

# BACK BAY observer

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



## EPHEMERALS september 2011

9/01

**BBAA Monthly Meeting**  
TCC Virginia Beach

9/02

**Garden Stars**  
Norfolk Botanical Gardens  
7 pm

9/06

**Boardwalk Astronomy**  
24th Street & The Boardwalk  
Dusk - 11pm

9/09

**Nighthike**  
Northwest River Park

9/16

**Skywatch**  
Northwest River Park

9/24

**Nightwatch**  
Chippokes State Park

## Looking Up!

I didn't get to see any Perseid meteors. Too many clouds. There aren't any major meteor showers in September and only two minor ones that are rated at about 5 per hour. There are a couple of showers in October where we might be able to catch a few meteors. I'll put up more info on the Draconids and the Orionids in the next issue. If you are interested in looking for the minor showers, a good site for info is the American Meteor Society website: [www.amsmeteors.org](http://www.amsmeteors.org).

I was on an Alaska cruise from the 21st until the 28th. The 20th & 29th were flight days (& delays). Mom, my sister and I went on Holland America's MS Oosterdam to Glacier Bay, Juneau, Sitka, Ketchikan, and Victoria (British Columbia, Canada). It was either rainy or cloudy almost every day. I did get to see some glaciers & whales, but did not have any opportunity to see the Northern Lights, or anything in the sky, for that matter. Updates on comets: Comet Garradd (C/2009 P1) has moved past Delphinus and Sagitta. It passed the Coat Hanger sometime Saturday night, but I still have not been able to see it with my 11x70 binocs. I may have to try for it with the 10" DOB. Currently, it is moving along a line from Sagitta toward a spot just north of Alpha Hercules. (See the IAU Minor Planet Center website at [www.minorplanetcenter.net](http://www.minorplanetcenter.net), [Cometography.com](http://Cometography.com), or [cometchasing.skyhound.com](http://cometchasing.skyhound.com))

*Continued on page 4*

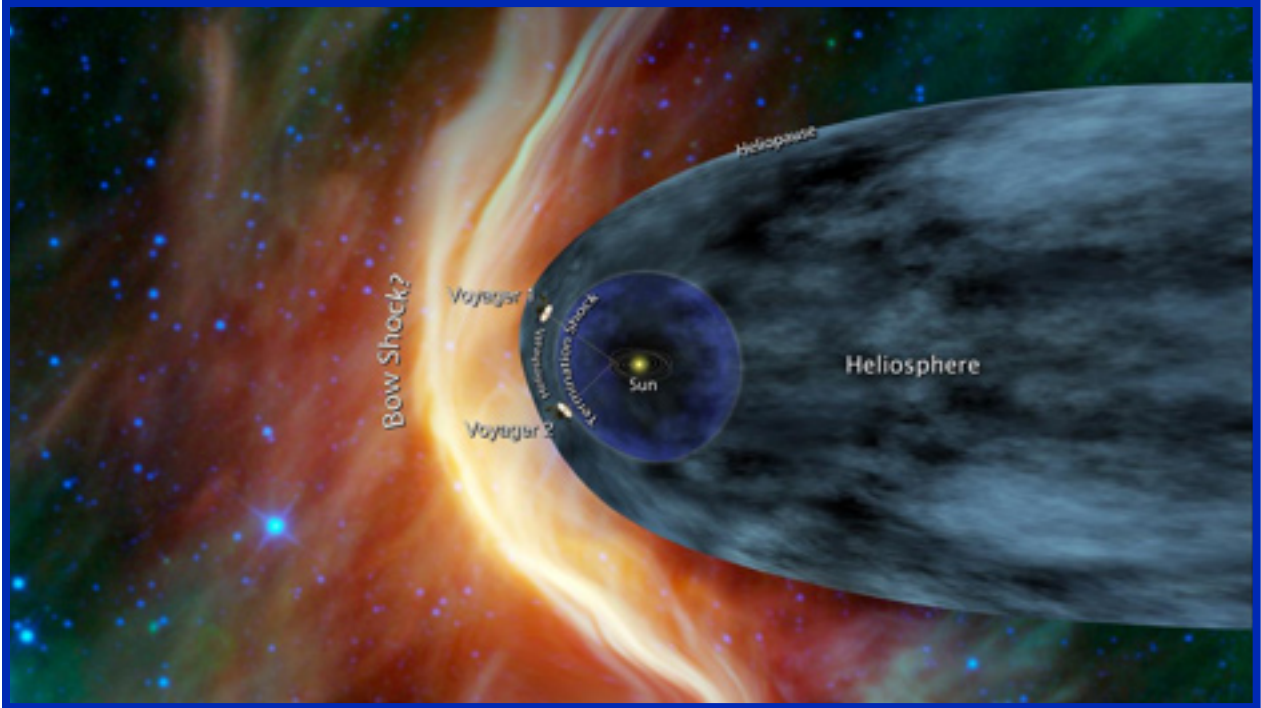


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## Solar System Size Surprise

by Dr. Tony Phillips



This artist's concept shows NASA's two Voyager spacecraft exploring a turbulent region of space known as the heliosheath, the outer shell of the bubble of charged particles around our sun. Image credit: NASA/JPL-Caltech.

