



# BACK BAY observer

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

## EPHEMERALS march 2012

03/01

BBAA Monthly Meeting  
TCC VA Beach  
Building J, Room JC-12  
7:30 pm

03/16

Skywatch  
Northwest River park

03/24

Nightwatch  
Chippokes State Park  
Surry, VA

03/30

Garden Stars  
Norfolk Botanical Gardens  
7:00 pm



## Looking Up!

Greetings skywatchers! As the winter comes to an end and cold nights with great seeing come to an end, we start looking forward to events coming up such as the Venus transit. In fact at the last meeting, Mr. Dale Carey gave an excellent presentation on sunspot watching.

Observing the sun has ancient roots. That's how we get our calendar, and how most of the ancients knew when the seasons were changing. Galileo viewed the sun and kept track of the sunspots to see that there was an 11 year cycle, and that the Earth was not the center of the solar system. Sun observation has a place in modern society too. As Mr. Carey showed, the sun is an exciting part of our solar system.

Now that we are out of the solar minimum, and with a spectacular Venus transit coming up on June 5, it is the perfect time to get (or make) a solar filter and do a different kind of observing. As solar filters are relatively inexpensive to buy (and even cheaper to make) there is no reason why one shouldn't be part of everyone's telescope accessories (see page 3 for an example). So have fun disobeying your parents and look at the sun this season!

Good seeing and great viewing,  
*Courtney Flonta, President*

## CONTENTS

|                   |   |
|-------------------|---|
| Ephemerals        | 1 |
| Looking Up        | 1 |
| NASA Space Place  | 2 |
| Meeting Minutes   | 4 |
| Observer's Corner | 6 |
| Calendar          | 8 |

## The Hidden Power of Sea Salt, Revealed

By Dauna Coulter

Last year, when NASA launched the Aquarius/SAC-D satellite carrying the first sensor for measuring sea salt from space, scientists expected the measurements to have unparalleled sensitivity. Yet the fine details it's revealing about ocean saltiness are surprising even the Aquarius team.

"We have just four months of data, but we're already seeing very rich detail in surface salinity patterns," says principal investigator Gary Lagerloef of Earth & Space Research in Seattle. "We're finding that Aquarius can monitor even small scale changes such as specific river outflow and its influence on the ocean."

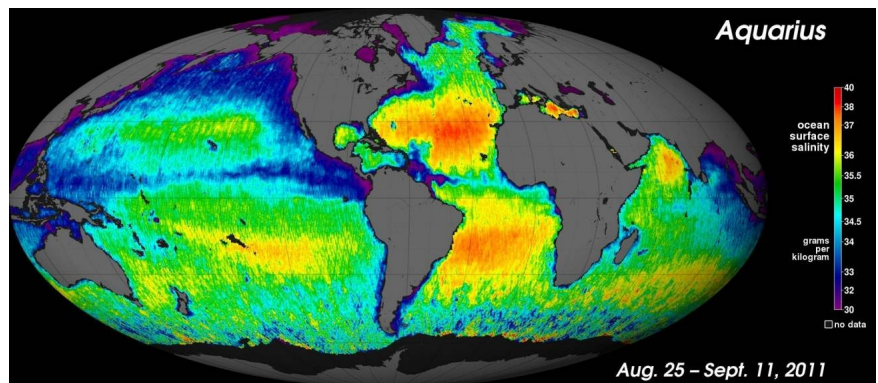
Using one of the most sensitive microwave radiometers ever built, Aquarius can sense as little as 0.2 parts salt to 1,000 parts water. That's about like a dash of salt in a gallon jug of water.

"You wouldn't even taste it," says Lagerloef. "Yet Aquarius can detect that amount from 408 miles above the Earth."

Salinity is critical because it changes the density of surface seawater, and density controls the ocean currents that move heat around our planet. A good example

is the Gulf Stream, which carries heat to higher latitudes and moderates the climate.

