



BACK BAY observer

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

EPHEMERALS january 2011

1/06

Monthly BBAA Meeting
VB Planetarium
Plaza MS
7:30

1/08

Nightwatch
Chippokes State Park
Surry, VA

1/28

Skywatch
Northwest River Park



Looking Up!

I'm having to type this one-handed this month. My right arm is strapped to a big foam wedge and is immobilized; and I'm right-handed.

I saw that Skywatch was on for the 3rd, but I couldn't make it. I had previously promised to take my great-nieces & nephews to Hollydazzle at Newport News City Center. They have the fireworks all around and over the huge round fountain there. We were able to watch them from City office windows from the 4th floor. It pretty cold that night in Newport News and rather cloudy. I haven't heard how it was at NWRP; I hope the folks that went had some good seeing.

We had an excellent annual luncheon on December 11 at Tripp's on Independence Blvd. Good food and fellowship were shared by about thirty of us. Thanks again to Bill McLean and Georgie June for making arrangements and getting the word out,

I had rotator cuff surgery on my right shoulder on December 20th, hence the strapped-down arm. So, I found myself in Chesapeake General Hospital on the night of the Lunar Eclipse. I had told my night-duty nurse about it and that I'm an amateur astronomer. She agreed to disconnect me from my wires & tubes when I wanted to get up. She let me loose about 2:20 AM and I took the elevator to the 5th floor. There is a south-facing hallway there that is all windows. I expected to be able to get some view of the event. The hallway is rather brightly lit and I was only able to find a couple of light switches for them. Unfortunately even with cupping my hand against the window, I could not see a thing. I don't know if it was too much back lighting or if the moon was farther to my right than the window

Continued on page 4

CONTENTS

Ephemerals	1
Looking Up	1
NASA Space Place	2
Thank You	4
December Minutes	5
Eclipse Experiences	6

Astronomers Stumble onto Huge Space Molecules

by Trudy E. Bell and Dr. Tony Phillips

Deep in interstellar space, in the swirling gaseous envelope of a planetary nebula, hosts of carbon atoms have joined together to form large three-dimensional molecules of a special type previously seen only on Earth. Astronomers discovered them almost accidentally using NASA's Spitzer Space Telescope.

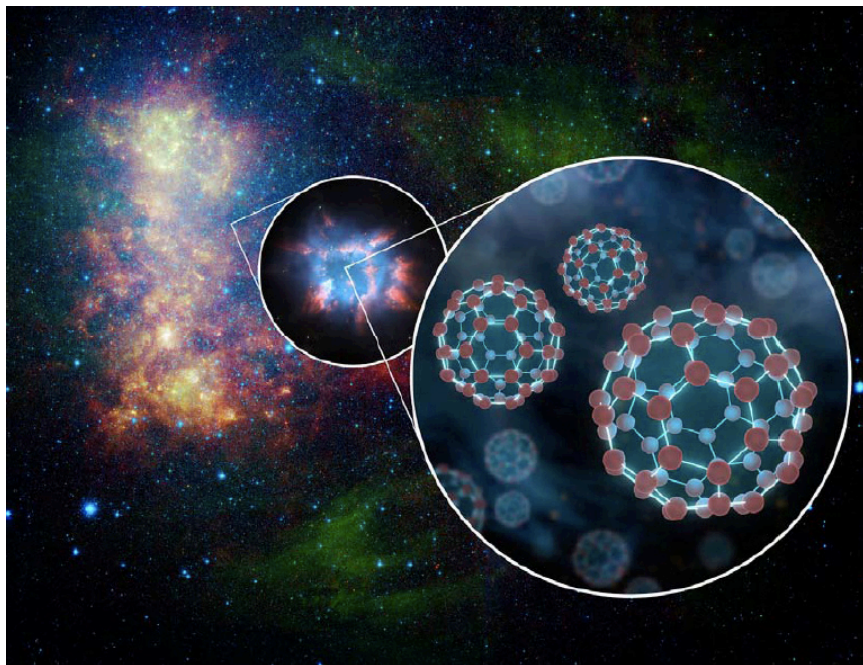
"They are the largest molecules known in space," declared Jan Cami of the University of Western Ontario, lead author of a paper with three colleagues published in *Science* online on July 22, 2010, and in print on September 3.

