and stabilization engages, regular AA batteries, rubberized for grip, cool looking .

Cons: wish they didn't cost \$400 (although I feel they're worth it, and you know how cheap I am), no hard case (soft one provided), eye cup thing is goofy (I'd rather have twist out), neck strap needs more padding, no ocular lens cover(s).

I highly recommend these binoculars and I'd buy them again if they got run over by a truck. If you're thinking of getting binoz, get these, you'll never regret it. I love 'em! Ask me to try them out at any event, I always have them with me.

This just in, after using them for birding today, my wife said they're worth every penny I paid for them (and she knows how much they cost ).



*Goofy ocular things.*

*I had to make my own ocular cover to protect from falling cookie crumbs.*



## February 2014

BBAA Events	Special Outreach	Astronomical Events
2/06 BBAA Monthly Meeting		2/06 First Quarter Moon
		2/14 Full Moon
2/07 Garden Stars @ Norfolk Botanical Gardens	2/21 STEM Night, Greenbrier Middle School	
		2/22 Last Quarter Moon
2/21 Skywatch @ Northwest River Park	2/22 4-H Space Camp,	2/26 Crescent Moon close to Venus



### Sneak Peek into March

Sat 3/01/2014 Nightwatch at Chippokes State Park, Surry VA.  
 Thu 3/06/2014 BBAA Monthly Meeting, TCC Campus, 7:30 pm  
 Fri 3/07/2014 Garden Stars at Norfolk Botanical Gardens, 7:00 pm  
 Fri 3/21/2014 Skywatch at Northwest River Park