"When variations in density divert ocean currents, weather patterns like temperature and rainfall are affected. In turn, precipitation and evaporation, and fresh water from river outflow and melt ice determine salinity. It's an intricately connected cycle."



*Aquarius produced this map of global ocean salinity. It is a composite of the first two and a half weeks of data. Yellow and red represent areas of higher salinity, with blues and purples indicating areas of lower salinity.*

The atmosphere is the ocean's partner. The freshwater exchange between the atmosphere and the ocean dominates the global water cycle. Seventy-eight percent of global rainfall occurs over the ocean, and 85 percent of global evaporation is from the ocean. An accurate picture of the ocean's salinity will help scientists better understand the profound ocean/atmosphere coupling that determines climate variability.

"Ocean salinity has been changing,"

*Continued on page 5*

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/newslettersnewsletter.shtml>

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: [paultar@gmail.com](mailto:paultar@gmail.com) or BBAA Observer, P.O. Box 9877, Virginia Beach, VA 23450-9877

#### President

Courtney Flonta  
757-553-4418  
[astrogirl12@yahoo.com](mailto:astrogirl12@yahoo.com)

#### Vice President

Mark Gerlach  
757-434-4220  
[mgerlach@verizon.net](mailto:mgerlach@verizon.net)

#### Treasurer

Bernie Strohmeier  
757-630-0848  
[bdsjr@cox.net](mailto:bdsjr@cox.net)

#### Secretary

Kevin Swann  
757-424-6242  
[kjswann@yahoo.com](mailto:kjswann@yahoo.com)

#### Webmaster

Chuck Jagow  
757-430-9732  
[chuck@jagowds.com](mailto:chuck@jagowds.com)

#### ALCOR

Bill McLean  
[preciousmyprecious@yahoo.com](mailto:preciousmyprecious@yahoo.com)

#### Librarian

Bill Newman  
[billn59@verizon.net](mailto:billn59@verizon.net)

#### RRRT Coordinator

Lawrence "Bird" Taylor  
[bird-taylor@cox.net](mailto:bird-taylor@cox.net)  
Kevin Weiner  
[kevin.weiner@cox.net](mailto:kevin.weiner@cox.net)

#### Scholarship Coordinator

Ben Loyola  
[benito@loyola.com](mailto:benito@loyola.com)

#### Newsletter Editor

Paul Tartabini  
[paultar@gmail.com](mailto:paultar@gmail.com)

## 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 March meeting will be held at TCC in Virginia Beach, Building J, Rm JC-12 at 7:30 pm. Directions available at [www.backbayastro.org](http://www.backbayastro.org).

## BBAA Internet Links

BBA 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)

## Do-It-Yourself Solar Filter

*By Jim Tallman*

I finally had some time to make my solar filter. I went with an off-axis filter for my 8" SCT. The aperture is about 2.25" which gets me around that huge center obstruction. Also made a filter for my finder scope from an old 50mm cap. Not pretty but it is functional and was pretty easy to make.



For more information on making your own solar filter using Baader AstroSolar Safety Film see [http://www.baader-planetarium.com/sofifolie/bauanleitung\\_e.htm](http://www.baader-planetarium.com/sofifolie/bauanleitung_e.htm)

# BBAA Meeting Minutes

## February 2, 2012

The February, 2012 meeting was called to order at 7:32 pm in classroom JC-12 at TCC by President Courtney Flonta. Those in attendance were Neil Alford, Dean Brauer, Keny Broun, Dale Carey, Chuck Dibbs, Tom Flatley, Courtney Flonta, Ted Forte, Mark Gerlach, Dino Giangregorio, Mary Giangregorio, Chuck Jagow, Larry Korn, Robyn Korn, Curt Lambert, Bobby Lawson, Ben Loyola, Matt McLaughlin, Bill Mclean, Shannon Moore, George Reynolds, Bernie Strohmeier, Anne Marie Studds, Kevin Swann, Matt Swihgle, Jim Tallman, Paul Tartabini, Bird Taylor, Larry Wade and Kevin Weiner.