Not only are the molecules big: they are of a special class of carbon molecules known as "fullerenes" because their structure resembles the geodesic domes popularized by architect Buckminster Fuller. Spitzer found evidence of two types of fullerenes. The smaller type, nicknamed the "buckyball," is chemical formula C₆₀, made of 60 carbon atoms joined in a series of hexagons and pentagons to form a spherical closed cage exactly like a black-and-white soccer ball. Spitzer also found a larger fullerene, chemical formula C₇₀, consisting of 70 carbon atoms in an elongated closed cage more resembling an oval rugby ball.

Neither type of fullerene is rigid; instead, their carbon atoms vibrate in and out, rather like the surface of a large soap bubble changes shape as it floats through the air. "Those vibrations correspond to wavelengths of infrared light emitted or absorbed—and that infrared emission is what Spitzer recorded," Cami explained.

Although fullerenes have been sought in space for the last 25 years, ever since they were first

identified in the laboratory, the astronomers practically stumbled into the discovery. Co-author Jeronimo Bernard-Salas of Cornell University, an expert in gas and



Superimposed on a Spitzer infrared photo of the Small Magellanic Cloud is an artist's illustration depicting a magnified view of a planetary nebula and an even further magnified view of buckyballs, which consist of 60 carbon atoms arranged like soccer balls.

dust in planetary nebulae, was doing routine research with Spitzer's infrared observations of planetary nebulae with its spectroscopy instrument. When he studied the spectrum (infrared signature) of a dim planetary nebula called Tc 1 in the southern-hemisphere constellation of Ara, he noticed several clear peaks he had not seen before in the spectra of other planetary nebulae.

"When he came to me," recounted Cami, an astrophysicist who specializes in molecular chemistry, "I immediately and intuitively knew it I was looking at buckyballs in space. I've never been that excited!" The authors confirmed his hunch by carefully comparing the

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Please submit articles and items of interest no later than the 15th of the month for the next month's edition. Please submit all items to: BBAAErica@yahoo.com or BBAA Observer, P.O. Box 9877, Virginia Beach, VA 23450-9877

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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 January Meeting will be held at VB Planetarium, Plaza MS on Lynnhaven Rd at 7:30 PM.** Directions available at www.backbayastro.org.

BBAA Internet Links

BBAA Web Site

<http://www.backbayastro.org>

Yahoo! Group

<http://tech.groups.yahoo.com/group/backbayastro>

BBAA Observer Newsletter

www.backbayastro.org/observer/newsletter.shtml

Space Place, continued from page 2

Tc 1 spectrum to laboratory experiments described in the literature.

"This discovery shows that it is possible—even easy—for complex carbonaceous molecules to form spontaneously in space," Cami said. "Now that we know fullerenes are out there, we can figure out their roles in the physics and chemistry of deep space. Who knows what other complex chemical compounds exist—maybe even some relevant to the formation of life in the universe!"

Stay tuned!

Learn more about this discovery at <http://www.spitzer.caltech.edu>. For kids, there are lots of beautiful Spitzer images to match up in the Spitzer Concentration game at <http://spaceplace.nasa.gov/en/kids/spitzer/concentration>.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



Welcome New Members!

Looking Up! Continued from page 1

allowed. I went wandering around but couldn't find any other view. After about only ten minutes, I was already tired, so I went back to my room. Better luck next time.

On Christmas Eve, I saw that the skies were going to be clear that night. I used MS-Word to put together a quick handout (well, as quick as one can with one hand). I "borrowed" a NASA sky position diagram and listed the times and directions for that evening's ISS pass at 18:01. I printed about 15 copies and had my great-nephews carry them to each door on my block as a present for my neighbors. Several minutes before 6pm, I dragged the whole family out to watch the flyover. I saw several of my neighbors up and down the block out & looking. One came over and thanked me profusely for letting him know about it. Neither he nor his family had ever seen the Space Station

Upcoming Events

The Quadrantids meteor shower peaks around 0100 UT on Jan 4th (8 PM EST on 1/3). With the 4th being the New Moon, it should not interfere. Unfortunately, the radiant will be rather low in the sky. The best times to catch any will probably be the pre-dawn hours on the 3rd and 4th

Venus and Mercury reach greatest western elongation on the 8th and 9th, respectively. I saw Venus and the Moon side-by-side early on Dec.29; they were beautiful in the dawn sky.

Our next meeting is the 6th. Skywatch is the January 28th.

Special Note

George Reynolds has created a sign-up sheet in our Yahoo! Group web page where our members can pick a month to do a presentation of their choice. Go to our web page, click on Database and you'll see Monthly Meeting Features. The Add Record option will let you put in your info. I hope we can make good use of this. It gets difficult finding presentations. The alternative is for me to do my stand-up comedy routine!

