

# BACK BAY observer

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



## EPHEMERALS may 2011

5/5  
**BBA Meeting**  
TCC VB

5/13  
**Garden Stars**  
Norfolk Botanical Gardens  
8:30 pm

5/17  
**Boardwalk Astronomy**  
24th Street and The Boardwalk  
Virginia Beach  
Dusk - 11 pm

5/20  
**Nighthike**  
NWRP

5/27  
**Skywatch**  
NWRP

## Looking Up!

I made the trip to Star Gaze XVII this past weekend. I just got back on Sunday (1st). This was the first time I went there. They have a great area for observing. It also is in an equestrian field, like our monthly Skywatch, but there is a sky view down to about 5 degrees for about three quarters of the horizon, depending on where you set up. Where I was there were very low trees from the northeast to the southeast and a few taller trees for the remainder, though still only about 10 degrees blocked. I drove up on Thursday, all the way expecting to hear a tornado warning on the radio. But it never came. I hit a little rain just before I got there and there was some late rain Thursday night. There were about twenty attendees there that night, but the weather was too cloudy. By Friday night the attendance had more than doubled. I didn't hear an official count, but I think there were around forty scopes set up. The weather cooperated more on Friday and Saturday nights, giving us at least mag 4 skies. Friday was a little better than Saturday, but we had three to four hours of good viewing both nights.

In other news:

The (non-BBAA) Dark Sky Site Search Committee has been formulating plans for leasing a property in Tyrrell County and getting quotes for the work needed to be able to begin to use the site. It needs to be 'bush-hogged' to cut down a couple years growth of weeds and have a culvert and driveways marked out and paved with crush-and-run. Stu

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## Cosmic Recount

by Dr. Tony Phillips

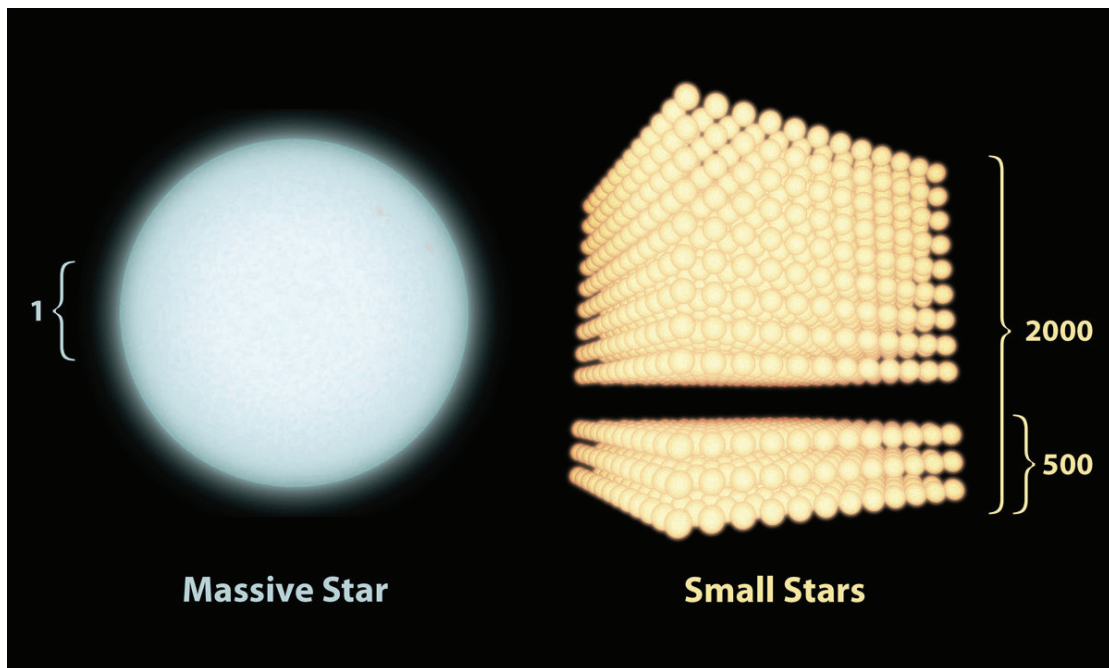
News flash: The Census Bureau has found a way to save time and money. Just count the biggest people. For every NBA star like Shaquille O'Neal or Yao Ming, there are about a million ordinary citizens far below the rim. So count the Shaqs, multiply by a million, and the census is done.