News flash: You may be closer to interstellar space than you previously thought.

A team of researchers led by Tom Krimigis of the Johns Hopkins University Applied Physics Laboratory announced the finding in the June 2011 issue of *Nature*. The complicated title of their article, "Zero outward flow velocity for plasma in a heliosheath transition layer," belies a simple conclusion: The solar system appears to be a billion or more kilometers smaller than earlier estimates.

The recalculation is prompted by data from NASA's Voyager 1 probe, now 18 billion kilometers from Earth. Voyagers 1 and 2 were designed and built and are managed by NASA's Jet Propulsion Laboratory. Aging but active, the spacecraft have been traveling toward the stars since 1977 on a heroic mission to leave the solar system and find out what lies beyond.

To accomplish their task, the Voyagers must penetrate

the outer walls of the heliosphere, a great bubble of plasma and magnetism blown in space by the solar wind. The heliosphere is so big, it contains all the planets, comets, and asteroids that orbit the sun. Indeed many astronomers hold that the heliosphere defines the boundaries of the solar system. Inside it is "home." Outside lies the Milky Way. For 30+ years, the spacecraft have been hurtling toward the transition zone. Voyager 1 is closing in.

Much of Voyager 1's long journey has been uneventful. Last year, however, things began to change. In June 2010, Voyager 1 beamed back a startling number: zero. That's the outward velocity of the solar wind where the probe is now.

"This is the first sign that the frontier is upon us," says Krimigis.

Previously, researchers thought the crossing was still years and billions of kilometers away, but a new analysis gave them second thoughts. Krimigis and

# 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/newsletters/newsletter.shtml>.

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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 September meeting is at the TCC Virginia Beach.** Directions available at [www.backbayastro.org](http://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](http://www.backbayastro.org/observer/newsletter.shtml)

## Space Place, continued from page 2

colleagues combined Voyager data with previously unpublished measurements from the Cassini spacecraft. Cassini, on a mission to study Saturn, is nowhere near the edge of the solar system, but one of its instruments can detect atoms streaming into our solar system from the outside. Comparing data from the two locations, the team concluded that the edge of the heliosphere lies somewhere between 16 to 23 billion kilometers from the sun, with a best estimate of approximately 18 billion kilometers.

Because Voyager 1 is already nearly 18 billion kilometers out, it could cross into interstellar space at any time—maybe even as you are reading this article.

“How close are we?” wonders Ed Stone, Caltech professor

and principal investigator of the Voyager project since the beginning. “We don’t know, but Voyager 1 speeds outward a billion miles every three years, so we may not have long to wait.”

Stay tuned for the crossing.

*For more about the missions of Voyager 1 and 2, see <http://voyager.jpl.nasa.gov/>. Another Voyager project scientist, Merav Opher, is the guest on the newest Space Place Live cartoon interview show for kids at <http://spaceplace.nasa.gov/space-place-live>.*



## Welcome New Members!

September 2011

## Looking Up! Continued from page 1

The latest news (Aug. 30, in Sky & Telescope's Sep. 2 newsletter) on Comet Elenin (C/2010 X1) is that it may be self destructing as it approaches the sun for a September 10 perihelion. Its brightness has declined by more than half. The nucleus has become elongated and diffused and may have broken up. Currently about 9th magnitude, the object is not expected to survive perihelion.

Chuck Jagow has done a fine job in preparing and scheduling the 2011 Convention of the Virginia Association of Astronomical Societies (VAAS) on October 1. He has lined up an interesting set of speakers and I think they will all have some informative presentations. Please go to the BBAA website <http://www.backbayastro.org/vaas> for detailed information. It has been several years since the BBAA has hosted this event and we are looking forward to a good turnout.

# BBAA Meeting Minutes

## August 4, 2011

The August, 2011 meeting was called to order at 7:30 p.m. at the Virginia Beach Public Schools Planetarium by President Mark Gerlach. Those in attendance were Neill Alford, Nick Anderson, Tom Flatley, Courtney Flonta, Tony Flonta, Ted Forte, Mark Gerlach, Jeff Goldstein, Chuck Jagow, Karen Jagow, Matt McLaughlin, Bill McLean, Bill Newman, Jake Putz, George Reynolds, Matt Swingle, Jim Tallman, "Bird" Taylor, and Larry Wade.