Mark Gerlach

Mark Gerlach

Thanks Georgie!

Ted Forte

Georgie June has been the BBAA's ALCOR and Awards Coordinator since 2001. She has decided to hang up that hat and the reins have been turned over to Bill McLean.

As a member society of the Astronomical League, we are required to provide an appointed officer to coordinate our League membership. That officer is called the ALCOR. The job is pretty mundane and below the surface and I'll wager that many members are hardly even aware that there is an ALCOR and might be hard-pressed to name who it is. So Georgie might have just been one of those unsung heroes of any volunteer organization, a selfless, dedicated servant who hardly garners any notice. But, a collateral duty for the ALCOR is the role of A.L. Awards Coordinator, and that was a responsibility that Georgie took on with great energy and great enthusiasm, and was impossible to ignore.

An awards search on the AL site reveals that prior to 2001, a single BBAA member is credited with completing two AL observing awards. I'm not sure exactly when BBAA became a member society of the League (the club was founded in 1978), but in all the years leading up to Georgie's tenure, that was the sum total. Georgie set out to change that.

She saw these observing programs as a fun way to enhance the hobby, get people enthused about observing and provide a goal-oriented activity to energize the club's outings. She has been relentless in her promotions, always approaching new members and urging them to consider the programs. She made the idea of completing the programs fun and rewarding. For a half dozen years or more, it seemed that awards presentations were part of nearly every meeting, picnic, luncheon, and Skywatch. For a time, Georgie even augmented the awards with her own hand-made

continued on page 5

BBAA Meeting Minutes

December 2, 2010

The December meeting was called to order at 7:32 p.m. by President Mark Gerlach. Those in attendance were Neill Alford, Ken Broun, Gerry Carver, Bryan Condrey, Elizabeth Dougherty, Kevin Dougherty, Courtney Flonta, Tony Flonta, Ted Forte, Mark Gerlach, Jeff Goldstein, Dave Hales, Chuck Jagow, Curt Lambert, Matt McLaughlin, Bill Newman, George Reynolds, "Bird" Taylor, and Larry Wade.

Treasurer Chuck Jagow mentioned that he had received another bill from Cavalier Sportswear for \$85. Some discussion ensued. Treasurer's report: General Fund, \$3211.85; Scholarship Fund, \$3627.07; total, \$6838.92. Chuck said he received three membership checks this week in the P. O. box.

Secretary's report: The membership list is in the process of being updated. There are approximately 100 members at present. Many members' expiration date is 12/31/2010. It was suggested that members submit their 2011 dues of \$18 by the end of the month. The RASC Observer's Handbook shipment arrived this week and the books were available at the meeting for those who requested a copy. All but four were distributed by the end of the meeting.

New business: Some calendar items were mentioned. Skywatch tomorrow night 3 December, Nightwatch Saturday, 4 December. Ted Forte said to expect a large group of students at Skywatch, so we need as many members with telescopes as possible. The weather is forecast to be clear and cold, so dress warmly. The annual BBAA anniversary luncheon will be held Saturday, 11 December, 12:00 noon to 2:00 pm, at Tripp's Restaurant on Independence Boulevard in Virginia Beach Town Center.

Bird Taylor said the date for Yuri's Night at the Air and Space Center will be Saturday, 16 April 2011, from 7 pm to midnight. Mark confirmed that the January meeting will be held 6 January 2011 at the Virginia Beach City Public Schools Planetarium, Plaza Middle School on Lynnhaven Road. Jeff Goldstein volunteered to give a presentation on SLOOH remote observing and astroimaging.

George mentioned the opportunity to consider developing a "Chiefland North" dark

sky site near Columbia, NC. Some interest was evidenced among those present. Members asked that the URL of the site and the original email from Rob Schonk be posted on Backbayastro.

Someone asked about the possibility of BBAA purchasing the CD archive set of Sky & Telescope magazines currently available at "Shop at Sky" for about \$250. No decision was made.

Observers' Corner: Bird and Chuck said they have been observing Saturn, and Mark said Venus has been extremely bright in the mornings. Bird said he and Bill McLean had a good time observing at Machipongo recently. Bird and Mark passed out sky maps and a schedule of the total lunar eclipse which will occur after midnight 21 December (the night of Monday, 20 December).

