



BACK BAY observer

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

EPHEMERALS

march/april 2013

04/04, 7:30 pm
BBAA Monthly Meeting
TCC Campus, VA Beach
Building J, Rm JC-12

04/05
Skywatch
Northwest River Park

04/13
Nightwatch
Chippokes State Park
Surry, VA

04/19, 8:00 pm
Garden Stars
Norfolk Botanical Gardens

04/20, 10:00 am-5:00 pm
Astronomy Day
Virginia Beach Central Library



Looking Up!

Editor's Note: This month's Looking Up column was written by Observer Editor, Paul Tartabini. President Courtney Flonta will return as the regular author.

Happy Spring, from your friendly neighborhood newsletter editor!

From my vantage point, it looks like our club is making great strides. We've had a number of new members since January, our most recent outreach activity, the [Mt. Trashmore Star Party](#), was a huge success, and we have our [first workshop](#) ("Make your own solar filter") planned for the very near future.

Oh, and let's not forget the depth of knowledge and commitment to our hobby that you'll find throughout the club. That enthusiasm was on full display in the most recent issue of [The Reflector](#), the Astronomical League's quarterly newsletter. President Courtney Flonta and lifetime honorary member Ted Forte shared their thoughts in the special section on Youth & Astronomy. Congratulations to both!

Finally, if you haven't been to a monthly meeting recently, you're missing out as they have been quite interesting. The latest featured an [informative presentation](#) by George Reynolds on moons throughout the solar system. The [next meeting](#) on April 4 promises to be exciting as well, with Professor Ken Broun showcasing the TCC Planetarium System. You're not going to want to miss this one.

Until then, may the skies be always in your favor...

Paul Tartabini

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March 7, 2013 BBAA Meeting Minutes

The Meeting was held at Plaza Middle School in Virginia Beach.

Those in attendance were:

Courtney Flonta, Chuck Jagow, Karen Jagow, Kevin Swann, Bill Mclean, Dr Bruce Bodner, Scott Patterson, George Reynolds, Tom Flatley, Jeff Goldstein, Dino Giangregorio, Mary Giangregorio, Jim Tallman, Tom Flatley, Joe Burgstaller, Eva Burgstaller

Calendar:

- March (end), look for Comet 15 min after sunset
 - April 4 Thursday, monthly meeting @ TCC-VA beach campus, 7:30PM
 - April 5 Friday, Skywatch @ Northwest River State Park, Equestrian area, 7PM
 - April 13 Saturday, Nightwatch @ Chippokes, 5PM
 - April 19 Friday, Garden Stars @ Norfolk Botanical Gardens, 8:00PM
 - April 20 Saturday, Astronomy Day @ VA Beach Central Library, 10AM-5PM (setup 9AM)
 - May 2 Thursday, monthly meeting @ TCC-VA beach campus, 7:30PM February 9 Saturday, Nightwatch @ Chippokes, 5PM
- Observing reports – Jupiter’s moons are very good viewing.
 - BBAA public web site now has PayPal link to pay dues & magazine subscriptions thanks to Jim Tallman & Nick Anderson. You can also charge to a credit card if you do not have a PayPal account. In addition to these online charges, you can also donate to the scholarship & outreach funds.
 - The BBAA newsletter will be transitioning to a new schedule. The newsletter for a given month will come out a few days before that month’s meeting. Typically this will mean that the newsletter will come out at the beginning of the month rather than the end of the month as has been the recent practice. The plan is to phase this schedule in by June.
 - Yahoo group requests will now be answered by currently 3 members but 4 or 5 are desired. Please email George Reynolds if interested.
 - The constitution changes for the definition of associate members (anyone in a member’s household) are underway. 30 days minimum notice is required with every member getting a ballot mailed to them for a reply within a set amount of time.
 - A workshop will be scheduled for constructing solar filters & sun finders. The date is TBD but you must sign-up by Mar. 29. See the “Looking Up” column for more details.
 - BBAA just joined Night Sky Net. When your organization hosts five outreach events per year, they are given an outreach presentation box which has many items to aid outreaches. They also have a zip code search so new people can find our organization.
 - This evening’s raffle winner was Dino Giangregorio who won a Sky & Telescope pocket atlas.