Treasurer's report: General Fund, \$4136.17; Scholarship Fund, \$3706.12; total, \$7842.29.

Secretary's report: No July meeting was held during the picnic, so there were no minutes to be read.

This year's BBAA scholarship recipient was announced to be Emily Wiggins, teenage member of VPAS, who is very active and deserving of the

Our September Boardwalk Astronomy will be done by time this gets out (my fault, again), but we have yet another on Tuesday, October 11, with a rain date of Thursday, the 13th.

Another thing in the near future: November elections. It is time to start thinking about BBAA Offices for the coming year. I haven't spoke to anyone about any positions, but George, Courtney, and myself have served two years in our current positions. We are each ineligible to continue another year. Please take a look at your plans for the coming year and see if you can fit in the time to give back to our organization.

Sorry about missing our September meeting. Somewhere on our trip home from Alaska I picked up a bug. I was out of work thru Friday (2nd) but I expect to be back to work this week. Our October meeting will be at TCC.

In the meantime, keep Looking Up!!

scholarship award. Bird Taylor told us a little about her and what she has done for VPAS.

Old business:

The membership roster is almost up to date. George and Jim will get together and compare notes, then give a copy of the current list to ALCOR Bill McLean to send to the Astronomical League.

Jim made the motion that all membership terms be made to expire on 31 December of each year, to facilitate keeping track of the current payment of dues by club members. Right now memberships expire on year from join date, which makes it hard to keep records current. Annual dues of \$18 is \$1.50 per month, so dues could be pro-rated for those with less than a year before 31 Dec. Motion was seconded and affirmed by those present.

President Mark Gerlach reported that the Dark Sky Site Search is no longer in process. Hampton Lodge has said anyone can come and camp in or around the cedars for \$20 a night. Members of the search committee deemed this more economical than procuring or leasing land two hours away in North Carolina and spending money to improve the site. The search committee has been disbanded.

Chuck Jagow reported that the VAAS conference is scheduled for Saturday, 1 October at TCC Virginia Beach. He has contacted the NASA Speakers' Bureau, but has yet to receive a reply. Several others who were asked to speak have declined. A motion was made to give Chuck Jagow a budget from BBAA funds to cover VAAS expenditures for stipends, expenses, etc. Motion seconded and carried. A second motion was made and seconded that the VAAS funds be not to exceed \$1500, and that all receipts be turned in to the treasurer. Motion carried.

New business:

The Virginia-Pilot printed an article about the Perseid meteor shower (12-13 August), quoting Dr. Bob Hitt and George Reynolds.

There was some discussion that the amount of the scholarship be increased. Others suggested that we offer more than one scholarship. In the absence of the scholarship chairman Ben Loyola, further discussion was tabled.

Ted Forte gave an update on the RRRT: A number of things need to be taken care of; routine chores, mechanical problems with the dome, etc. A new polarimeter is in, and needs to be attached. Activity is "on hold" for now, waiting for Dr. Salgado in the

fall. After that, the site will be open for proposals for use. Those who have spent time working on it will have precedence.

VP Courtney Flonta was recognized for receiving the 2011 Horkheimer Award for young astronomers. She is the fourth BBAA member to receive this prestigious award. Previous BBAA recipients were Adam Forte, C.J. Wood, and Jordan Bramble.

The meeting feature was a presentation by VB Planetarium Director Chuck Dibbs on "Space Fest", held at Starizona, in the foothills of Tucson, Arizona. Chuck was there in June of his year, and showed many pictures of the event. An exciting element of the event was the ability of attendees to meet and talk to real astronauts, including some from the Apollo program who went to the moon. Chuck highly recommends this event. The next one will be held in June of 2012.

The meeting was adjourned at 9:05 p.m. by President Mark Gerlach.

**off the mark.com** by Mark Parisi



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# The Cheeseburger Nebula

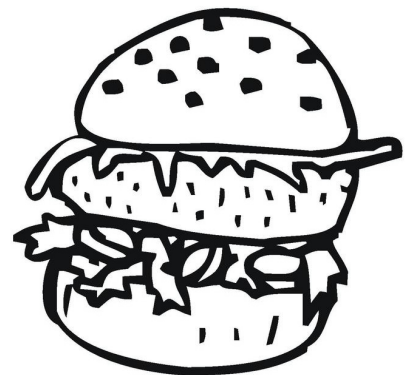
*BBAA Member Stu Beaber shared his photos of the Cheeseburger Nebula and NGC 7129 this past month, generating interest and conversation on the Yahoo! Groups site. Check out the high-res images and photography details at <http://www.wd4sel.com/thelatestimagetaken.htm>.*

Well, the grill is hot and “cheeseburgers” are ready. Hope you’re on a diet...’cause they’re mighty small...low cal you might say. No kidding, you’s e guy with the “big eyes” probably saw more than this. This is where a small chip would be of value. I cropped this about 60-65% so it wouldn’t look like a elongated star. Also included is another cluster w/nebulosity NGC7129...a tad bigger. I’m sure both of these would be better done from a dark site and without a 50% moon in the sky. The Moon does wonders to destory LRGB images and makes processing a nightmare.