President Mark Gerlach presented a video entitled "Journey to the Stars", narrated by Whoopi Goldberg. The video traced the birth and death of stars, particularly our sun and how heavy minerals and planets are produced in supernovae. The information presented was very up-to-date, and the graphics were very good.

The meeting was adjourned at 8:30 p.m. by President Mark Gerlach.

Georgie, continued from page 4

commemorative wooden plaques. As a result, 23 different BBAA members have completed a total of 93 observing programs on her watch. Many of you reading this may be working on programs, even now, that Georgie urged you to start.

So as we pass along a sincere THANK YOU to Georgie for the fine job she has done it is also time to say thanks to Bill for taking on this important responsibility. Good luck, Bill!

BBAA's Eclipse Experiences

George Reynolds

The astronomy highlight of the end of the year was the total lunar eclipse on the winter solstice, the night of 20-21 December. Many BBAA members gathered at the Chesapeake Planetarium, compliments of Dr. Bob Hitt, to enjoy the eclipse, along with fun, fellowship, and refreshments. Here are some excerpts from some of the BBAA members' reports.

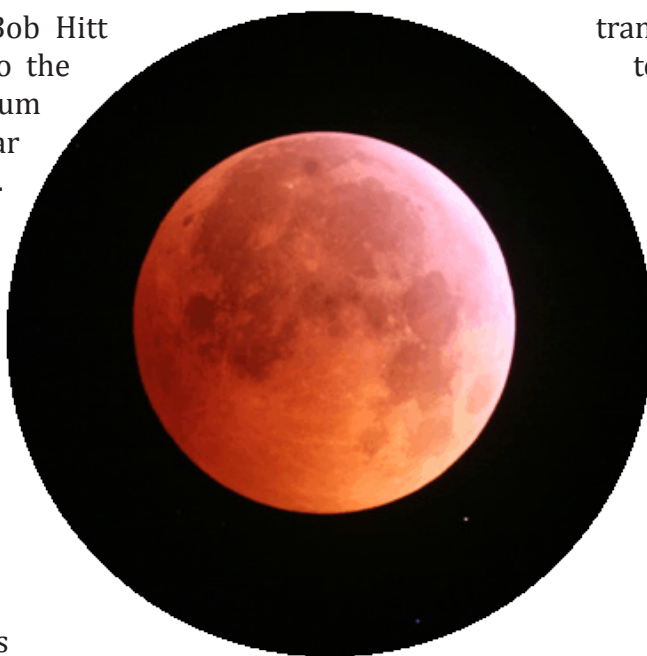
Georgie June said, "Thanks to Kent Blackwell and Bob Hitt for inviting us over to the Chesapeake Planetarium to watch the Lunar Eclipse. What a set up... Telescopes out front... Hot coffee and heat inside. It doesn't get much better!"

My personal highlights were: Seeing blue on the eclipsed moon (thanks Mark), Ted saying it looked like Mars with the polar cap (and him reminding us that Mars would look as big as the full moon in August!), eating hot dogs with mustard in the planetarium (thanks Bob and Kent), and reminding Chuck Jagow that I do own a baseball bat.

Ted Forte had this to say: "It was a great eclipse. Totality was really beautiful and we were very lucky that the sky cooperated when it mattered. Hopefully Kent will have an image to share later – he took about a gazillion shots. Good to see everyone that could make it this morning. For those that didn't, I hope you got up and at least took a peek. As Georgie mentioned, we saw a

blue tinge on the following limb of the moon (reflected light from Earth's stratosphere). That was a first for me, and I might not have recognized it this time either had not Mark mentioned it. That was cool. Thanks to Bob Hitt and Kent for opening the planetarium and hosting this event. It was great."

VP Courtney Flonta wasn't at the planetarium, but had this report: "I was up... I had to take a few cat naps to stay awake, but I did. I was out till about 3:30, so I saw the gorgeous transformation from white and full, to rusty red and darker. I got some shots, though sadly only a few came out. But seeing as I have a \$100 point and shoot (and it was my first time photographing anything celestial), that's pretty good. I'm glad that I stayed up, even though it was cold and somewhat lonely."



This photo by Kent Blackwell was featured on WAVY.com!

Mark Ost waxed eloquent: "We owe Bob Hitt a big thank you for making the 2010 Lunar eclipse one for the books! What can I say? If you didn't see it and you are looking at the pictures in

the media; I am sorry. Pixels or bits just can't capture some things...despair all ye who did not partake!