Meeting Summary:

- Dr Bruce Bodner was re-introduced in the meeting.
- ALCOR representative Bill Mclean awarded George Reynolds & Jeff Goldstein their AL Venus Transit certificate. Our club has 15 recipients of this certificate which is the highest percent in the world! Bill McLean completed the Messier & Venus Transit certificates. Various others are working on other programs. Remember, BBAA members receive the quarterly Astronomical League magazine *Reflector* from ALCOR dues paid from your annual BBAA dues.

Minutes by Kevin Swann, Secretary

Meeting Summary

We had a good BBAA meeting last night at the Plaza Middle School Kiva auditorium. The attendance was pretty good, but a lot more of the members could have been there. We had a "sneak preview" of the renovated planetarium, and it is AWESOME!!!! You gotta go to a planetarium show when it re-opens next month. We'll probably have our June BBAA meeting there.

Last night I showed a couple of the PowerPoint presentations I have used for some of our outreach events. One is called. "Who Are the Back Bay Amateur Astronomers?", and describes who we are and what we do. The other was about the many

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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

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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 February meeting will be held at TCC in Virginia Beach, Building J, Room JC-12 at 7:30 pm. Directions available at www.backbayastro.org.

BBAA Internet Links

BBAA Website
www.backbayastro.org

Yahoo! Groups
tech.groups.yahoo.com/group/backbayastro

BBAA Observer Newsletter
www.backbayastro.org/observer/newsletter.shtml

March Meeting Summary, continued from page 2

moons in our solar system. It included a detailed account of Luna, Earth's moon, (commonly referred to as "The Moon", capitalized), as well as pictures and information on the 140-odd moons around the other planets in our solar system.

DID YOU KNOW . . .

(1) That Mercury and Venus have NO moons?

(2) That the two moons of Mars are named Deimos ("Panic") and Phobos ("Fear"), that they are probably captured asteroids, and that they were named for the two sons of Ares,

Greek god of war? (Ares is the Greek name, Mars is the Roman name for the same god.)

(3) That poor, little, demoted former planet - now dwarf planet/"plutoid" Pluto has FIVE (count 'em, 5) moons? We had Hubble space photos of them last night. If you miss a BBAA meeting, you miss a lot of fun.

P.S. I received my Transit of Venus pin and certificate last night, along with Jeff Goldstein (a.k.a. "Jeff Gordon"). (You had to be there....)

Meeting Summary by George Reynolds

Intuition, Creativity and Science

By Jason Tackett

Editor's Note: We are pleased to run this special NASA Space Place column that features BBAA member, Jason Tackett. Jason is an analyst/programmer for the CALIPSO mission at NASA Langley Research Center in Hampton. He joined BBAA in January but has been an amateur astronomer for 15 years. He has a 8" Orion SkyView Pro Newtonian Reflector.

I was a musician working at a Pizza Hut before beginning college which, in my case, was synonymous with poor. Looking for a brighter future (i.e., more money), I enrolled at Kansas State University as a computer systems major. The alluring thing about this major for me was that it required creative problem solving and had the promise of big bucks. During my time there I learned about programming and computer hardware.

However, the most important thing to happen to me was a course I took in calculus. Before I started college I assumed that math wasn't for me. As it turned out, I found mathematics very intuitive. I enjoyed the creativity and elegance that came with problem solving, much like the creativity I enjoyed playing music. My original childhood passion was astronomy, and if I enjoyed mathematics then I reasoned that I could do well studying astronomy or physics.

With this in mind, I wrapped up my associates degree in computer systems and changed majors to physics in which I earned my bachelor's degree. I became interested in the physics of light and lasers, so I did research as an undergraduate in a high-intensity ultrafast laser facility at the James R. Macdonald Laboratory at Kansas State University. I wrote computer code for graduate researchers that helped with their experiments and also spent six months assembling a laser system.