Could the Bureau really get away with a scheme like that? Not likely. Yet this is just what astronomers have been doing for decades.

Astronomers are census-takers, too. They often have to estimate the number and type of stars in a distant galaxy. The problem is, when you look into the distant reaches of the cosmos, the only stars you can see are the biggest and brightest. There's no alternative. To figure out the total population, you count the supermassive Shaqs and multiply by some correction factor to estimate the number of little guys.

The correction factor astronomers use comes from a function called the "IMF"—short for "initial mass function." The initial mass function tells us the relative number of stars of different masses. For example, for every 20-solar-mass giant born in an interstellar cloud, there ought to be about 100 ordinary sun-like stars. This kind of ratio allows astronomers to conduct a census of all stars even when they can see only the behemoths.

Now for the real news flash: The initial mass function astronomers have been using for years might be wrong.



Astronomers have recently found that some galaxies have as many as 2000 small stars for every 1 massive star. They used to think all galaxies had only about 500 small stars for every 1 massive star.

NASA's Galaxy Evolution Explorer, an ultraviolet space telescope dedicated to the study of galaxies, has found proof that small stars are more numerous than previously believed.

"Some of the standard assumptions that we've had—that the brightest stars tell you about the whole population—don't seem to work, at least not in a constant way," says Gerhard R. Meurer who led the study as a research scientist at Johns Hopkins University, Baltimore, Md. (Meurer is now at the University of Western Australia.)

Meurer says that the discrepancy could be as high as a factor of four. In other words, the total

# 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 April Meeting will be held at TCC Virginia Beach, Building J, Room JC-12 at 7:30 PM.** 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

mass of small stars in some galaxies could be four times greater than astronomers thought. Take that, Shaq!

The study relied on data from Galaxy Evolution Explorer to sense UV radiation from the smaller stars in distant galaxies, and data from telescopes at the Cerro Tololo Inter-American Observatory to sense the "H-alpha" (red light) signature of larger stars. Results apply mainly to galaxies where stars are newly forming, cautions Meurer.

"I think this is one of the more important results to come out of the Galaxy Evolution Explorer

mission," he says. Indeed, astronomers might never count stars the same way again.

Find out about some of the other important discoveries of the Galaxy Evolution Explorer at <http://www.galex.caltech.edu/>. For an easy-to-understand answer for kids to "How many solar systems are in our galaxy?" go to The Space Place at: <http://tiny.cc/12KMa>

*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!

agreed to act as chairman for our group. We are planning that the participating members of the committee will be the leaseholders and have access whenever they want. Others desiring to use the site would need to coordinate with a leaseholder. If you are interested in participating, please contact George Reynolds or Stu Beaber.

The Third Annual Mt. Trashmore Star Party was held on April 15th. We had a number of scopes set up for the public to see through. We had about forty percent cloud cover, so we could get the Moon and Saturn and a few other sights in the gaps. Over 850 people attended despite the partly cloudy conditions. Chuck Dibbs said that if we ever get really good weather for this event, we might see nearly two thousand people turn out. Maybe next year.

April 16th was Yuri's Night at the Virginia Air and Space Center in downtown Hampton. This is an international event celebrating both Yuri Gagarin, the first Man to venture into space on April 12, 1961, and the launch of the first space shuttle on April 12, 1981. Over a thousand people showed up for the festivities, many in costumes. The weather

was so poor the center gave us some space on the first floor to set up a static display. "Bird" Taylor brought in a 10" Dob and a pair of astronomical binoculars. He also had many stickers for the last two shuttle missions, these were given away to interested participants. The skies finally cleared around 10 pm, but we didn't take any equipment out to the third floor observation deck.

Upcoming Events:

Astronomy Day is May 7th at the Virginia Beach Central Library on Virginia Beach Blvd. This is a rain or shine event. More info will be available on our website.

Our first Boardwalk Astronomy event of the summer is scheduled for Tuesday, May 17th with a rain date of Thursday, the 19th. This is another large and enjoyable outreach project that is held on the Virginia Beach Boardwalk around 24th & 25th streets. We usually have hundreds of eager eyes of tourists from all over the US and many from other countries.