The eclipse was much darker than I believe was expected. It can get darker (almost to black) but that is really rare. A few passing clouds raised the anxiety levels a bit but then it all came good as totality commenced. The colors were unreal. As Georgie said this was the first time that I and I believe many others were able to see, or notice, the deep blue colors along the umbral edge. This blue is caused by light filtering through the earth's stratosphere, which is clear of the troposphere (lower atmosphere) dust that give most

of the lunar eclipse it's characteristic red to orange color. Actually just prior to totality the moon looked all the world like Mars does during opposition! No kidding. Faux polar cap and all but it was the size of the moon!! Hey maybe they were right for once on the internet!

For a bunch of sleep deprived people, I chief among them, the time seemed to stand still and fatigue vanished as the excitement of the spectacle unfolded. Only later at 5 in the morning did it start to catch up. The spirit engendered by the group of 17 or so folks made this a great event. Add to that the hospitality offered by Bob Hitt and the movies on the planetarium dome. I only saw bits of the classic sci-fi movies *Alien*, *The Original War of the Worlds*, and the original *The Day the Earth Stood Still* (the only version to see). I fear only bits and pieces of the movies were seen as the eclipse gathered most of the attention.

Around 0430 the party broke up with some going home and some damned souls going to work. That is real despair! I think for some this was their first eclipse and the excitement was contagious. As Kent Blackwell has rightly pointed out, 'you can have the best hi-fi system in the world and it still does not touch live performance.' This could be true of the moon last night. You had to be there."

Chuck Jagow was there at the planetarium, too, and had this report: "I arrived at the Chesapeake Planetarium after catching a quick hour catnap and unloaded my new 12" Orion goto Dob around midnight. By first contact we were all excitedly looking through each other's scopes to see the view and commenting on the hint at coloring.

By totality I had discovered that I had brought my camera tripod, camera case but neglected to ensure that my trusty camera was indeed actually INSIDE the camera case. So I failed to take any images of the event. Hopefully Mr. Blackwell will be able to provide us a digitized record of the event with his trusty 20da. Georgie and I were pretty pitiful trying to take eclipse images with our cell phone cameras. Desperation will drive you to many things. As so many others have pointed out, this observing event was one of those things you just had to be there for. A hearty thank you to Dr. Bob Hitt and Kent Blackwell

for putting together the opportunity for all of us 'Luny' birds to get together!"

Veteran observer **Kent Blackwell** got some pictures of the eclipse. "It was a dark eclipse, but not as dark as I have seen. About 10 years ago binoculars were needed to see the eclipsed moon!

I captured the eclipse of February 2008 (a bright eclipse) with a 4-second exposure. Using the same equipment under similar conditions the December 21, 2010 eclipse required a 12-second exposure.

Oh Wow!! It was the best lunar eclipse every! I am so wound up and excited. The eclipsed moon was simply fantastic. Although it looked as if clouds might prevail, they parted just in time for totality. It remained mostly clear the entire time.

I still can't get over seeing that red color. It was especially rewarding to share the views of the eclipsed moon with several non-astronomy visitors, I had my 20x120 Nikko Japanese Battleship binoculars set up for anyone to view the moon all night. The view in those was second best. The best views, without a doubt were naked-eye views. To see that red lunar orb suspended in a blackened sky looked 3-D! Did I mention I am excited?" Here is the URL link to one of Kent's photos: <http://tinyurl.com/2efnmj8>

Rob Schonk was on the Outer Banks of North Carolina, and watched the eclipse in comfort. Here's what he said: "I've got two skylights in my office ceiling down here [on the Outer Banks], so I was able to watch much of the eclipse from my reclining desk chair dressed in my jammies!!!! Did bundle up a couple of times to use the scope."

So, the total lunar eclipse was a real success, a highlight of the year that didn't disappoint.





BACK BAY ***observer***

January 2011

BBAA Events	Special Outreach	Astronomical Events
		04 New Moon
06 Monthly Meeting at VB Planetarium		
08 Nightwatch at Chippokes		12 First Quarter
		19 Full Moon
28 Skywatch at NWRP		
		26 Last Quarter



Sneak Peak into February

Thursday 02/03/2011 Meeting at TCC VA Beach, Building J, Room JC-12 at 7:30 p.m.

Saturday 02/05/2011 Nightwatch at Chippokes State Park, Surry VA.

Friday 02/11/2010 Garden Stars at Norfolk Botanical Gardens at 7:00 p.m.

Friday 02/25/2011 Skywatch at Northwest River Park