In graduate school, atmospheric science was an attractive path because I could apply the physics I learned to important problems such as climate and climate change. When I sent out my application to graduate schools, my soon-to-be advisor at the University of Illinois at Urbana-Champaign saw that I had experience with lasers and thought that I could work with data from the new (at the time) Cloud Aerosol Lidar and Infrared Pathfinder Satellite Observations (CALIPSO) satellite, which uses lasers to study the atmosphere. I hadn't thought about working with satellites before I met him, but because it sounded interesting and involved lasers and the physics of the atmosphere, I jumped on board. I spent the next two years studying CALIPSO measurements to learn how aerosol properties change near clouds—a topic of significant uncertainty in climate science.



Artist's rendering of the CALIPSO satellite.

Eventually, I was ready to look for a job and, as it happened, an opportunity opened up for an analyst with the CALIPSO science team at NASA Langley Research Center. Since I had been working with CALIPSO data for two years and my interest in optics and aerosols fit in

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The 2013 Mt. Trashmore Star Party

By Kent Blackwell



“Mt. Trashmore Star Party” is surely an odd-sounding name for a star party. Additionally, its location in the midst of a major city is different than what most consider the average “star party” locale. The gathering is more of a public outreach than a star party, per se. The most recent event held on the evening of March 22, 2013 once again proved to be very successful.



George Reynolds explains the different lunar features visible along the terminator as a guest looks through his Orion ShortTube 80mm refractor. The evening of the star party featured a beautiful waxing gibbous Moon placed high in a clear, transparent sky.

I wasn't expecting a large crowd due to the much colder than average weather conditions. Apparently the cold didn't keep fellow Back Bay Amateur Astronomers club members from supporting the effort. It also didn't keep away very large crowds of the general public wanting to look through our telescopes.

Although the moon was more than 75% full it still looked ravishingly good in telescopes. Jupiter was also in a favorable

position, high in the sky. Poor BBA member Chuck Jagow was never able to train his telescope to anything but Jupiter. The queue to peer through his 14" telescope extended from the base of Trashmore Hill to the Oceanfront, or so it seemed.

Georgie June was first to spot Comet Pan-STARRS. She attracted a crowd who wanted to see the recent-in-the-news comet, but the only way to do so was at a vantage point up the slope of the hill. With her help we moved my telescope into position, a spot where the scope seemed to be sitting at a 45-degree angle! I quickly sighted the comet near the western horizon, but by this time it had moved behind some thin tree branches. That proved to be just fine, though, because everyone managed to see the little orange coma and short, wide tail.



Ben Loyola assists a father and daughter as they look through his telescope at the Mt. Trashmore Star Party held on March 22, 2013. Fourteen BBA club members brought scopes to set up and share with nearly 1,000 visitors. The crowds were wowed by views of the Moon, Jupiter and comet PanSTARRS.

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Mt. Trashmore Star Party, continued from page 5

Although hardly spectacular, those who saw it were duly impressed. I explained they could see it again in 100,000 years.

It was so good to see so many club members, as well as a few new faces. New member Chris Aubright brought his Takahashi refractor on a Losmandy mount, a telescope as impressive to look at as it is to look through. We hope to see Chris at other events, especially at a future East Cost Star Party in Coinjock, NC.

I want to thank Georgie June for assisting me with the crowds gathered to look through my rather small 80mm TMB refractor. It's a small telescope, but the rather robust Linhof tripod works very well for public outreach programs. Georgie was able to crank the tripod rising center post up and down to accommodate the different heights of those who wanted to look. She kept the Pleiades centered most of the time, but



Jason Tackett sets up his scope for a busy evening of outreach at the Mt. Trashmore Star Party. Star party pictures courtesy of Mark Gerlach.

we also showed people the double star Alcor and Mizar in the bend of the handle of the Big Dipper.

The entire event was delightful. Thanks go out to the City of Virginia Beach and to Virginia Beach Planetarium director Chuck Dibbs for successfully putting it together. I look forward to the next Mt. Trashmore Star Party.

Observer's Corner

As you may know, 2013 has been heralded as the "Year of Comets" with the hope for at least two bright comets to be visible.