In the meantime, Keep Looking Up!

/\\ark Gerlach



## NATIONAL ASTRONOMY DAY

Saturday, May 7, 2011 is National Astronomy Day. As in the past, BBAA members will assemble at the Virginia Beach Central Library with solar-filtered telescopes and show the Sun to passers-by and unsuspecting library patrons. A table of information will be set up to inform visitors about astronomy and the Back Bay Amateur Astronomers.

That day (and weekend 7-8 May) is also designated "National Space Days".

All BBAA volunteers are welcome to come to the VB Central Library from 10 am to 5 pm. You can come set up at 9:30 am, and stay as long as you wish.

# Mount Trashmore and Other Acts of Faith

by Mark Ost

Kent Blackwell is right; unless it is the deluge, you need a little faith and just go on out there. You never know.

That was the case last night [Friday, April 15] as even the dodgy weather could not dampen the moon and Saturn. We had a trademark crowd out at Trashmore, in other words delightful and fun. I debated from 2 pm to 5 pm whether I would go out there weather considered. Glad I did. We had an excellent turn out and the pleasure expressed by all participants, notice I do not distinguish between telescope owners and the public, was deeply gratifying. It takes both groups to make a great event working in concert. I am ready to declare the Trashmore event becoming one of my favorite venues.

Thanks go to Chuck Dibbs and Dale for their work in bringing astronomy to the people, where the people are. We get a chance to access a crowd that we would normally not reach through the monthly event or perhaps any other venue. Proof that one does not need pitch dark skies and rural locations to enjoy the night.

I don't have a count but the crowd was quite respectable and perhaps a perfect size for a public event. The number of nationalities, and there were quite a few, gathered under the stars, reflect the cosmopolitan nature of our community and the commonality we all share with each other, irrespective of language and origin. Our differences shrink to their proper proportion when seen from cosmic distances. Funny what a small tube with a lens and mirror can accomplish. In an odd way; looking out is another way of looking in. It is all in the perspective. Perhaps that is the best story of last night.

*Editor's Note: An official at Mount Trashmore said the official count was 856 people. At least 433 of those folks looked through the scopes of club members Kevin Dougherty, Mark Gerlach, Bill Newman, and George Reynolds, who were grouped together.*



# BBAA Meeting Minutes: April 7, 2011

The April, 2011 meeting was called to order at 7:31 p.m. by President Mark Gerlach in Room JC13 of TCC, VB campus. Those in attendance were Scott Bough, Kenny Broun, Bryan Condrey, Elizabeth and Kevin Dougherty, Tom Flatley, Amy Koenig Gardner, Mark Gerlach, Curt Lambert, Ben Loyola, Matt McLaughlin, Bill Powers, George Reynolds, Bernie Strohmeier, Kevin Swann, Jim Tallman, and Matt Swingle.

Treasurer's report: General Fund, \$3216.20; Scholarship Fund, \$3700.12; total, \$6916.32.

Secretary's report: Reading of the minutes was waived as usual. The minutes of the last meeting are published on the BBAA Web site and in the April newsletter.

## Old Business:

Dark Sky Site: The ad hoc Dark Sky Site Search Committee (DSSSC) has met twice, and a contingent plans to take a "field trip" down to Tyrell County, North Carolina on Saturday, April 9 to get the lay of the land at the site on Grapevine Landing Road. The family Kenny Broun has spoken to is amenable to leasing about five acres of property. The committee wants to see the land in the daylight and after dark to evaluate its potential before any further action is taken. They will also take a look at the Georgia Road site suggested by Rob Schonk.

BBAA apparel: Ben Loyola is trying to locate some members who ordered BBAA shirts, but have since "disappeared".

## New Business:

New members and guests: Bernie Strohmeier, Scott Bough, and Tom Flatley.

## Observing Reports:

Curt Lambert reported his observation of the last mission of the Space Shuttle Discovery and the International Space Station. Others commented on seeing them, too.

## Schedule:

Garden Stars Friday, April 8

Mount Trashmore Star Party Friday, April 15

Yuri's Night Saturday, April 16 at Virginia Air and Space Center, Hampton 6 pm (if bringing scope)

Skywatch Friday, April 22

National Astronomy Day will be Saturday, May 7.