**Treasurer's report:** \$2731.13 general fund, \$2717.12 scholarship fund, \$5448.25 total.

**Secretary's report:** The reading of January's minutes was waived and are posted on the BBAA web site.

**Bill Mclean "ALCOR"** (Astronomical League CORrespondent) representative discussed Nick Anderson had been observing many things. Note name change: Messier club has now become Messier program.

**New Member joining tonight** is Dean Brauer. He attended a Mt Trashmore event.

**Visitors & Guests:** Visitor Bobby Lawson attended NWRP event. Guests Anne Marie Studds & Shannon Moore are Mt Trashmore Parks & Recreation representatives.

### Old Business:

- Interim newsletter editor is Paul Tartabini for March & April
- Webmaster position is still available.
- Jim Tallman is the new POC for North West River State Park with Chuck Jagow as alternate.

Mr Gerlach mentioned the below outreaches:

### Schedule:

- February 3 Friday, NO Garden Stars 7 pm – no people signed up.
- February 7 Tuesday, Butts Rd Primary School Science Night 6:30-8pm
- February 8 Wednesday, Lake Taylor High (Norfolk) Science Night.
- February 17 Friday, Skywatch (NWRP)
- February 25 Saturday, Chippokes
- March 1 Thursday, next BBAA monthly meeting @ TCC
- March 1 Thursday, Greenbrier Intermediate School (behind the mall) Science Night. Georgie

will bring scope & Chuck Jagow will try to bring a scope also.

- March 12 Monday, Deep Creek Elementary School Science Night.
- April 6 Friday Mt Trashmore star party
- April 14 Yuri's Night @ Virginia Air & Space Center, Hampton. Honoring 1961 first space flight and 1981 first space shuttle flight. There will be a costume contest & any astronomy rep with a scope gets in free. Alcohol & hors d'oeuvres will be available.
- April 28 Saturday, Astronomy Day
- May 1 Tuesday, Boardwalk Astronomy (VA Beach boardwalk)
- June 5 Tuesday, Boardwalk Astronomy (VA Beach boardwalk)
- June 5 Tuesday, Venus Sun Transit 5:03pm until Sunset. Will not happen again for over a century. TCC scope will be operational for this event.
- July 3 Tuesday, Boardwalk Astronomy (VA Beach boardwalk)
- East Coast Star Party is May 11, 12 & 13.

### New Business:

- A motion by Jim Tallman to grant Ted Forte honorary lifetime membership. The motion was seconded.
- For the June 5 Venus sun transit it was recommended to use a #14 welding glass. One location to purchase is National Welding Supply. You can also use a 12" piece of white light filter
- Mr. Giangregorio questioned Garden Stars visibility and created new poster prototypes. He suggested placing them as soon as you walk into Baker Hall (the main entrance.) He motioned that 2 or 3 be given to Botanical Gardens to advertise Garden Stars. The motion was seconded. President Flonta mentioned she entered BBAA there (when it was \$5 entry fee) and goes whenever she can. Entry fee now is \$18/person for non-members. The marketing is geared to adults vice children. We would like to see it open up to a family event again. Their web site has nothing about Garden Stars & it was cancelled 3 times last summer. The problem began when inattentive parents let their 4 year old wander around who subsequently fell into a pond & became injured. But now the event is in the garden vice the pool area. A committee of Mr. Giangregorio, Mr. Reynolds & Mclean was formed to lead a new promotional effort.
- Mr. Giangregorio also enlarged the BBAA \$1,000 scholarship check to place at outings for promotional purposes.
- Mt Trashmore star party April 6. The question was asked by Mr. Reynolds, "are we interested in doing this?" All answered "yes." Parking near the scopes is good & the golf card can help you bring a scope in if you're late. Scopes should arrive from 2:30 to 6:30 pm.

*Continued on page 5*

## Space Place, continued from page 2

says Lagerloef. "Decades of data from ships and buoys tell us so. Some ocean regions are seeing an increase in salinity, which means more fresh water is being lost through evaporation. Other areas are getting more rainfall and therefore lower salinity. We don't know why. We just know something fundamental is going on in the water cycle."