The first of the two, Comet PanSTARRS (C/2011 L4), made its appearance to northern hemisphere observers in early March. BBAA club members were out in force to record this extraordinary event:

I'm super excited! I just saw the comet! ...I got in the car and drove around the corner to a pond in the neighborhood that has a good western horizon. After just a few seconds I found it under the moon!! yayayay! **Georgie June, Mar. 13, 2013**

Kent, Stan, and I had a great time with the comet again. Kent was able to capture photos and the comet was easy naked eye ... If you miss PanSTARRS all you have to do is wait 106,000 years for the return trip! **Mark Ost, Mar. 14, 2013**

I managed to see it tonight... finally at 8:00 between my neighbor's chimney and 2nd floor. I could clearly make out the tail in my binoculars and was able to see it naked eye just barely! **Curt Lambert, Mar. 14, 2013**



A beautiful shot of Comet PanSTARRS by Kent Blackwell. Taken March 14, 2013, Canon 20Da DSLR camera, 180mm f/5.6, ISO 1600, 4-sec exposure.

I caught Comet C/2011 L4 (PANSTARRS) again earlier tonight, a first from Blacksburg. ... I estimated it in the 8-inch scope at about 35 arcminutes. However the nucleus appeared slightly dimmer than the previous time I observed the comet. It is still very nice in binoculars! **Nick Anderson, Mar. 20, 2013**

Went towards Cornland and stopped at a construction site just south of Grassfield High. Took some coaxing from Georgie, via iPhone, but managed to locate it. **Chuck Jagow, Mar. 13, 2013**

The Simple Sun Finder Project | Jim Tallman

For those who have telescopes, finding your way around the night sky and getting pointed at a star, a planet, or the moon is a fairly easy task, as we all have some sort of finderscope on our telescopes. When properly aligned, you can put an object right in the eyepiece on the very first try. However, it's not so simple when you decide to view one star in particular, our own Sun!

Viewing the sun is easy to do with the right safety precautions and filters applied. Most of us either buy a solar filter or make our own with solar film that is rated for optical viewing. I won't discuss the filters, as that is another topic on its own.

Once we have our scope properly filtered, where most of us run into trouble is actually getting your telescope correctly lined up on the sun. You would think that since it is so big it would be an easy thing to do, right? Wrong! And don't let the "Oh just move the scope until the shadow it makes is smallest" crowd fool you, as it takes a bit of doing to get right.

You do have a few options though. If you have a regular finder scope on your rig you can take the lens cap and make a mini solar filter out of it and just use your normal finder scope as your sun finder. But what if you have a red dot finder? Well here is what I did today...

I was surfing the internet and found a sun finder that a guy had made out of a film canister. It looked like a cool project, so I ordered a few opaque canisters with solid gray lids and got started.

First I drilled a very small hole in the gray lid for the sun to shine through. Then I mounted the canister to my solar filter with the lid towards the sun using some duck tape (my favorite tool).

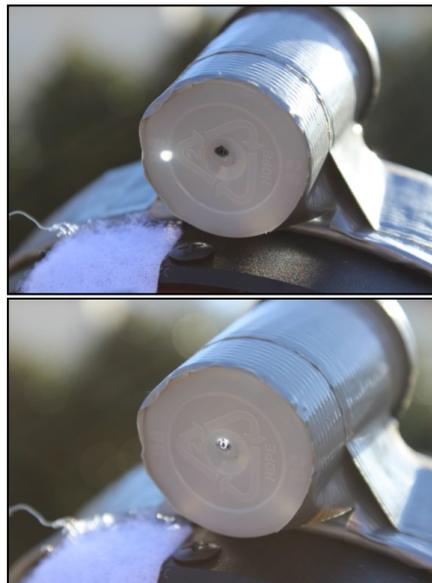
With the finder built and attached to the filter it was time to make the final alignment by marking the back of the canister to indicate where the sun spot should be when the scope is lined up right. The first time you do this you have to find the sun on your own, but afterwards you are good to go. Once I had the sun in the eye piece I quickly marked the spot where the dot of light was on the bottom of the canister and my finder was aligned.