Set up scopes at VB Central Library 9am-5pm.

Star Party at Tuckahoe, April 28-May 1.

Next BBAA meeting will be May 5.

Two events are on tap for June, Field Day at Indian Lakes ES, and Career Day at Tallwood ES. More details will be forthcoming.

## Meeting Feature:

After the business meeting, the group adjourned to the TCC Planetarium, where Kenny Broun put on a spectacular show. As one of the two experts on the complex planetarium system at TCC, he had developed an excellent sky show about the Pleiades, incorporating the mythology and the astronomy into it. We even took a trip out into space and sailed "around" the open star cluster known as M45, and saw it from every imaginable angle.

Professor Broun gave us a quiz on identifying the constellations as he pointed to them in the sky, projected on the planetarium dome. I think we passed the test.

Then we saw a presentation of dark matter and dark energy, and how something unseen and unknown makes up 95% of the known universe. We saw views of the sun, stars, and galaxies in different wavelengths, from radio waves to infrared to X-rays, as well as the visible portion of the spectrum.

The meeting was adjourned at 8:57 p.m. by President Mark Gerlach.

# Boardwalk Astronomy is on the Calendar!

*By George Reynolds*

Back by popular demand! Boardwalk Astronomy, where BBAA members take their telescopes to the oceanfront for tourists and locals alike, is scheduled again this summer. In fact, it will even go into the fall, with an event in mid-October. Coordinated by club member Dale Carey and VB Planetarium Director Chuck Dibbs, in conjunction with Virginia Beach Parks and Recreation, this is a favorite Beach event for a lot of people. It is also a marvelous outreach opportunity for the BBAA, whose motto is, "Bringing astronomy to the people of Hampton Roads".

Last year, May through September, hundreds of people at the boardwalk near the 24th Street stage in Virginia Beach got a chance to look at the Moon, Saturn, Jupiter, and a number of other celestial wonders. Earlybirds even got to see the Sun through filtered solar telescopes. We met visitors of all ages and from all walks of life. Tourists of many nations, Americans from many of the 50 states, and even local folks from Tidewater "oohed" and "aahed" as they saw craters on the Moon, or the rings of Saturn, or the Galilean moons of Jupiter.

One Tuesday a month, from May through October (weather permitting), our intrepid

BBAA volunteers will be on the Boardwalk. All club members are welcome to participate, even urged to do so. It is a gratifying experience. If you don't have a scope, come anyway, and talk to visitors, or stand by a scope when its owner has to take a short break. The Thursday following the scheduled event will be an alternate "rain date", in case the Tuesday weather does not cooperate. If Thursday is bad as well, we'll try again the next month.

The dates for "BWA" this year are published on the BBAA Web site under "Scheduled Events", and in the Backbayastro Yahoo Group calendar. The main (Tuesday) dates are as follows:

17 May  
14 June  
12 July  
9 August  
6 September (the day after Labor Day)  
11 October

Come on out and help make this year's Boardwalk Astronomy events better than ever! We may even get mentioned in Astronomy Magazine! Watch for it.





BACK BAY ***observer***

## May 2011

| BBAA Events                             | Special Outreach                    | Astronomical Events |
|-----------------------------------------|-------------------------------------|---------------------|
| 05 BBAA Meeting at TCC VB 7:30          |                                     | 03 New Moon         |
| 13 Garden Stars at Norf Bot. Gard. 7:00 |                                     | 10 First Quarter    |
|                                         | 17 Boardwalk Astronomy @ VB         | 17 Full Moon        |
| 20 Nighthike at NWRP                    | 24th Street at Oceanfront Dusk -11p | 24 Last Quarter     |
| 27 Skywatch at NWRP                     |                                     |                     |

### Sneak Peek into June

06/02/2011 Meeting at TBD.

06/04/2011 Nighthike at Chippokes State Park, Surry VA.

06/10/2010 Garden Stars at Norfolk Botanical Gardens at 7:00 p.m.

06/14/11 BOARDWALK ASTRONOMY @ 24th Street & The Boardwalk in VB Dusk - 11:00 PM

06/17/2010 Nighthike at Northwest River Park

06/24/2011 Skywatch at Northwest River Park