With Aquarius's comprehensive look at global salinity, scientists will have more clues to put it all together. Aquarius has collected as many sea surface salinity measurements in the first few months as the entire 125-year historical record from ships and buoys.

"By this time next year, we'll have met two of our goals: a new global map of annual average salinity and a better understanding of the seasonal cycles that determine climate."

Stay tuned for the salty results. Read more about the Aquarius mission at [aquarius.nasa.gov](http://aquarius.nasa.gov).

Other NASA oceanography missions are Jason-1 (studying ocean surface topography), Jason-2 (follow-on to Jason-1), Jason-3 (follow-on to Jason-2, planned for launch in 2014), and Seawinds on the QuikSCAT satellite (measures wind speeds over the entire ocean). The GRACE mission (Gravity Recovery and Climate Experiment), among its other gravitational field studies, monitors fresh water supplies underground. All these missions, including Aquarius, are sponsors of a fun and educational ocean game for kids called "Go with the Flow" at [spaceplace.nasa.gov/ocean-currents](http://spaceplace.nasa.gov/ocean-currents).

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

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## Meeting Minutes, continued from page 4

The event lasts from dark (7:51pm) until 11pm. A solar scope will be available after 3pm.

- Amy Gardner sent an email to Mr. Swann to be read at the next meeting. It said goodbye to everyone, she will miss them. Her husband suddenly got a job in Raleigh, NC so they moved. She started in BBAA at the age of 12.
- Officers were asked to get some type of recognition or plaque for our past newsletter editor Erica Smith for her many faithful years of service.

**Presentation 1** was by Mr. Carey on sun spots. They occur in 11 year cycles. The last good cycle was 2004 & 2005. It is now good again for this year & next. He used white light filter & hydrogen-alpha for prominences. His notes were a circle (for drawing the spot configuration) with date & time beneath. There is an astronomy league pin for observing sun spots. In 2004 or 2005 BBAA had a white light filter making party where balsa wood was steamed to mold to one's scope.

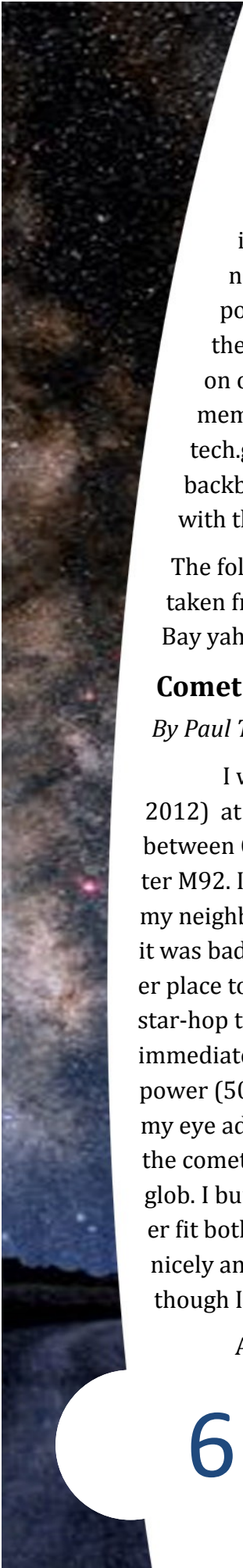
He also emphasized not to miss the Venus-sun transit June 5. It will not happen again until 12/11/2117!

**Presentation 2** was by Mr. Weiner on astronomy software:

- "Sky Tools 3 Pro" is the cleanest & most up-to-date database. It is great for planning & logging. Various factors can be changed, for eg, humidity & clouds. It can drive your telescope & can do planetarium shows. Mr. Forte & Mr. Blackwell use this program.
- "Starry Night Pro Plus 6" is very showy and has excellent zoom features, for eg, a kid can fly through space.
- "The Sky X Pro" major observatories use. It also has an extended database available on a 2 gig hard drive.