Now when I put my filter in place my finder is right there with it. All I have to do to get my telescope pointing at the sun is to move the scope until the sun makes a spot on the bottom of the film canister and then move it some more to put the spot over the black target mark.

We plan to make one of these in our upcoming Solar Filter/Sun Finder Workshop in April.



Jim's "Simple Sun Finder" is mounted directly to the scope's solar filter using duct tape.



You're aligned when bright dot from the entering beam of sunlight is on the black target

Book Review | George Reynolds

The Desire for Truth & Understanding — and Mars Rocks

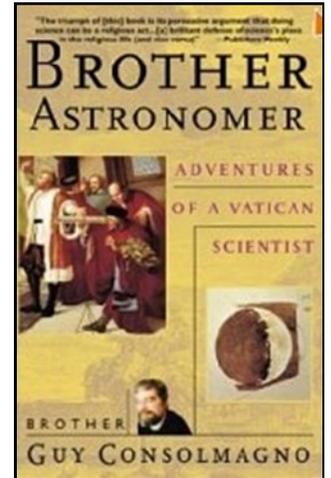
***Brother Astronomer: Adventures of a Vatican Scientist*, by Guy Consolmagno
(McGraw Hill, 256pp, \$15.68 new on Amazon)**

Many of you have read *Turn Left at Orion* by Guy Consolmagno, an entertaining and instructive guide for amateur astronomers with small telescopes. No less entertaining is his book, [*Brother Astronomer: Adventures of a Vatican Scientist*](#), in which Jesuit Brother Guy Consolmagno tells his life story in brief, and in more detail discusses Mars rocks, Antarctica adventures, and science/religion issues.

With grace and good humor he tells of his becoming curator of the Vatican's collection of meteorites, one of the oldest collections in the world, mostly amassed in the nineteenth century by French nobleman Marquis de Mauroy. Consolmagno and his associates devised a method to determine the mass, the density, and the porosity of meteorites, which lead to theories on where meteorites come from - asteroids and other planets. He calls them his outer space "aliens" at the Vatican.

His real adventures are recounted with good-natured wit in the section titled "Wide Wild Whiteness", a meteorite-hunting expedition with other scientists on the bottom of the world in Antarctica. He makes the vast, cold continent seem to come alive in its bleak expanse and extremes of cold and wind. The personal interaction among the small group of individuals forced to spend six weeks together in that harsh frigid environment is insightful, at times poignant and other times hilarious. Everyone on the team has a specialty, and he often wonders, "Why am I here?" They bring home a treasure trove of 390 meteorites. It is fascinating to learn how they go to great pains to preserve the pristine condition of the space rocks. To

collect them without contaminating them is a real challenge, especially under low temperatures, where the cold dulls the mind and freezes the fingers.



Perhaps most enlightening and enjoyable are Consolmagno's discourses on science and religion. He reminds us that only recently, in our popular culture, has there been an apparent schism between science and religion; that indeed, the great thinkers of ages gone by were men of renown in the church, men of great religious faith. The search for truth is and always has been the goal of both good religion and good science. "God gave us brains; He expects us to use them," he says.

"To understand why" science and religion are thought to be opposed, says Consolmagno, "we need to look not at science, nor at religion, but at the popular culture." He explains that science in school is often a turn-off for kids, and many leave the church as teenagers, "before they are old enough to appreciate it." The result is a childish view of both science and religion.

The popular media - news, TV, movies - present a distorted view of both science and religion as well, he contends. If there is no action, no drama, no conflict, it doesn't make good copy or good video. Scientists are often portrayed as "mad", and preachers are stereotyped as extremists. Fear and confusion of the roles and relationships of science and faith are the result. "It's a fundamental misconception of how both science and religion work." He goes on to say that Christianity does

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Book Review, continued from page 8

not start with faith, it starts with experience; and that science does not begin with experiment or logic, it begins with intuition.

He recounts the timeworn story of Galileo and the Church, and contends that that situation was largely a matter of pride and politics, not strictly religion and science. The ill-feeling produced by Galileo's trial set back science for years, and sparked the thinking that the church was anti-science, though the Church has since repeatedly admitted the mistakes it made there almost 400 years ago.