From Ted Forte: That is extremely interesting Stu. What immediately jumped out at me in your image is the bright X shaped feature that terminates in four bright knots or bubbles. I’ve not seen that visually in 7027. These point symmetric bubbles in PNe are hot science right now. I’ve been reading about them all month. This is just too cool. You’ve made my day!

From Kent Blackwell

I have never seen (or noticed) the “X” knots mentioned by Ted. I’d like to view it again in the 25” at 1000x after seeing your image. Your picture is amazing. The Cheeseburger looks more like a Crabburger (ugh!) with the “knots” or “legs”. Thank goodness the name “Crab Nebula” has already been taken.



# 2011 35th Annual VAAS Conference

The 35th Annual Virginia Association of Astronomical Societies (VAAS) Conference is being hosted by the Back Bay Amateur Astronomers for the first time in many years, and will be held in Virginia Beach, VA on the campus of the Tidewater Community College. The below listed schedule has been confirmed and it looks like we are in for some great talks and impressive planetarium shows.

## 2011 VAAS Schedule

8:00	Registration and Refreshments
8:45	VAAS Welcome, Mark Gerlach, BBAA President
9:00	Planetarium Presentation, Ken Broun
10:00	NASA Speaker, Donner Grigsby
11:00	Dr. Carlos Salgado, Polarization Studies with RRRT
12:00	Lunch Break
1:30	VAAS Meeting, All Club Presidents
1:45	Break
2:00	Kevin Mitchell, Exo Planets
3:00	Planetarium Presentation, Ken Broun
4:00	Mark Ost, Moon Meteorology/Meteorites
5:00	Break
5:15	Door Prizes
Dusk	Observing at York River Park

## Registration

Registration will be at the door and will be \$5 per person, students with ID \$3, and children under 12 are free. There is no advance registration.

## Refreshments and Lunch

Coffee, water, and light snacks will be provided throughout the conference courtesy of BBAA. Lunch is not provided; there are many convenient local eateries.

## Directions

The 35th Annual VAAS Conference is being held at the Tidewater Community College campus in Virginia Beach in the new Science Building J. The Science Building J is adjacent to the Advanced Technology Center (ATC).

Physical address is: Tidewater Community College  
Science Building J  
1700 College Crescent  
Virginia Beach, VA 23453

Drivers are strongly urged to consult the map provided at:

Directions to Tidewater Community College from I64:

1. Proceed to the I-64/I-264 junction and take I-264 East.
2. Exit I-264 at the South Independence Exit 17A, right lane and proceed 3.8 miles.
3. Turn LEFT onto Princess Anne road and proceed 1.1 miles.
4. Turn LEFT onto Concert Drive and proceed 700 feet.
5. Turn LEFT and then RIGHT on University Drive and go .2 miles.
6. Proceed to College Crescent and park in one of the lots in front of the Advanced Technology Center on the LEFT.
7. The Science Building is immediately south of the ATC building. Walk around the ATC entrance, but bear left. The Science Building is at the end of the sidewalk. Enter the rounded part, on the left end, where the Planetarium is located. Look for signs to direct you to the conference.

Please make plans to attend the 2011 VAAS Conference for Astronomy Fellowship and hopefully enlightenment.

We hope to see you at the conference!



BACK BAY ***observer***

## September 2011

BBAA Events	Special Outreach	Astronomical Events
01 BBAA Meeting @ TCC VB		
02 Garden Stars at Norf. Bot. Gard. 8:30		04 First Quarter
06 Boardwalk Astronomy at 24th St.		12 Full Moon
07 Garden Stars at Botanical Gardens		
09 Nighthike at NWRP		20 Last Quarter
16 Skywatch at NWRP		
24 Nightwatch at Chippokes		27 New Moon

### Sneak Peak into October

Thursday 10/06/2011 Meeting at TCC VA Beach, Building J, Room JC-12 at 7:30 p.m.

Tuesday 10/11/11 BOARDWALK ASTRONOMY @ 24th Street & The Boardwalk in Virginia Beach

Dusk - 11:00 PM Those with solar scopes may come as early, not much before 6:00 PM, Dale Carey POC

Friday 10/21/2011 Skywatch at Northwest River Park

Saturday 10/29/2011 Nightwatch at Chippokes State Park, Surry VA.