**Scholarship update:** Ben Loyola is the Chairman of the scholarship committee. 2012 amount was set to \$1,500. The 1st week of May is the entry deadline.

The meeting was adjourned at 9:00 pm.



## Observer's Corner

*Observation reports from BBAA Members during the month of February*

The Back Bay Yahoo Group was quite active during the month of February with members posting information on solar filters, astronomical software and observing reports. If you haven't been following these discussions, you're missing out on one of the benefits of being a BBAA member. Be sure to check [tech.groups.yahoo.com/group/backbayastro](http://tech.groups.yahoo.com/group/backbayastro) often on the web to keep up with the discussions.

The following observation reports were taken from February postings to the Back Bay yahoo Group.

### **Comet Garradd & M92**

*By Paul Tartabini*

I went outside this morning (Feb. 3, 2012) at 5am to watch the close approach between Comet Garradd & the globular cluster M92. Initially I was horrified to see that my neighbor's flood light was glaring. I mean it was bad. Unfortunately, I really had no other place to go, so I persevered. I was able to star-hop to M92 fairly easily. The comet was immediately obvious. At first glance with low power (50x), it looked like twin globulars. As my eye adapted, M92 was clearly brighter and the comet appeared more diffuse than the glob. I bumped up to 136x and could no longer fit both into the entire view. M92 resolved nicely and the glow of the comet grew. Try though I may, I could not clearly detect a tail.

6 A memorable view was with a wide-field eyepiece at 100x. I could just barely get both objects in the same field of view with some nice resolution of M92. Fortunately, I looked up around 5:40 and saw a bright

pass of the ISS. I tracked it with my scope and could clearly make out the rectangular shape with three distinct segments (solar panels & core). A great way to spend an early hour, even with some atrocious light pollution. Just goes to show that you should always give it a try, you never know.

### **An Amazing Morning in Blacksburg**

*By Nick Anderson*

In the early morning of Feb. 3, 2012 I had some of the best viewing conditions I have had in Blacksburg. The skies were clear at the beginning (some small clouds emerged on the horizon around 5:15 am but did not affect the overall transparency), excellent seeing (10/10), excellent transparency (9/10), no winds, and no humidity problems. I could not have asked for better viewing conditions!

I began observing at 4:15 am and spent a half hour working on one Caldwell (also a Herschel) and two other Herschels. They are all galaxies in Leo: NGC 3607, NGC 3608, and NGC 3626. After realizing just how spectacular the skies conditions were, I figured I wouldn't take any more time on deep sky objects, so I targeted Mars.

Mars is personally my favorite planet, but through a telescope in the past it hasn't been very impressive. This morning was quite an exception. I was able to take it all the way up to 320x. The north polar cap and some of the Martian seas clearly stood out. I tested some of the color filters to bring out the contrast of the different features. This is the best observation I have had of Mars so far. If Mars always looked like this, I think I'd consider it my favorite planet to view through a telescope! Unlike the Moon, its features are different each

*Continued on page 7*

day. It makes me wonder why the Astronomical League doesn't have a "Mars Program".

Onto the main highlight of my observation: Comet Garradd and M92. When I star-hopped to the duo, I initially couldn't tell which one was which. Just like Paul said, they looked like twin globulars. Without averted vision, their cores looked nearly identical in size and bright-

ness. With averted vision I was able to resolve M92's stars and it appeared slightly larger than the comet. I also viewed them at 96x and 160x. I decided to spend 30 minutes and draw a sketch of what I saw through the eyepiece. In my opinion, the original looks much better than the scan.