In his "Confession of a Vatican Scientist" section of the book, Consolmagno presents many wise arguments explaining the deep connections between science and religion. You'll have to read

it to appreciate it. He says, "Good science is a very religious act. The search for Truth is the same as the search for God." Of the "unexplainable", he says, "Our theology prepared science to accept the seeming contradictions of quantum theory, for instance; just because something doesn't seem to make sense, is no proof that it must be false."

He sums it up by saying, "The desire for truth and understanding, including understanding the truth of the natural world, was given to us by God, in order to lead us to God. It is the desire for God. It is why I am a scientist; it is why the Vatican supports me."

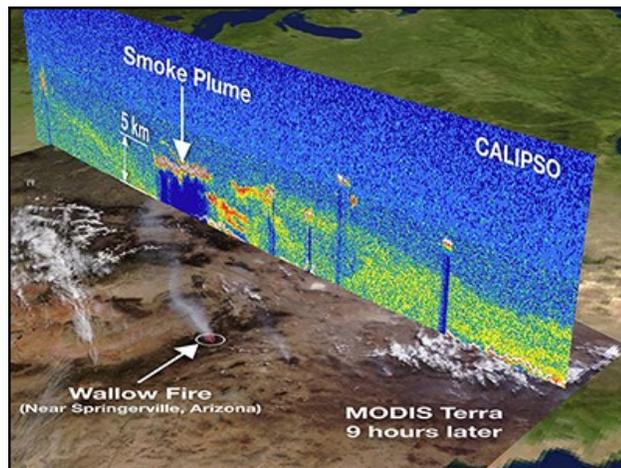
NASA's Space Place, continued from page 4

well with the team, I was offered the job, which I eagerly accepted — and every day since I have been glad that I did.

Working for the CALIPSO satellite mission is very exciting. I get to find creative solutions to complicated problems and work with scientists to understand what data from CALIPSO is telling us about Earth's atmosphere. In April 2010, I worked with colleagues to examine the distribution and optical properties of volcanic ash that had erupted from the Icelandic volcano Eyjafjallajökull and disrupted air traffic in Europe. NASA Headquarters asked several Earth observing satellite groups, including ours, to help identify plume location and provide guidance to air traffic controllers.

Since I have been with the CALIPSO team, my colleagues and I have also developed products for near-real time air quality monitoring and for climate modelers. I feel immense satisfaction that I work with a team that provides the high quality data that climate researchers need to solve the important issue of climate change.

It hasn't been a straight path to get where I am today, but I am very happy with where I've landed.



A CALIPSO vertical profile from space shows the smoke plume on June 3, 2011, from wildfires raging in Arizona. It is overlaid on an image captured by the Moderate Resolution Imaging Spectroradiometer (MODIS) instrument on the Terra satellite nine hours later. The data shows that the Wallow Fire smoke plume reached heights of 5 kilometers (3 miles) high. CALIPSO and Terra are part of the "A-Train" constellation of five Earth-observing satellites. Credit: NASA /Kurt Severance, Jason Tackett & CALIPSO Team.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with NASA.



April 2013

BBAA Events	Special Outreach	Astronomical Events
04/04 BBAA Monthly Meeting		04/03 Last Quarter
04/05 SkyWatch @ Northwest River Park		04/10 New Moon
04/13 Nightwatch @ Chippokes State Park	04/19 Garden Stars @ Norfolk Botanical Gardens	4/14 Jupiter 2° North of the crescent Moon
	04/20 Astronomy Day @ Va Beach Central Library	04/18 First Quarter
		04/25 Full Moon

Sneak Peek into May

Thu 5/02/2013 BBAA Monthly Meeting, TCC Campus, 7:30 pm
 Fri 5/03/2013 Skywatch at Northwest River Park
 Sat 5/11/2013 Nightwatch at Chippokes State Park, Surry VA
 Fri 5/17/2013 Garden Stars at Norfolk Botanical Gardens, 8:30 pm
 Fri 5/17/2013 Night Hike at Northwest River Park
 Fri 5/31/2013 Skywatch at Northwest River Park