### M92 and Comet Garradd

**Date:** February 3, 2012

**Time:** 5:45 am

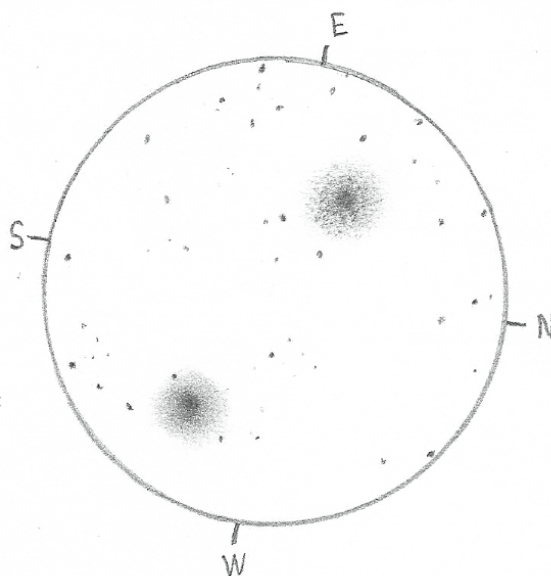
**Location:** Blacksburg, VA

**Instrument:** Orion XT8 SkyQuest

**Power:** 48x

**Filters:** None

**Comments:** M92 is seen to the upper-right and Comet Garradd to the lower-left; both had about the same appearance without averted vision; with averted vision, M92's stars were resolvable; Comet Garradd's tail was not detected



*Nick Anderson's sketch of Comet 2009/Garradd passing near the globular cluster, M92 in Hercules on the morning of Feb. 3, 2012.*

### Mars Near Opposition

*By Mark Ost*

I observed Mars tonight (2/23/2012). Seeing was only middle of the road but at least it was mostly clear and warm so I decided to spend a couple of hours on Mars. The planet cleared the trees around 2200 so I got to work as soon as possible so as to not be up too late.

Tried out the Televue type B filter which is similar to an orange wratten filter but has coatings incorporated into the filter. I tried Ted's type B the other night at sky watch and really liked the effect. The type A has more natural colors but the B has darker and greater contrast. I thought there were several bright regions visible so I suspected clouds were over the Martian plains. Seeing only allowed a moderate power of 300x. I attempted higher hoping for a moment of good seeing but it never really came to anything good so I dropped back down to 300.

I used the 80 A light blue filter tonight to very good effect and noticed that the northern polar region and Acidalia were quite dark in the blue filter. This is a rare Martian phenomena called the blue clearing. Normally dark features are hard to see in blue filters, in fact the planet looks usually featureless in blue except for the polar caps. When the dark regions do stand out it is known as a blue clearing. No one knows why this happens. Some speculate high UV blocking clouds but no definitive answer exists. This is the first time I have seen this feature. Also saw limb hazes easily in the 80a. There also appeared to be a band of thin clouds over the northern dark region. The light blue filter was very effective tonight. This filter is required for Mars observations of the atmosphere. There is a very strong blue clearing going on right now on Mars.

I now have three filters in the arsenal for Mars. This year there seems to be a lot of clouds so if you have a light blue filter give it a try.



## March 2012

| BBAA Events                          | Special Outreach                             | Astronomical Events                |
|--------------------------------------|----------------------------------------------|------------------------------------|
| 1 BBAA Meeting                       |                                              | 3 Mars at Opposition               |
|                                      |                                              | 7 Full Moon                        |
| 16 Skywatch at NWRP                  | 21-25 Staunton River Star Party              | 14 Last Quarter                    |
| 24 Nightwatch @ Chippokes State Park |                                              | 22 New Moon                        |
|                                      |                                              | 26 Moon and Venus<br>2.1 deg apart |
|                                      | 30 Garden Stars at Norfolk Botanical Gardens | 30 First Quarter                   |



### Sneak Peek into April

Thursday 04/05/2012 Meeting at TCC VA Beach, Building J, Room JC-12, 7:30 p.m.

Friday 04/06/2012 Mt. Trashmore Star Party, 5:30 p.m.

Friday 04/13/2012 Skywatch at Northwest River Park

Saturday 04/21/2012 Nightwatch at Chippokes State Park, Surry VA.

Saturday 04/27/2012 Garden Stars at Norfolk Botanical Gardens, 7:30 pm